



New York Flora Association Newsletter

Editor's Note: If you have ever had to fight your way through a dense patch of cattails, imagine what a treat it would have been to emerge into a hidden botanical gem of a spot. Our first article relates just such an adventure. It is evident by that article and the next, that interesting studies are taking place in NY. If you know of some, we'd love to hear about them; please consider sending us an article. Four other articles round out this issue, with yet more botanical items of interest, so be sure to read the whole issue. And lastly, our field trip coordinators put together a nice line-up of outings for the year; you can see these on page 18 and on the NYFA website. Hope to see everyone in the field this year!

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NYFA Mission:

To promote a greater appreciation and knowledge of the flora of New York through conservation, research, public education, and outreach.



Hidden rubies: the (re)discovery of a coastal peatland on Lake Ontario and a test of restoration techniques

by Rachel Schultz and Sarah Kirkpatrick, Department of Environmental Science and Ecology, SUNY Brockport

In the fall of 2018, while conducting a reconnaissance of a Lake Ontario coastal wetland and searching for rare and sensitive plant communities, a student and I (R. Schultz) bushwhacked through 150 meters of dense cattails. Exhausted from the effort, we were happily rewarded when we broke out into an expanse of approximately 56 acres of mossy hummocks dripping with ruby-colored cranberries.

A grant from the National Fish and Wildlife Foundation to the National Audubon Society involved the restoration of wetlands at Cranberry Pond within the Braddock Bay Wildlife Management Area west of Rochester, NY (Figure 1). The plan was in its beginning stages and we were looking for areas to avoid, as it included excavating channels and other large open water areas to improve fish and wildlife habitat. The (re)discovery of this Great Lakes coastal fen led to a thesis project exploring restoration techniques for low-nutrient peatlands invaded by hybrid cattail (*Typha x glauca*) conducted by SUNY Brockport graduate student Sarah Kirkpatrick.



Figure 1. Location of Cranberry Pond and the Braddock Bay Wildlife Management Area.

After some research into the site, we found that people's use of the cranberry fen at Cranberry Pond extended back at least 700 years, when the people of the Seneca nation set up camps along its shore and harvested cranberries in the fall for both food and medicine (Tomkiewicz and Husted 1982; Iewirokwas 1992). More recently, Elmer E. Miesch (1932) mapped the cranberry bogs and springs on the north side of the wetland (Figure 2). Until 2018, however, there were no additional records or maps of this plant community still existing. Rather, wetland classification maps indicated that the wetland at Cranberry Pond was an emergent marsh dominated by cattail (e.g., Bourgeau-Chavez et al. 2015).

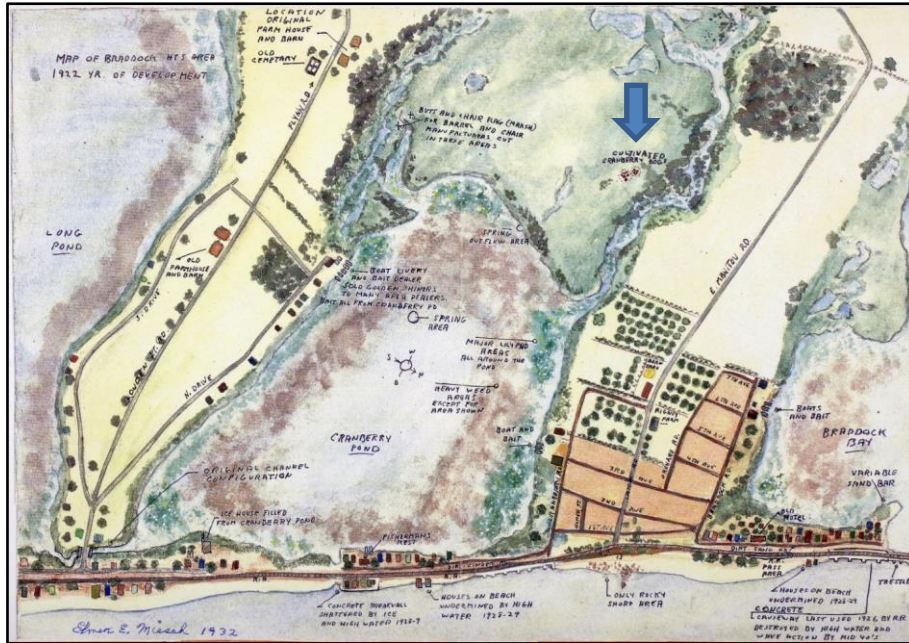


Figure 2. Map drawn of Cranberry Pond by Elmer E. Miesch in 1932 (unpublished) showing the location of “cultivated cranberry bogs” on the northern side of the wetland (at arrow) where they still exist today.

In June 2019, we conducted a timed-meander vegetation survey of the northern section of the Cranberry Pond wetland (Figure 3). We documented a poor fen peatland dominated by an understory of sphagnum moss (*Sphagnum* spp.) with an overstory dominated by both deciduous and evergreen shrubs, including southern bayberry (*Morella caroliniensis*), alder (*Alnus* spp.), and large cranberry (*Vaccinium macrocarpon*) (Table 1). Other species that were locally abundant included water sedge (*Carex aquatilis*), marsh fern (*Thelypteris palustris*), American reed (*Phragmites americanus*), and common winterberry (*Ilex verticillata*) (Figure 4). On and among hummocks of sphagnum moss near the center of the peatland area, we found at least 10 plants of *Carex chordorrhiza*, a state threatened species with a state rank of S2 (Figure 5). The majority of the fen area had been invaded by hybrid cattail with approximately 25% cover; however, we found several areas that had < 5% cover of the cattail.



Figure 3. Drone view of the poor fen at Cranberry Pond (a barrier beach protected coastal wetland) in the Braddock Bay Wildlife Management Area on the south shore of Lake Ontario. Inset: Large cranberry (*Vaccinium macrocarpon*).





Figure 4. Water sedge (*Carex aquatilis*) dominated area of the Cranberry Pond fen, with southern bayberry (*Morella caroliniensis*) scattered throughout.



Figure 5. High quality plant species are found in Cranberry Pond fen, including the state-threatened creeping sedge, *Carex chordorrhiza*. Inset: Creeping sedge inflorescence.



In June of 2020, Sarah delineated sites within the fen based on hybrid cattail percent cover. Of these sites, six were randomly chosen. At each site, 3 x 3 m plots with a 1 m walking buffer were established in both a “less invaded” area and an “intermediately invaded” area. Plots in different invasion levels were separated by 15 m. Each plot was randomly assigned a treatment. These treatments were: (1) cutting cattail once a year and removing biomass; (2) cutting cattail twice a year and removing biomass; (3) cutting cattail once a year, removing biomass, and hand wicking re-sprouts with Rodeo® herbicide; (4) cutting cattail once a year, removing biomass, and hand wicking re-sprouts with Accord® XRT II herbicide; and (5) control. We conducted vegetation surveys in the first two weeks of June in 2020 and 2021 to assess the fen before and after treatments were administered (Figure 6 and Table 1).

The results of one year of treatments showed that while dead cattail was reduced in all treatments, live cattail was not. Therefore, we continued the cutting treatments for an additional year and will conduct surveys this June to evaluate the results. More detailed results can be found in Sarah’s thesis (Kirkpatrick 2021) and an upcoming manuscript.



Figure 6. Sarah Kirkpatrick at one of the restoration sites in the fen, post-treatment, at Cranberry Pond. Inset: a view down at peat level of a treated plot with sphagnum moss, marsh cinquefoil (*Comarum palustre*) and marsh fern (*Thelypteris palustris*).

Acknowledgements: Funding was provided by the Great Lakes Restoration Initiative through a Sustain Our Great Lakes grant awarded to the National Audubon Society, Great Lakes Research Consortium, and the Department of Environmental Science and Ecology at SUNY Brockport. Special thanks to our partners at the NYS DEC and numerous volunteers that assisted with field work, particularly Alex Silva, Scott Ward, Greg Lawrence, Angela Becker, and Patrick Stetzel. Greg Lawrence additionally provided access to Elmer Miesch’s map.



Table 1. Vascular plant community composition of the coastal fen at Cranberry Pond in the Braddock Bay Wildlife Management Area. Results are from a timed meander survey conducted on 6/6/2019, and from June 2020 and 2021 surveys of seventy-two 3 x 3 meter plots.

Scientific Name	Common Name	Timed meander	Less invaded	Intermediately invaded	C-Value ¹
<i>Acer rubrum</i>	red maple	x	x	x	3
<i>Alnus glutinosa</i>	European alder	x			0
<i>Alnus incana</i> ssp. <i>rugosa</i>	speckled alder	x	x	x	5
<i>Boehmeria cylindrica</i>	false nettle		x	x	6
<i>Calamagrostis canadensis</i>	Canada bluejoint grass		x		5
<i>Carex aquatilis</i>	water sedge	x			8
<i>Carex canescens</i>	silvery sedge	x	x	x	7
<i>Carex chondorrhiza</i>	creeping sedge	x	x	x	9
<i>Carex echinata</i>	large-fruited star sedge	x	x	x	6
<i>Carex lasiocarpa</i>	wiregrass sedge		x		8
<i>Carex stricta</i>	tussock sedge		x		4
<i>Cephalanthus occidentalis</i>	buttonbush		x	x	7
<i>Comarum palustre</i>	marsh cinquefoil	x	x	x	9
<i>Cornus racemosa</i>	gray dogwood	x	x	x	2
<i>Decodon verticillatus</i>	swamp loosestrife	x	x	x	7
<i>Drosera rotundifolia</i>	round-leaved sundew	x	x	x	6
<i>Dryopteris cristata</i>	crested wood fern	x	x	x	8
<i>Eleocharis palustris</i>	common spike-rush	x			4
<i>Epilobium leptophyllum</i>	narrow-leaved willowherb		x	x	6
<i>Fraxinus pennsylvanica</i>	green ash	x	x	x	4
<i>Ilex verticillata</i>	common winterberry	x	x	x	6
<i>Impatiens capensis</i>	orange jewelweed	x	x	x	3
<i>Juncus canadensis</i>	Canadian rush	x	x	x	6
<i>Juncus effusus</i>	soft rush	x	x		2
<i>Lysimachia terrestris</i>	swamp candles	x			6
<i>Lysimachia thyrsoiflora</i>	tufted loosestrife	x	x	x	7
<i>Lythrum salicaria</i>	purple loosestrife		x	x	0
<i>Morella caroliniensis</i>	southern bayberry	x	x	x	7
<i>Onoclea sensibilis</i>	sensitive fern	x	x	x	2
<i>Osmundastrum cinnamomeum</i>	cinnamon fern	x	x	x	6
<i>Osmunda regalis</i>	royal fern	x	x	x	6
<i>Parthenocissus quinquefolia</i>	Virginia creeper	x	x	x	4
<i>Phragmites americanus</i>	American reed	x			7
<i>Phragmites australis</i>	Old World reed grass			x	0
<i>Rosa palustris</i>	swamp rose	x	x	x	7
<i>Scirpus cyperinus</i>	wool-grass	x		x	4
<i>Scutellaria galericulata</i>	marsh skullcap		x	x	6
<i>Spiraea alba</i>	white meadowsweet	x			4
<i>Symphotrichum lanceolatum</i>	lance-leaved aster		x		2



<i>Symphotrichum puniceum</i>	purple-stemmed aster		x	x	4
<i>Thelypteris palustris</i>	marsh fern	x	x	x	4
<i>Toxicodendron radicans</i>	poison ivy		x	x	3
<i>Triadenum virginicum</i>	Virginia marsh St. John's-wort	x	x	x	7
<i>Typha x glauca</i>	hybrid cat-tail	x	x	x	1
<i>Vaccinium macrocarpon</i>	large cranberry	x	x	x	7
<i>Viburnum dentatum</i>	southern arrow-wood	x	x	x	3
<i>Viola renifolia</i>	kidney-leaved violet	x	x	x	8
<i>Vitis riparia</i>	river grape		x	x	3

¹C-values are a 0-10 rating of a native species' fidelity to high quality habitats determined by botanists for a particular state or region (i.e., Ring and Faber-Langendoen (2018) for the Eastern Great Lakes and Hudson Lowlands; introduced species were given a C-value of 0.

Bold: New York State threatened species.

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An investigation into the control of European Dewberry (*Rubus caesius*) and the genetic and phenetic differences across populations in the Finger Lakes region of NYS

by Alexis Davis, SUNY-Brockport; Kathryn Amatangelo, SUNY-Brockport; and Kyle Webster, NYSOPRHP

In 2018, an unknown *Rubus* species was observed invading a riparian area at Ganondagan State Historic Site in Victor, NY (Figure 1). This species was later identified as European dewberry (*Rubus caesius*). European dewberry was first introduced in the United States in 1897 to be used for erosion control in Ithaca, NY. To the untrained eye, it is easily misidentified and confused with other *Rubus* species, however its large blue clusters of berries, long petiole, and small hooked prickles distinguish it from others. It thrives in riparian zones, areas with well-drained and moist soils near rivers and streams.



Figure 1. Alexis Davis with European dewberry at Ganondagan State Historic Site in Victor, NY



Since its introduction, European dewberry has been found growing in conjunction with native vegetation for over a hundred years, but recently has come to be considered a threat to natural communities due to its invasive tendencies. Local scientists and hikers have observed it displacing native vegetation, contributing to streambank destabilization, changing soil chemistry, and rapidly spreading downstream throughout the watershed. We wondered if European dewberry is indeed a threat to native ecosystems, and if so, how we could eradicate and control it.

At Ganondagan we applied these treatments: 1) mechanical cutting using a brush-hog, 2) a combination of cutting and herbicide using triclopyr, 3) a combination of cutting and herbicide using glyphosate, 4) only using herbicide (glyphosate), and 5) only cutting twice (Figure 2).



Figure 2. The picture on the left shows a site that received no treatment. The picture on the right shows a site that received the combined treatment of cutting and herbicide using Glyphosate.

We compared the initial percent cover to the final percent cover of European dewberry to determine the success of each treatment. After one year of treatment, the combination treatments and herbicide only treatment were successful in reducing the percent cover of European dewberry. The cutting treatments, however, increased the percent cover of European dewberry. We think this may be due to vegetative dispersal of fragments after cutting. Although, perhaps after a second year of treatments, we may see a better reduction in percent cover of dewberry in the mechanical treatment sites.

In addition to the population of European dewberry at Ganondagan State Historic Site, we have observed dense populations in Syracuse, Brockport, Honeoye, Ontario, and Webster, NY. In visiting these sites, we discovered differing morphological characteristics between the eastern and western populations. As shown in the Figure 3, the European dewberry growing in Syracuse seem to have short petioles, short terminal leaflets, and large numbers of clustered aggregate fruits, while the western populations have long petioles, long terminal leaflets, and very few fruits or even single aggregates. We are therefore conducting genetic testing using microsatellite SSR markers to determine if hybridization could play a role in these differing morphological characteristics.





Figure 3. The photo on the right shows a European dewberry population in Syracuse, NY. The photo on the left shows a European dewberry population in Victor, NY.



Binnewater June 2021 Field Trip Report

by Chris Graham

Eleven hale and hardy botany enthusiasts scaled the cliffs and plumbed the depths of the Binnewater Lakes limestone complex of Rosendale, Ulster County, NY. The foray was made on 26 June 2021, a cloudy day whose temperatures touched the low 80's. Extensive limestone cliffs, talus, and outcrops dominate the karstic terrain of the Binnewater hills, with associated features such as abandoned cement mines, small caves, fissures, springs, seeps, sinkholes, and disappearing streams. Numerous geologic faults are responsible for the rugged ridge-and-ravine terrain, long linear wetlands, and many exposed cliffs, blocks, and prominences of the district. Abundant calciphytes, including several regionally rare and state-protected species, find sanctuary there. Ravines, crevasses, north-facing slopes, talus fields, and extensive mine complexes maintain cool, moist microclimates favorable for species of such proclivities.



One of many mine adits in the area.



Participants endured a 7+ hour off-trail trek up and down rocky declivities, along ridge-tops, and across talus slopes with good cheer and mighty stoicism. Despite the salient impact of the severe deer herbivory characteristic of the Hudson Valley, everyone seemed well-absorbed and gratified in the finding of numerous noteworthy and esteemed, albeit verily stunted, native plants which were pointed out by this author and by botanist extraordinaire David Werier, who happily regaled his gathered audience with the intricacies of taxonomy and his untempered joy of field botany.



Exploring a cool talus slope.



Scanning the dissected limestone bedrock for interesting finds.



This author is pleased to report the observation of many plants, including: Canada brome (*Bromus pubescens*), harebell (*Campanula rotundifolia*), round-leaved dogwood (*Cornus rugosa*), the unadorned dregs of yellow corydalis (*Corydalis flavula*), eastern leatherwood (*Dirca palustris*), showy orchid (in a non-showy disposition) (*Galearis spectabilis*), Canada and Virginia waterleafs (*Hydrophyllum canadense* and *H. virginianum*), Canada moonseed (*Menispermum canadense*), black-fruited ricegrass (*Patis racemosa*), Allegheny buttercup (*Ranunculus allegheniensis*), bladdernut (*Staphylea trifolia*), Canada yew (*Taxus canadensis*), palmate-leaved violet (*Viola subsinuata*), and prickly-ash (*Zanthoxylum americanum*); as well as a bevy of ferns, among them: maidenhair (*Adiantum pedatum*), ebony and maidenhair spleenworts (*Asplenium platyneuron* and *A. trichomanes*), walking fern (*A. rhizophyllum*), bulblet fern (*Cystopteris bulbifera*), Mackay's fragile fern (*C. tenuis*), silvery spleenwort (*Deparia acrostichoides*), and glade fern (*Homalosorus pycnocarpus*); the majority of all these being vivified by the fertile grounds of the calcium-rich Binnewater soils.



Canada waterleaf in bloom.

Of non-botanical wonders, a great blue heron rookery was espied among the spindly snags of former swamp forest trees. To cap the day, the group was forced to thread its way through a broken and pocked terrain of massive boulders piles, gullies, black-pit mine adits, and narrow land-bridges to attain the sturdier tread on the way to the path home.



Great blue heron rookery.

List of plants noted by the group at Binnewater:

Common name	Scientific name
White baneberry or doll's eyes	<i>Actaea pachypoda</i>
Maidenhair fern	<i>Adiantum pedatum</i>
Agrimony	<i>Agrimonia sp.</i>
Garlic mustard	<i>Alliaria petiolata</i>
New York fern	<i>Amauropelta noveboracensis</i>
Hog peanut	<i>Amphicarpaea bracteata</i>
Pussytoes	<i>Antennaria sp.</i>
Indian hemp	<i>Apocynum cannabinum</i>
Wild columbine	<i>Aquilegia canadensis</i>
Lyrate-leaved rockcress	<i>Arabidopsis lyrata</i>
Jack-in-the-pulpit	<i>Arisaema triphyllum s.l.</i>
Wild ginger	<i>Asarum canadense</i>
Forest milkweed	<i>Asclepias exaltata</i>
Four-leaved milkweed	<i>Asclepias quadrifolia</i>
Ebony spleenwort	<i>Asplenium platyneuron</i>
Walking fern	<i>Asplenium rhizophyllum</i>
Maidenhair spleenwort	<i>Asplenium trichomanes</i>
Japanese barberry	<i>Berberis thunbergii</i>
Common barberry	<i>Berberis vulgaris</i>
Smooth rock cress	<i>Borodinia laevigata</i>
Rattlesnake fern	<i>Botrychium virginianum</i>
Southern shorthusk	<i>Brachyelytrum erectum</i>
Japanese brome	<i>Bromus japonicus</i>
Canada brome	<i>Bromus pubescens</i>
Harebell	<i>Campanula rotundifolia</i>
Eastern woodland sedge	<i>Carex blanda</i>



Oval-leaved sedge	<i>Carex cephalophora</i>	Canada waterleaf	<i>Hydrophyllum canadense</i>
Northern sedge	<i>Carex deflexa</i> (?)	Virginia waterleaf	<i>Hydrophyllum virginianum</i>
Slender woodland sedge	<i>Carex digitalis</i>	Tall lettuce	<i>Lactuca canadensis</i>
Loose-flowered sedge	<i>Carex laxiflora</i>	Canada moonseed	<i>Menispermum canadense</i>
Troublesome sedge	<i>Carex molesta</i>	Two-leaved mitrewort	<i>Mitella diphylla</i>
Long-stalked sedge	<i>Carex pedunculata</i>	Ghost pipe	<i>Monotropa uniflora</i>
Broad-leaved Sedge	<i>Carex platyphylla</i>	Muhly	<i>Muhlenbergia sp.</i>
Eastern star sedge	<i>Carex radiata</i>	Sweet cicely	<i>Osmorhiza claytonii</i>
Rosy sedge	<i>Carex rosea</i>	Round-leaved ragwort	<i>Packera obovata</i>
Bur-reed sedge	<i>Carex sparganioides</i>	Pennsylvania pellitory	<i>Parietaria pensylvanica</i>
Swan's sedge	<i>Carex swanii</i>	Black-fruited ricegrass	<i>Patis racemosa</i>
American hackberry	<i>Celtis occidentalis</i>	Foxglove beardtongue	<i>Penstemon digitalis</i>
Eastern enchanter's nightshade	<i>Circaea canadensis</i>	Broad beech fern	<i>Phegopteris hexagonoptera</i>
Oak drops or bear-corn	<i>Conopholis americana</i>	Canada bluegrass	<i>Poa compressa</i>
Round-leaved dogwood	<i>Cornus rugosa</i>	Weak bluegrass	<i>Poa saltuensis ssp. languida</i>
Yellow corydalis	<i>Corydalis flavula</i>	Smooth Solomon's seal	<i>Polygonatum biflorum</i>
Bulblet fern	<i>Cystopteris bulbifera</i>	Hairy Solomon's seal	<i>Polygonatum pubescens</i>
Mackay's fragile fern	<i>Cystopteris tenuis</i>	Kidney-leaved buttercup	<i>Ranunculus abortivus</i>
Silvery spleenwort	<i>Deparia acrostichoides</i>	Allegheny buttercup	<i>Ranunculus allegheniensis</i>
Tick-trefoil	<i>Desmodium spp.</i>	Red elderberry	<i>Sambucus racemosa</i>
Bosc's rosette grass	<i>Dichantherium boscii</i>	Common Canada snakeroot	<i>Sanicula canadensis</i>
Woolly rosette grass	<i>Dichantherium lanuginosum</i>	Pendulous bulrush	<i>Scirpus pendulus</i>
Broad-leaved rosette grass	<i>Dichantherium latifolium</i>	Narrow-leaved blue-eyed grass	<i>Sisyrinchium angustifolium</i>
Eastern leatherwood or wicopy	<i>Dirca palustris</i>	Bladdernut	<i>Staphylea trifolia</i>
Evergreen wood fern	<i>Dryopteris intermedia</i>	Canada yew	<i>Taxus canadensis</i>
Marginal wood fern	<i>Dryopteris marginalis</i>	American germander	<i>Teucrium canadense</i>
Common viper's bugloss	<i>Echium vulgare</i>	Venus' looking glass	<i>Triodanis perfoliata</i>
Helleborine	<i>Epipactis helleborine</i>	Slippery elm	<i>Ulmus rubra</i>
Showy orchid	<i>Galearis spectabilis</i>	Stinging nettle	<i>Urtica dioica</i>
Forest wild licorice	<i>Galium circaezans</i>	Common speedwell	<i>Veronica officinalis</i>
Wild geranium	<i>Geranium maculatum</i>	Violets	<i>Viola spp.</i>
Herb Robert	<i>Geranium robertianum</i>	Palmate-leaved violet	<i>Viola subsinuata</i>
Round-lobed hepatica	<i>Hepatica americana</i>	Blunt-lobed woodsia	<i>Woodsia obtusa</i>
Glade fern	<i>Homalosorus pycnocarpus</i>	Prickly ash	<i>Zanthoxylum americanum</i>



Our intrepid group.



Checklist of Vascular Plants at Ganondagan State Historic Site, Victor, NY

by Kyle J. Webster

Ganondagan State Historic Site, located in Victor, NY, Ontario County, spans 569 acres. The site occupies the historical location of a 17th century Onöndawá'ga (Seneca) town and is the only historic site in the NYS Parks system dedicated to a Native American theme. To learn more about Ganondagan, visit - <https://ganondagan.org/>

The checklist below represents the results from vegetation monitoring surveys and incidental finds while exploring the site from 2018 to the present. The site has several interesting habitats, including multiple small marshes and rich fens, successional and mature floodplain forests, Appalachian oak-hickory forest, and sandy grasslands.

Restoration of old agricultural fields and cattle pasture to grasslands that reflect the historical landscape of the 17th century has been ongoing since 2009. Multiple species have been used in restoration plantings, many of which were known to occur on the site naturally, but include some that were not known to occur on site prior to their introduction. These species are noted in the checklist.

Overall, 408 vascular plant species have been noted on site. Approximately 70% of the species on site are native and 30% are non-native. 86 families are represented, the most diverse of which are Asteraceae (52 species), Poaceae (44 species), and Cyperaceae (39 species). The most diverse genera on site are *Carex* (31 species), *Symphotrichum* (9 species), and *Solidago* (8 species).

There are several groups that are probably under-represented here, including the Brassicaceae, the Polygonaceae, and *Crataegus* (of which there are clearly several species on site). While there is not much aquatic habitat on the site, aquatic plants, if sampled thoroughly, would result in more species to add.

Ganondagan State Historic Site Checklist

*Non-native species

**Planted in natural areas for restoration and not known to occur on site before planting

***Of suspect origin and probably planted on site, though not for restoration. Also includes species planted when part of the site was a Christmas tree farm.

ADOXACEAE

Sambucus nigra ssp. *canadensis*

Viburnum acerifolium

Viburnum dentatum var. *lucidum*

Viburnum lentago

Viburnum opulus var. *opulus**

ALISMATACEAE

Alisma triviale

Sagittaria latifolia

AMARANTHACEAE

*Chenopodium album**

*Allium cernuum****

Allium tricoccum

*Allium vineale**

ANACARDIACEAE

Rhus typhina

Toxicodendron radicans ssp. *radicans*

APIACEAE

Angelica atropurpurea

Cicuta maculata var. *maculata*

*Daucus carota**

Zizia aurea

APOCYNACEAE

Apocynum androsaemifolium

Apocynum cannabinum

Asclepias incarnata ssp. *incarnata*

Asclepias syriaca

Asclepias tuberosa

*Vinca minor**

*Vincetoxicum hirundinaria**

*Vincetoxicum rossicum**

ARACEAE

Arisaema triphyllum

Symplocarpus foetidus

ARISTOLOCHIACEAE

Asarum canadense

ASPARAGACEAE

Maianthemum canadense

Maianthemum racemosum

ASPLENACEAE

Asplenium platyneuron

ASTERACEAE

Achillea millefolium

Ageratina altissima

Ambrosia artemisiifolia

Antennaria plantaginifolia

*Arctium lappa**

*Artemisia vulgaris**

*Bellis perennis**

Bidens cernua

Bidens frondosa

Centaurea stoebe ssp. *micranthos**

*Cirsium arvense**

*Cirsium vulgare**

Erigeron annuus

Erigeron canadensis var. *canadensis*

Erigeron philadelphicus var. *philadelphicus*

Erigeron strigosus

Eupatorium perfoliatum

Eurybia divaricata

Euthamia graminifolia

Eutrochium maculatum var. *maculatum*

*Helianthus divaricatus***

Heliopsis helianthoides ssp. *helianthoides***

*Inula helenium**

*Lactuca serriola**



Packera aurea
*Picris hieracioides**
*Pilosella caespitosa**
*Rudbeckia hirta***
Rudbeckia laciniata var. *laciniata*
Silphium perfoliatum var. *perfoliatum**
Solidago altissima ssp. *altissima*
Solidago caesia var. *caesia*
Solidago canadensis var. *canadensis*
Solidago flexicaulis
Solidago gigantea
Solidago juncea
Solidago nemoralis ssp. *nemoralis*
Solidago patula
Solidago rugosa var. *rugosa*
Sonchus arvensis ssp. *arvensis**
*Sonchus oleraceus**
Symphyotrichum firmum
Symphyotrichum laeve var. *laeve*
Symphyotrichum lanceolatum var. *lanceolatum*
Symphyotrichum lateriflorum
Symphyotrichum novae-angliae
Symphyotrichum pilosum var. *pilosum*
Symphyotrichum prenanthoides
Symphyotrichum puniceum var. *puniceum*
Symphyotrichum urophyllum
*Taraxacum officinale**
*Tragopogon pratensis**
BALSAMINACEAE
Impatiens capensis
Impatiens pallida
BERBERIDACEAE
*Berberis thunbergii**
Caulophyllum giganteum
Caulophyllum thalictroides
Podophyllum peltatum
BETULACEAE
Alnus incana ssp. *rugosa***
*Betula pendula**
Carpinus caroliniana ssp. *virginiana*
Ostrya virginiana
BIGNONIACEAE
*Campsis radicans**
BORAGINACEAE
Hackelia virginiana
Hydrophyllum virginianum var. *virginianum*
*Myosotis scorpioides**
*Symphytum officinale**
BRASSICACEAE
*Alliaria petiolata**
*Barbarea vulgaris**
*Berteroa incana**
Cardamine concatenata
Cardamine douglassii
*Cardamine hirsuta**
*Hesperis matronalis**

*Thlaspi arvense**
CAMPANULACEAE
Lobelia inflata
Lobelia siphilitica var. *siphilitica*
Triodanis perfoliata
CAPRIFOLIACEAE
*Dipsacus fullonum**
*Lonicera morrowii**
*Valeriana officinalis**
CARYOPHYLLACEAE
Cerastium fontanum ssp. *vulgare**
*Silene vulgaris**
*Stellaria media**
CELASTRACEAE
*Celastrus orbiculatus**
Celastrus scandens
COLCHICACEAE
Uvularia perfoliata
CONVOLVULACEAE
Cuscuta gronovii var. *gronovii*
CORNACEAE
Cornus alternifolia
Cornus amomum ssp. *amomum*
Cornus florida
Cornus racemosa
Cornus sericea
CUCURBITACEAE
Echinocystis lobata
CYPERACEAE
Carex albicans
Carex albursina
Carex aurea
Carex bebbii
Carex blanda
Carex brevior
Carex bromoides ssp. *bromoides*
Carex cephaloidea
Carex cephalophora
Carex cristatella
Carex deweyana var. *deweyana*
Carex digitalis var. *digitalis*
Carex gracillima
Carex granularis
Carex grisea
Carex hirtifolia
Carex hystericina
Carex interior
Carex lacustris
Carex laxiculmis var. *laxiculmis*
Carex leptalea
Carex lupulina
Carex muehlenbergii var. *muehlenbergii*
Carex normalis
Carex pedunculata ssp. *pedunculata*
Carex pensylvanica
Carex rosea

Carex scabrata
Carex stipata var. *stipata*
Carex umbellata
Carex vulpinoidea
Cyperus lupulinus ssp. *macilentus*
Cyperus strigosus
Eleocharis erythropoda
Eriophorum viridicarinarum
Schoenoplectus tabernaemontani
Scirpus cyperinus
Scirpus expansus
Scirpus hattorianus
CYSTOPTERIDACEAE
Cystopteris bulbifera
DENNSTAEDTIACEAE
Dennstaedtia punctilobula
DRYOPTERIDACEAE
Dryopteris carthusiana
Dryopteris intermedia
Dryopteris marginalis
ELAEAGNACEAE
*Elaeagnus umbellata**
EQUISETACEAE
Equisetum arvense
Equisetum hyemale ssp. *affine*
ERICACEAE
Vaccinium angustifolium
EUPHORBIACEAE
Euphorbia maculata
FABACEAE
Amphicarpea bracteata
Apios americana
Desmodium marilandicum
Desmodium perplexum
*Gleditsia triacanthos**
Hylodesmum glutinosum
Lespedeza hirta ssp. *hirta*
Lupinus polyphyllus var. *polyphyllus**
*Medicago lupulina**
*Melilotus albus**
*Melilotus officinalis**
*Robinia pseudoacacia**
*Securigera varia**
*Trifolium pratense**
*Trifolium repens**
*Vicia cracca**
*Vicia tetrasperma**
FAGACEAE
Fagus grandifolia
Quercus alba
Quercus coccinea
*Quercus macrocarpa***
Quercus rubra
Quercus velutina
GERANIACEAE
Geranium maculatum



GROSSULARIACEAE*Ribes americanum**Ribes cynosbati***HALORAGACEAE***Myriophyllum spicatum****HAMAMELIDACEAE***Hamamelis virginiana***HYDRANGEACEAE***Philadelphus inodorus****HYDROCHARITACEAE***Elodea canadensis***HYPERICACEAE***Hypericum perforatum ssp. perforatum***Hypericum punctatum***JUGLANDACEAE***Carya cordiformis**Carya glabra**Carya ovata var. ovata**Juglans cinerea**Juglans nigra***JUNCACEAE***Juncus articulatus**Juncus compressus***Juncus effusus ssp. solutus**Juncus pylaei**Juncus tenuis**Juncus torreyi**Luzula multiflora ssp. multiflora***LAMIACEAE***Clinopodium vulgare***Lycopus americanus**Mentha spicata ssp. spicata***Monarda fistulosa var. fistulosa**Monarda punctata var. punctata**Pycnanthemum tenuifolium***LAURACEAE***Lindera benzoin**Sassafras albidum***LENTIBULARIACEAE***Utricularia gibba***LILIACEAE***Erythronium americanum ssp.**americanum***LYTHRACEAE***Lythrum salicaria****MAGNOLIACEAE***Liriodendron tulipifera**Magnolia acuminata***MALVACEAE***Abutilon theophrasti**Tilia americana var. americana***MELANTHIACEAE***Trillium grandiflorum**Trillium sessile******MONTIACEAE***Claytonia virginica***OLEACEAE***Fraxinus americana**Fraxinus nigra****Fraxinus pennsylvanica**Ligustrum vulgare***Syringa vulgaris****ONAGRACEAE***Circaea canadensis**Epilobium coloratum**Epilobium hirsutum***Oenothera biennis***ONOCLEACEAE***Matteuccia struthiopteris var.**pennsylvanica**Onoclea sensibilis***OROBANCHACEAE***Pedicularis lanceolata***OSMUNDACEAE***Osmunda claytoniana**Osmunda regalis var. spectabilis**Osmundastrum cinnamomeum var.**cinnamomeum***OXALIDACEAE***Oxalis stricta***PAPAVERACEAE***Sanguinaria canadensis***PHYTOLACCACEAE***Phytolacca americana var. americana***PINACEAE***Abies balsamea**Aibes concolor***Picea pungens***Pinus strobus**Pinus sylvestris***Pseudotsuga menziesii****PLANTAGINACEAE***Chelone glabra**Linaria vulgaris***Penstemon digitalis***Plantago lanceolata***Plantago major***Veronica arvensis***Veronica officinalis****PLATANACEAE***Platanus occidentalis*****POACEAE***Agrostis gigantea***Agrostis perennans****Agrostis stolonifera***Andropogon gerardi****Anthoxanthum odoratum***Arrhenatherum elatius ssp. elatius***Bromus hordeaceus***Bromus inermis***Calamagrostis canadensis var.**canadensis**Cinna latifolia**Dactylis glomerata***Dichanthelium implicatum**Dichanthelium lanuginosum**Dichanthelium sphaerocarpon**Digitaria cognata**Digitaria sanguinalis***Echinochloa crus-galli***Elymus hystrix var. hystrix**Elymus repens***Elymus riparius**Eragrostis pectinacea var. pectinacea****Eragrostis spectabilis****Festuca rubra ssp. rubra***Glyceria grandis var. grandis**Glyceria striata**Hordeum jubatum ssp. jubatum***Lolium perenne ssp. perenne***Microstegium vimineum***Muhlenbergia glomerata**Panicum capillare ssp. capillare**Panicum dichotomiflorum ssp.**dichotomiflorum**Panicum virgatum****Phalaris arundinacea**Phleum pratense ssp. pratense***Phragmites australis***Poa annua***Poa compressa***Poa pratensis ssp. pratensis***Schedonorus pratensis***Schizachyrium scoparium var. scoparium**Setaria pumila ssp. pumila***Sorghastrum nutans**Tridens flavus var. flavus****Tripsacum dactyloides var. dactyloides*****POLEMONIACEAE***Phlox paniculata****POLYGONACEAE***Fallopia convolvulus***Persicaria maculosa***Persicaria pennsylvanica**Persicaria virginiana**Reynoutria japonica var. japonica***Rumex acetosella ssp. pyrenaicus***Rumex crispus ssp. crispus****PRIMULACEAE***Lysimachia ciliata**Lysimachia nummularia****PTERIDACEAE***Adiantum pedatum***RANUNCULACEAE***Actaea pachypoda**Anemone canadensis****Anemone virginiana**Aquilegia canadensis*

Caltha palustris
Clematis virginiana
Ranunculus abortivus
*Ranunculus acris**
Ranunculus hispidus
Ranunculus recurvatus var.
recurvatus
Thalictrum dioicum
Thalictrum pubescens
RHAMNACEAE
Rhamnus alnifolia
*Rhamnus cathartica**
ROSACEAE
Agrimonia gryposepala
Agrimonia parviflora
Agrimonia striata
Amelanchier laevis
Crataegus sp.
Fragaria vesca ssp. *vesca**
Fragaria virginiana ssp. *virginiana*
Geum aleppicum
Geum canadense
Geum canadense × *G. urbanum* =
*G. ×catlingii**
Geum laciniatum
*Geum urbanum**
*Malus domestica**
Potentilla norvegica
*Potentilla recta**
Potentilla simplex
Prunus americana
*Prunus avium**
*Prunus mahaleb**
Prunus serotina var. *serotina*

Prunus virginiana var. *virginiana*
Rosa carolina ssp. *carolina*
*Rosa multiflora**
Rubus allegheniensis
*Rubus caesius**
Rubus idaeus ssp. *strigosus*
Rubus occidentalis
Rubus odoratus
RUBIACEAE
*Galium album**
Galium aparine
Galium circaezans
*Galium odoratum**
Galium triflorum
RUTACEAE
Zanthoxylum americanum
SALICACEAE
Populus deltoides ssp. *deltoides*
Populus grandidentata
Populus tremuloides
Salix alba × *S. euxina* = *S. ×fragilis**
Salix discolor
SAPINDACEAE
Acer negundo var. *negundo*
Acer nigrum
*Acer platanoides**
Acer rubrum var. *rubrum*
Acer saccharum
SAXIFRAGACEAE
Chrysosplenium americanum
Micranthes virginiana
Mitella diphylla
Tiarella cordifolia

SCROPHULARIACEAE
*Verbascum blattaria**
*Verbascum thapsus**
SIMAROUBACEAE
*Ailanthus altissima**
SOLANACEAE
Physalis heterophylla
Solanum carolinense var. *carolinense*
*Solanum dulcamara**
Solanum nigrum ssp. *nigrum**
THELYPTERIDACEAE
Amauropelta noveboracensis
Thelypteris palustris var. *pubescens*
TYPHACEAE
Typha angustifolia
Typha angustifolia × *T. latifolia* = *T. ×glauca*
Typha latifolia
ULMACEAE
Ulmus americana
URTICACEAE
Pilea pumila var. *pumila*
Urtica dioica ssp. *dioica**
VERBENACEAE
Verbena hastata
Verbena urticifolia
VIOLACEAE
*Viola odorata**
Viola pubescens var. *scabriuscula*
Viola sororia
VITACEAE
Parthenocissus quinquefolia
Vitis labrusca
Vitis riparia



Update on Japanese Tree Lilac (*Syringa reticulata*) in New York State

By Steve Young, NY Natural Heritage Program

In the [2015 Spring issue of the NYFA Newsletter](#), Chris Teeter talked about his research with Japanese tree lilac in New York. At that time, he was studying two large naturalized populations, one in Columbia County along Wyomanock Creek and another along the Ausable River east of Ausable Forks, and two smaller populations around Oneonta. Seven years later the two large populations in Columbia County and Essex County are still the largest infestations in the state, but four other naturalized populations have turned up. These new populations included: a small one found by Bruce Friedmann along Route 211 near Highland Lakes State Park in Orange County, one discovered by David Werier in Tompkins County on both sides of Fall Creek northeast of Freeville, a lone tree found by Nicole Campbell near the mouth of the Kinderhook Creek along the Hudson River, and another one found by Nicole on Rogers Island in the Hudson. It was feared that the trees along a long stretch of the Wyomanock and Kinderhook creeks would disperse to the Hudson River, and we may be seeing the start of this.



The tree is most easily seen in early June when the prolific, white-flowered inflorescences are visible around the entire tree. Many trees can be seen in urban landscapes, so you can become familiar with them in that setting. I would urge everyone to be on the lookout for naturalized populations, especially along waterways in any part of the state, and report them through the iMap program. That way, the PRISM network can become more familiar with their locations and prioritize how to eradicate them. I would also encourage people to report cultivated plants through the iMap program if they are growing near a waterway. If you do that, there is a field that you can check to show that is a cultivated plant. The DEC has a working group to coordinate efforts to try and eradicate or at least control this serious invasive tree. Your help in finding new locations would be greatly appreciated.

More information about how to identify this tree can be found at the Capital Mohawk PRISM website under Species of Concern, [Terrestrial Plants](#), Tier 2-Eradication, Japanese tree lilac. With your help, we hope to prevent this tree from becoming a serious problem throughout New York State.



Left: Japanese lilac street trees; Middle: naturalized trees; Right: Smooth cherry-like bark on younger trees, horizontal lenticels.



Notes on Calypso (*Calypso bulbosa* (L.) Oakes var. *americana* (R. Br.) Luer) Habitat

by Ray Curran and Steve Young

For decades, botanists have been hunting for the elusive Calypso orchid (*Calypso bulbosa* (L.) Oakes var. *americana* (R. Br.) Luer) in New York State. These searches have included revisiting the nine historic sites, as well as pursuing credible reports of recent sightings. Yet, to date, an extant occurrence of Calypso in the state has not been found.

In 2019, we took a fresh look at the characteristics of historic sites and interviewed botanists working in its current known range. As field researchers we find that when searching for a rare species, it helps to develop a “search image” to make it easier to find the species during a survey. To develop this image, we made a trip to known locations of Calypso to observe its habitat.

Ray arranged a trip to the Upper Peninsula of Michigan from May 12-15, 2021 that, with the cooperation of local experts, was timed to look for flowering individuals. His observations revealed a search image quite different than the one we previously had in mind. In New York, we had been looking in the wetter parts of northern white cedar fens, but after the Michigan trip it seems that there may be more suitable locations for the species. In Michigan, we found Calypso in northern white cedar forests on shallow soil over limestone



(particularly on the edges of limestone barrens), near wetlands or water bodies, and on shallow soil on slight slopes (generally not south-facing slopes. Sphagnum was not an associate.

We sometimes found it in a bed of moss, usually either *Climacium* or *Rhytidiadelphus triquetrus*. Also nearby were *Pleurozium schreberi*, *Dicranum* (probably *scoparium*), and the liverwort *Bazzania trilobata*. The sedge *Carex pedunculata* was also a common associate. *Carex richardsonii* was common near the Calypso on Michigan's Drummond Island. Plants were not found where aspens occur. *Petasites frigidus* var. *palmatus* (arctic butterbur) was associated with all the Michigan sites, but in New York this is a very rare plant and probably not associated with Calypso here.

The thumbnail-size flowers of Calypso are tiny and very cryptic (even though they are pink, white, and yellow), so you must keep a sharp eye out for them. The best time to look for flowers is middle to late May. We hope this report of additional characteristics of Calypso habitat may help surveyors find this beautiful "SH" orchid and turn it into an "S1" in the state.

Historical sites and the last year they were seen:

Mud Pond Fen, Oswego Co. – 1960s

Bog near Edwards, St. Lawrence Co. – 1929

Mud Lake Jordanville, Herkimer Co. – 1885

Swamp a mile or two north of Lowville, Lewis Co. – late 1800s

Bergen Swamp, Genesee Co. – 1949

Near Rome, Oneida Co. – late 1800s

Lodi Swamp, Onondaga Co. – 1905 – now developed

Valcour Island, Clinton Co. – 1845

North side of Black River below Brownville, Jefferson Co. – 1843

Van Vorst's Vlei, Schenectady Co. – 1860s – location name unknown



Calypso, with thumb to indicate its petite size. Photo by Ray Curran.



The NYFA Board of Directors is excited to announce the schedule of 2022 Workshops and Field Trips. Get out your calendar while you peruse the list of great offerings, happening from May to September all over New York State. Field trips are free, but space may be limited, so reserve your place now. Some workshops are free and some require payment. Current NYFA members receive discounted pricing. Hope to see you out in the field!

NEW YORK FLORA ASSOCIATION FIELD TRIPS 2022

MAY 1 – Early Spring Wildflowers At Joralemon Park, Joralemon Park, Albany County

MAY 14 – Common Spring Wildflowers in a Rich Deciduous Forest, Pigeon Hill Road, Chenango County

MAY 22- Botanizing Along the Southern Taconic Trail, Copake Falls, Copake Falls, Columbia County

JUNE 25 – Flora of Lorraine Gulf, Lorraine Gulf, Jefferson County

JULY 9 – Whiteface Mountain Flora, Wilmington, Essex County

JULY 10 – Exploring Near-shore(Hudson River) Habitats of the Binnen Kill, Binnen Kill, Albany County

JULY 20 – Peatlands of the Paul Smith’s College VIC, Paul Smiths, Franklin County

JULY 22 & 23 – Early Weekend Field Trip in Northern Jefferson County

JULY 30 – Chubb Cruise, Chubb River, Franklin County

AUGUST 13 – Wolf Gull Ferns, Naples, Ontario County

AUGUST 14 – Pakatakan and Shavertown Mountains with Dr. Michael Kudish, Arkville, Delaware County

AUGUST 20 – Bay State Brook Coves, Allegany State Park, Cattaraugus County

AUGUST 21 – Ampersand Mountain Old Growth Forest, Ampersand Mountain, Franklin County

AUGUST 27 – Flora of Goose Pond Mountain, Chester, Orange County

SEPTEMBER 17 – Spiranthes Field Trip, Onondaga County

SEPTEMBER 18 – Petal Pedal on the Mohawk Bike Trail, Schenectady, Schenectady County

SEPTEMBER 24 – The Montauk Miracle Mile, Big Reed, Montauk County Park, Suffolk County

NEW YORK FLORA ASSOCIATION WORKSHOPS 2022

MAY 20-22 – Mosses and Liverworts Workshop, Cornwall, Orange County

JUNE 10-12 – Early Season Grasses of New York, Ithaca, Tompkins County

JULY 16 - Learn 10...Mosses, Ganondagan State Historic Site, Victor, Ontario County

AUGUST 5-7 – Late Season Grasses of New York Workshop, Ithaca, Tompkins County

AUGUST 12 - Learn 10...Trees at the Paul Smith’s College VIC, Paul Smiths, Franklin County

View more details on the website at: <https://nyflora.org/events-directory/>





What could be better than a sighting of *Corylus* in the early spring! Photo by Jackie Donnelly.



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