

Botanical Survey of 74 Bokum Road in Old Saybrook

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Project: Old Saybrook Solar Facility Located on 27 Acre Property at 74 Bokum Road in Old Saybrook, Connecticut

NDDb Portal Filing No.: 114350

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A botanical survey of the property at 74 Bokum Rd. was conducted on 10/19/24, 6/12/25, 6/13/25, 6/17/25, 8/21/25 and 8/26/25, three complete surveys of the property, fall, early summer, mid-late summer, were done to capture the peak identification time for the species identified as potential rare plants on the site. A total of 20 hours of time was spend on the site surveying. See survey route below.



Total composite botanical survey route of 74 Bokum in Old Saybrook 10/19/24, 6/12/25, 6/13/25, 6/17/25, 8/21/25 and 8/26/25

A total of 272 vascular plant species were observed, see Table 1 at end of the report. In my opinion the property has four botanical zones:

- 1) dry rocky sub-acid hills, dominated by chestnut oak
- 2) seasonally wet-inundated sandy coastal plain pond like depression
- 3) powerline ROW
- 4) flat mesic mid successional forest, with remnant red cedars

-The dry rock sub acid woods was surveyed thoroughly and no rare species were found, this habitat will be outside of the impact area.



Dry rocky sub acid woods dominated by chestnut oak.

- seasonally wet-inundated sandy coastal plain pond like depression. Is supporting about 30-40 individual Bushy Bluestem (*Andropogon glomeratus*) plants, a species new to the state of Connecticut which will be protected as a rare species. This habitat was also found to support the watch species *Dichanthelium meridionale*. This area is the highlighted oval on the sensitive plant resource map at the end of this report. See bushy bluestem photo.



seasonally wet-inundated sandy coastal plain pond like depression



Bushy Bluestem fall 2024 found at 74 Bokum Road in Old Saybrook, CT

-powerline right of way (ROW) was found to have a large population of 200-300 Bushy Bluestem plants in the wetter areas, a population of 20-25 plants of the state special concern species *Acalypha virginica* was also seen on the ROW.



Bushy bluestem August 2025 growing in wet soil along utility ROW.

- the flat mesic mid successional forest had no species of concern; this area forms the majority of the impact area.



Mid succession mesic flat woods.



Mid succession mesic flat woods.

The survey was conducted for the species below:

Polygala cruciata (Field milkwort) State Status: Endangered

Not found, *Polygala sanguinea* a similar species was found in mesic sand, this species lacks the pointed winged sepals and cross like whorled leaves of *P. cruciata*, see photo below.



-*Ageratina aromatica* (Small white snakeroot) State Status: Endangered. Not found, one deer browsed *Ageratina altissima* was located in a weedy moist/mesic part of the site. Leaves of this species are more herbaceous, have longer petioles, more teeth and almost an acuminate leaf tip. As opposed to *A. aromatica* with firm leaves, a shorter petiole, and simply an acute leaf tip. See photos below.



Ageratina altissima soon to flower at 74 Bokum Rd.

-*Liparis liliifolia* (Lily-leaved twayblade) State Status: Endangered

Not found, nothing with similar morphology seen.

-*Scleria pauciflora* var. *caroliniana* (Few-flowered nutrush) State Status: Endangered

Not found, nothing with similar morphology seen.

-***Scleria triglomerata*** (Whip nutrush) State Status: Endangered

Not found, nothing with similar morphology seen.

-***Aristida longespica* var. *geniculata*** (Needlegrass) State Status: Special Concern

Not found, nothing with similar morphology seen.

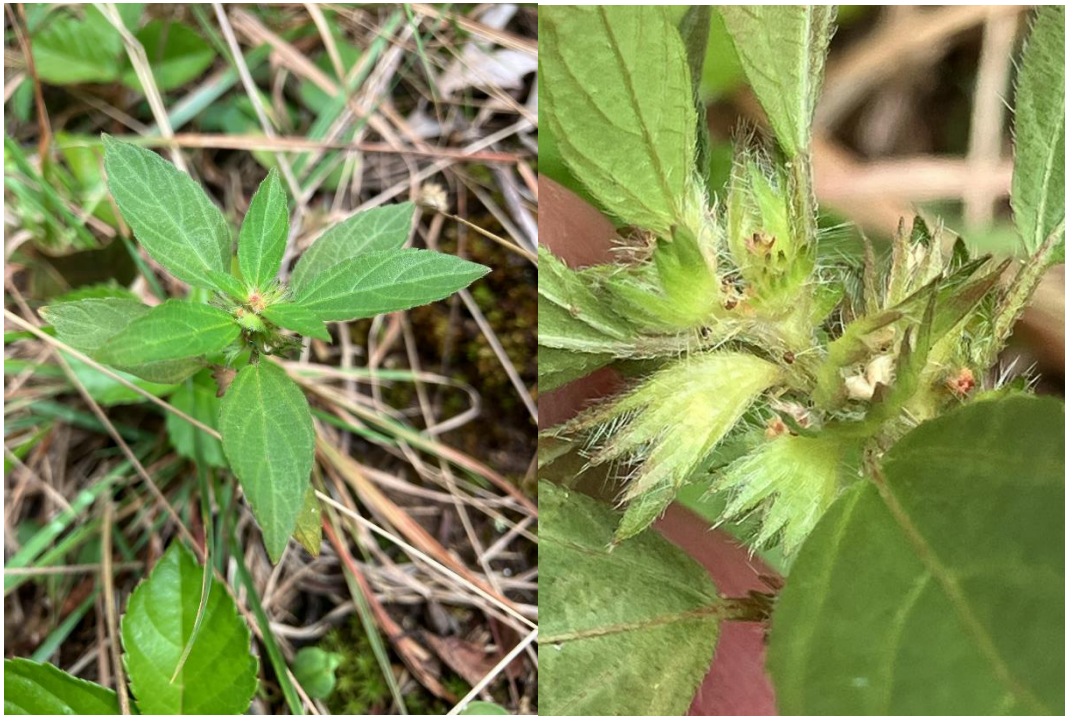
-***Oxalis violacea*** (Violet wood-sorrel) State Status: Special Concern

Not found, species was seen at the reference site of Bluff Point on June 12, 2025 to make sure plant was still up and visible, 74 Bokum rd. was survey 6/12, 6/13, and 6/17, did not see anything closely resembling this species. *Oxalis stricta* was found, this species, though in the same genus is very different, *O. stricta* has vertical stems, yellow flowers, as opposed to *O. violacea* that spreads horizontally and has purple flowers. See photo of *Oxalis stricta* upright habit below.



-***Acalypha virginica*** (Virginia copperleaf) State Status: Special Concern

Found, approximately 20-25 individuals of this species were seen along the power line right of way on the eastern side of the property, well outside of the solar panel impact zone. The location of the population is at 41.321356 -72.383572. The plants appear healthy and were reproductive. See sensitive plant resource map as well.



Acalypha virginica overall plant form and floccose hairs on carpellate bracts



Acalypha virginica with relatively short petiole and carpellate bract with 12 lobes

-*Carex styloflexa* (Bent sedge) State Status: Special Concern

Not found, no similar sedges seen.

-*Carex striatula* (Lined sedge) State Status: Special Concern

Not found, I guess *Carex digitalis* is somewhat similar, but it is clearly not *C. striatula*. See photo of *C. digitalis*.



-*Desmodium glabellum* (Dillenius' tick-trefoil) State Status: Special Concern

Not found, four other species within the genus were found *D. marilandicum*, *D. paniculatum*, *D. perplexum*, and *D. rotundifolium*. I am not completely certain on the *D. perplexum* identification, but the fruit articulations are far too round to be *D. glabellum*.

Additionally, a member of a related segregate/sister genus was found *Hylodesmum nudiflorum*.

D. marilandicum has smaller leaves than *D. glabellum*, *D. paniculatum* has narrower leaflets than *D. glabellum*, and *D. rotundifolium* has rounder leaflets than *D. glabellum*, *Hylodesmum nudiflorum* has a pseudo whorl of leaves while *D. glabellum* leaves are alternate, and the fruit articulations of *D. perplexum* are rounder than *D. glabellum*. Most of these plants were found on the powerline ROW outside of the impact area.



Smaller leaves of *D. marilandicum*



Narrower leaflets of *D. paniculatum*



Rounder leaflets of *D. rotundifolium*



A pseudo whorl of *Hylodesmum nudiflorum* leaves



Rounded fruit articulations of possible *D. perplexum*. This plant was on the powerline ROW and out f the impact area.

-*Endodeca serpentaria* (Virginia snakeroot) State Status: Special Concern

Not found, nothing with similar morphology seen.

-*Hottonia inflata* (Featherfoil) State Status: Special Concern

Not found, nothing with similar morphology seen.

-*Opuntia humifusa* (Eastern prickly pear) State Status: Special Concern

Not found, nothing with similar morphology seen.

-*Ranunculus micranthus* (Small-flowered crowfoot) State Status: Special Concern

Not found, *Ranunculus arbortivus* a similar species was common on the site, this species lacks the villose hairs of *R. micranthus* on the stem. See photos



Ranunculus arbortivus found at 74 Bokum rd. lacking villose hairs

-*Rubus cuneifolius* (Sand blackberry) State Status: Special Concern

Not found, *R. allegheniensis*, *R. occidentalis*, *R. phoenicolasius*, *R. flagellaris*, and *R. hispidus* were seen on site. Morphologically *R. hispidus* is probably the closest. See photos below of *R. hispidus* with trailing habit and with hispid hairs/prickles on stem.



Trailing habit of *R. hispidus*



R. hispidus stem with weak prickles.

-***Triosteum perfoliatum*** (Perfoliate-leaved Horse-gentian Bellwort) State Status: Watch List (no legal status)

Not found, I located a single clump of small plants that I believe are *Triosteum aurantiacum*. The leaves are narrow at the base and not perfoliate. These individual stems were short measuring about 6" and 4". See photo.



Small *Triosteum aurantiacum* plant

-***Lespedeza stuevei*** Nutt. (Tall bush-clover) State Status: Watch List (no legal status)

Not found, four other *Lespedeza* species were observed. *Lespedeza procumbens* has a trailing habit, and *Lespedeza capitata* is a larger species with whitish flower, the two most similar species are *Lespedeza virginica* with narrower leaved than the target species, and *Lespedeza violacea* which has generally hairless leaves unlike *Lespedeza stuevei* that has leaflets strigose to pilose on the adaxial surface.



Narrow leaflets of *Lespedeza virginica*



Hairless leaves of *Lespedeza violacea*

The most significant find at the location was Bushy Bluestem *Andropogon glomeratus*. This is the first record of this species occurring in Connecticut. This species is native to the Northeastern United States and is known from southeast MA, RI, and Long Island. On Long Island it is considered a New York watchlist plant. I have been in contact with Bill Moorhead at CT DEEP and he stated this population should be protected as a rare species on site. The habitat is consistent with areas I have seen this species in SE MA and on Nantucket. The species was growing in the seasonally wet-inundated sandy coastal plain pond like depression area near the dug ponds, this area was dry at the time of survey but is likely to be wet in the spring and may be occasionally inundated. Several uncommon species could be found in this location including *Lycopodiella appressa*, *Euthamia caroliniana*, *Eupatorium pilosum*, and *Calamagrostis cinnoides*. *Andropogon glomeratus* also was growing in a wet depressions on the ROW nearby. See map below of the sensitive plant resource locations.

In summary this is a diverse and complex botanical site but no rare or watch list plants were found in the impact zone.

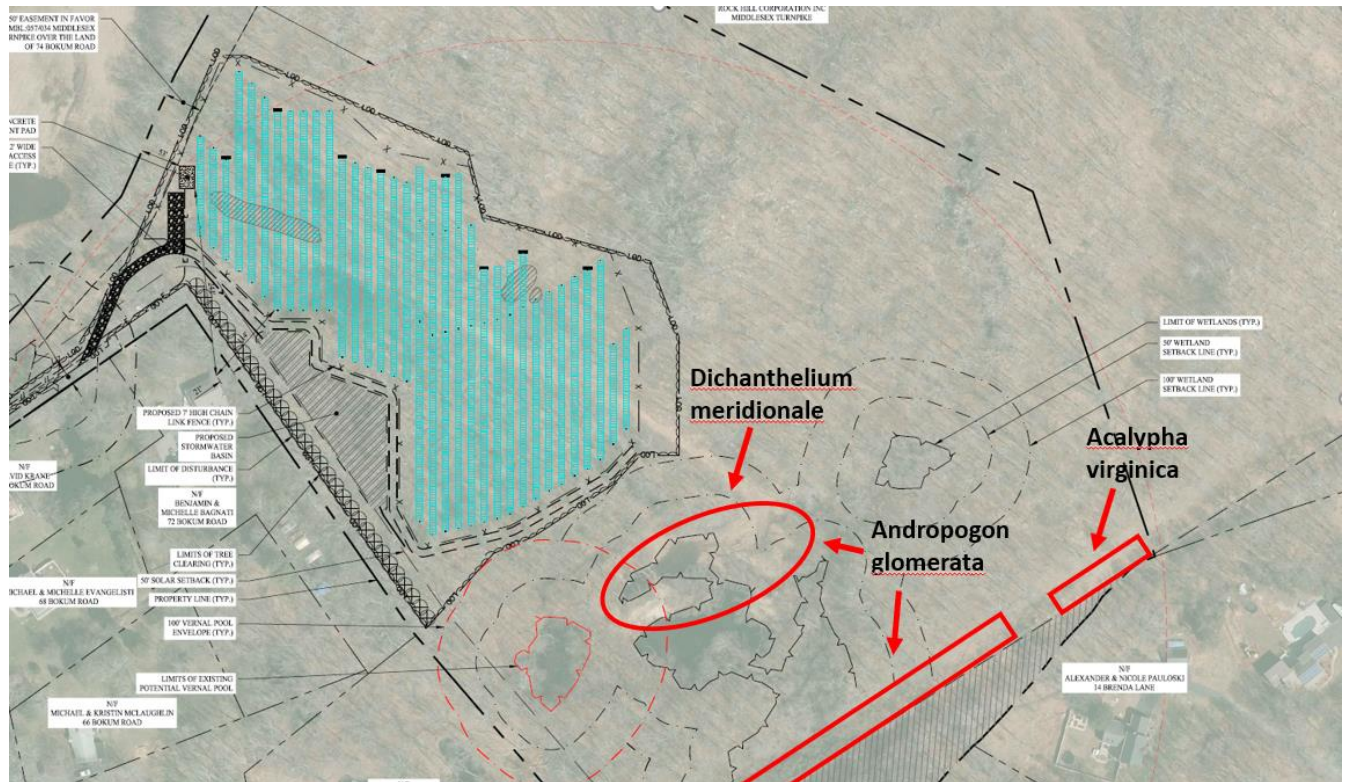


Table 1. List of 272 vascular plant species seen at 74 Bokum rd. Old Saybrook.

	Common Name	Genus	Species
1	common three-seeded-Mercury	Acalypha	rhomboidea
2	Virginia Three-seed Mercury	Acalypha	virginica
3	Norway maple	Acer	platanoides
5	red maple	Acer	rubrum
6	sugar maple	Acer	saccharum
7	silver maple	Acer	saccharinum
8	common yarrow	Achillea	millefolium
9	baneberry	Actaea	sp. likely rubra
10	white snakeroot	Ageratina	altissima
11	bent grass	Agrostis	spp.
12	tree-of-heaven	Ailanthus	altissima
13	garlic-mustard	Alliaria	petiolata
14	smooth alder	Alnus	serrulata
15	common ragweed	Ambrosia	artemisiifolia
16	shadbush	Amelanchier	sp.
17	Amur peppervine	Ampelopsis	glandulosa
18	American hog-peanut	Amphicarpaea	bracteata
19	broomsedge bluestem	Andropogon	virginicus
20	bushy bluestem	Andropogon	glomeratus
21	pussytoes	Antennaria	sp.
22	sweet vernalgrass	Anthoxanthum	odoratum
23	Hemp Dogbane	Apocynum	cannabinum
24	red columbine	Aquilegia	canadensis
25	wild sarsaparilla	Aralia	nudicaulis
26	Jack-in-the-pulpit	Arisaema	triphyllum
27	purple chokeberry	Aronia	floribunda/prunifolia
28	common wormwood	Artemisia	vulgaris
29	butterfly milkweed	Asclepias	tuberosa
30	ebony spleenwort	Asplenium	platyneuron
31	lady fern	Athyrium	filix-femina
32	fern-leaved false foxglove	Aureolaria	pedicularia
33	Downy Yellow False Foxglove	Aureolaria	virginica
34	yellow wild indigo	Baptisia	tinctoria
35	twining screwstem	Bartonia	paniculata
36	flowering dogwood	Benthamedia	florida
37	Japanese barberry	Berberis	thunbergii
38	black birch	Betula	lenta
39	gray birch	Betula	populifolia
40	Nuttall's reed grass	Calamagrostis	cinnoides
41	small-flowered bitter-cress	Cardamine	parviflora
42	white-edged sedge	Carex	debilis
43	northern long sedge	Carex	folliculata
44	sallow sedge	Carex	lurida
45	slender woodland sedge	Carex	digitalis

46	graceful sedge	Carex	gracillima
47	greater bladder sedge	Carex	intumescens
48	hop sedge	Carex	lupulina
49	Pennsylvania sedge	Carex	pensylvanica
50	broad-leaved sedge	Carex	platyphylla
51	Swan's sedge	Carex	swanii
52	ribbed sedge	Carex	virescens
53	American hornbeam	Carpinus	caroliniana
54	pignut hickory	Carya	glabra
55	mockernut hickory	Carya	tomentosa
56	Asian bittersweet	Celastrus	orbiculatus
57	spotted knapweed	Centaurea	stoebe
58	common buttonbush	Cephalanthus	occidentalis
59	wild sensitive-pea	Chamaecrista	nictitans
60	spotted wintergreen	Chimaphila	maculata
61	broad-leaved enchanter's- nightshade	Circaea	canadensis
63	coastal sweet-pepperbush	Clethra	alnifolia
64	wild basil	Clinopodium	vulgare
65	bastard-toadflax	Comandra	umbellata
66	sweet-fern	Comptonia	peregrina
67	American hazelnut	Corylus	americana
68	orchard grass	Dactylis	glomerata
69	flat-branched tree-clubmoss	Dendrolycopodium	obscurum
70	eastern hay-scented fern	Dennstaedtia	punctilobula
71	wavy hair grass	Deschampsia	flexuosa
72	smooth small-leaved tick-trefoil	Desmodium	marilandicum
73	panicled tick-trefoil	Desmodium	paniculatum
74	perplexed tick-trefoil	Desmodium	perplexum
75	round-leaved trailing tick-trefoil	Desmodium	rotundifolium
76	Deptford pink	Dianthus	armeria
77	deer-tongue grass	Dichanthelium	clandestinum
78	forked rosette-panicgrass	Dichanthelium	dichotomum ssp. macrocarpon
79	Matting Witchgrass	Dichanthelium	meridionale
80	rough buttonweed	Diodia	teres
81	wild yam	Dioscorea	villosa
82	Blue Clubmoss	Diphasiastrum	tristachyum
83	Spoonleaf Sundew	Drosera	intermedia
84	evergreen wood fern	Dryopteris	intermedia
85	marginal wood fern	Dryopteris	marginalis
86	three-way sedge	Dulichium	arundinaceum
87	autumn-olive	Elaeagnus	umbellata
88	creeping wild-rye	Elymus	repens
89	field horsetail	Equisetum	arvense
90	American burnweed	Erechtites	hieraciifolius
91	Canada fleabane	Erigeron	canadensis

92	burning-bush	Euonymus	alatus
93	hyssop-leaved boneset	Eupatorium	hyssopifolium
94	ragged thoroughwort	Eupatorium	pilosum
95	white wood-aster	Eurybia	divaricata
96	coastal plain grass-leaved-goldenrod	Euthamia	caroliniana
97	flat-top goldentop	Euthamia	graminifolia
98	Joe-Pye weed	Eutrochium	dubium
99	American beech	Fagus	grandifolia
100	European beech	Fagus	sylvatica
101	Japanese knotweed	Fallopia	japonica
102	slender fimbry	Fimbristylis	autumnalis
103	common strawberry	Fragaria	virginiana
104	white ash	Fraxinus	americana
105	fragrant bedstraw	Galium	triflorum
106	scratch bedstraw	Galium	aparine
107	forest licorice bedstraw	Galium	circaezans
108	hairy bedstraw	Galium	pilosum
109	black huckleberry	Gaylussacia	baccata
110	wild geranium	Geranium	maculatum
111	white avens	Geum	canadense
112	downy rattlesnake-plantain	Goodyera	pubescens
113	American witch-hazel	Hamamelis	virginiana
114	English-ivy	Hedera	helix
115	rattlesnake hawkweed	Hieracium	venosum
116	common velvet grass	Holcus	lanatus
117	little bluet	Houstonia	caerulea
118	naked tick-trefoil	Hylodesmum	nudiflorum
119	spotted St. John's-wort	Hypericum	punctatum
120	lesser St. John's-wort	Hypericum	canadense
121	common St. John's-wort	Hypericum	perforatum
122	winterberry	Ilex	verticillata
123	American holly	Ilex	opaca
124	jewelweed	Impatiens	capensis
125	flax-leaved stiff-aster	Ionactis	linariifolia
126	black walnut	Juglans	nigra
127	path rush	Juncus	tenuis
128	common juniper	Juniperus	communis
129	eastern red cedar	Juniperus	virginiana
130	sheep-laurel	Kalmia	angustifolia
131	mountain laurel	Kalmia	latifolia
132	Japanese-clover	Kummerowia	striata
133	tall lettuce	Lactuca	canadensis
134	round-headed bush-clover	Lespedeza	capitata
135	trailing bush-clover	Lespedeza	procumbens
136	wand bush-clover	Lespedeza	violacea
137	slender bush-clover	Lespedeza	virginica

138	ox-eye daisy	Leucanthemum	vulgare
139	border privet	Ligustrum	obtusifolium
140	wood lily	Lilium	philadelphicum
141	northern spicebush	Lindera	benzoin
142	ridged yellow flax	Linum	striatum
143	tuliptree	Liriodendron	tulipifera
144	cardinal-flower	Lobelia	cardinalis
145	indian-tobacco	Lobelia	inflata
146	Japanese honeysuckle	Lonicera	japonica
147	Morrow's honeysuckle	Lonicera	morrowii (or x bella)
148	common water-primrose	Ludwigia	palustris
149	square-pod water-primrose	Ludwigia	alternifolia
150	Appressed Bog Clubmoss	Lycopodiella	appressa
151	running clubmoss	Lycopodium	clavatum
152	northern water-horehound	Lycopus	uniflorus
153	maleberry	Lyonia	ligustrina
154	whorled yellow-loosestrife	Lysimachia	quadrifolia
155	Canada-mayflower	Maianthemum	canadense
156	feathery false Solomon's-seal	Maianthemum	racemosum
157	Indian cucumber root	Medeola	virginiana
158	cow-wheat	Melampyrum	lineare
159	Japanese stiltgrass	Microstegium	vimineum
160	partridge-berry	Mitchella	repens
161	small bayberry	Morella	caroliniensis
162	Lion's Foot Rattlesnake Root	Nabalus	serpentarius
163	oldfield-toadflax	Nuttallanthus	canadensis
164	black-gum	Nyssa	sylvatica
165	sensitive fern	Onoclea	sensibilis
166	interrupted fern	Osmunda	claytoniana
167	royal fern	Osmunda	regalis
168	cinnamon fern	Osmundastrum	cinnamomeum
169	hop-hornbeam	Ostrya	virginiana
170	common yellow wood sorrel	Oxalis	stricta
171	switch panicgrass	Panicum	virgatum
172	New York fern	Parathelypteris	noveboracensis
173	smooth forked whitlow-wort	Paronychia	canadensis
174	Virginia-creeper	Parthenocissus	quinquefolia
175	Oriental lady's-thumb smartweed	Persicaria	longiseta
176	jumpseed	Persicaria	virginiana
177	common Timothy	Phleum	pratense
178	Norway spruce	Picea	abies
179	eastern white pine	Pinus	strobus
180	black-seeded spear grass	Piptochaetium	avenaceum
181	English plantain	Plantago	lanceolata
182	common plantain	Plantago	major
183	little club-spur bog-orchid	Platanthera	clavellata
184	flat-stemmed blue grass	Poa	compressa

185	purple milkwort	Polygala	sanguinea
186	hairy Solomon's-seal	Polygonatum	pubescens
187	rock polypody	Polypodium	virginianum
188	Christmas fern	Polystichum	acrostichoides
189	eastern cottonwood	Populus	deltoides
190	bigtooth aspen	Populus	grandidentata
191	common cinquefoil	Potentilla	simplex
192	heal-all	Prunella	vulgaris
193	black cherry	Prunus	serotina
194	sour cherry? (non-native)	Prunus	cerasus or avium
195	blunt-leaved rabbit-tobacco	Pseudognaphalium	obtusifolium
196	bracken fern	Pteridium	aquilinum
197	broad-leaved mountain-mint	Pycnanthemum	muticum
198	narrow-leaved mountain-mint	Pycnanthemum	tenuifolium
199	American shinleaf	Pyrola	americana
200	Saul's Oak	Quercus	×saulii
201	white oak	Quercus	alba
202	scarlet oak	Quercus	coccinea
203	black oak	Quercus	velutina
204	chestnut oak	Quercus	montana
205	Virginia meadow-beauty	Rhexia	virginica
206	azalea	Rhododendron	sp.
207	winged sumac	Rhus	copallinum
208	brownish beaksedge	Rhynchospora	capitellata
209	Bog Yellowcress	Rorippa	palustris
210	multiflora rose	Rosa	multiflora
211	Carolina rose	Rosa	carolina
212	common blackberry	Rubus	allegheniensis
213	black raspberry	Rubus	occidentalis
214	wineberry	Rubus	phoenicolasius
215	northern dewberry	Rubus	flagellaris
216	bristly blackberry	Rubus	hispidus
217	black-eyed susan	Rudbeckia	hirta
218	sheep sorrel	Rumex	acetosella
219	bitter dock	Rumex	obtusifolius
220	common arrowhead	Sagittaria	latifolia
221	gray willow	Salix	atrocineria
222	Black Snakeroot	Sanicula	canadensis
223	sassafras	Sassafras	albidum
224	little bluestem	Schizachyrium	scoparium
225	Smith's annual-bulrush	Schoenoplectus	smithii
226	mosquito bulrush	Scirpus	hattorianus
227	mad dog skullcap	Scutellaria	lateriflora
228	toothed white-topped-aster	Sericocarpus	asteroides
229	Sleepy Catchfly	Silene	antirrhina
230	glaucous-leaved greenbriar	Smilax	glauca
231	carrion-flower	Smilax	herbacea

232	roundleaf greenbrier	Smilax	rotundifolia
233	climbing nightshade	Solanum	dulcamara
234	Eastern Black Nightshade	Solanum	emulans
235	white goldenrod	Solidago	bicolor
236	common wrinkle-leaved goldenrod	Solidago	rugosa
237	blue-stem goldenrod	Solidago	caesia
238	licorice goldenrod	Solidago	odora
239	white meadowsweet	Spiraea	alba
240	steeplesbush	Spiraea	tomentosa
241	common stitchwort	Stellaria	media
242	gray dogwood	Swida	racemosa
243	heart-leaved American-aster	Symphyotrichum	cordifolium
244	New York American-aster	Symphyotrichum	novi-belgii
245	late purple American-aster	Symphyotrichum	patens
246	awl American-aster	Symphyotrichum	pilosum
247	skunk-cabbage	Symplocarpus	foetidus
248	common dandelion	Taraxacum	officinale
249	tall meadow-rue	Thalictrum	pubescens
250	rue anemone	Thalictrum	thalictroides
251	marsh fern	Thelypteris	palustris
252	poison-ivy	Toxicodendron	radicans
253	marsh-St. John's-wort	Triadenum	sp.
254	forked bluecurls	Trichostema	dichotomum
255	white clover	Trifolium	repens
256	Venus'-looking-glass	Triodanis	perfoliata
257	orange-fruited horse-gentian	Triosteum	aurantiacum
258	sessile-leaved bellwort	Uvularia	sessilifolia
259	highbush blueberry	Vaccinium	corymbosum
260	large cranberry	Vaccinium	macrocarpon
261	hillside blueberry	Vaccinium	pallidum
262	common mullein	Verbascum	thapsus
263	New York ironweed	Vernonia	noveboracensis
264	maple-leaved viburnum	Viburnum	acerifolium
265	smooth arrowwood	Viburnum	dentatum
266	linden arrowwood	Viburnum	dilatatum or plicatum
267	lance-leaved violet	Viola	lanceolata
268	wood violet	Viola	palmata
269	primrose-leaved violet	Viola	primulifolia
270	arrowhead violet	Viola	sagittata
271	fox grape	Vitis	labrusca
271	slender yellow-eyed-grass	Xyris	torta