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The Vascular Flora of Sandy Run Savannas State Natural Area,
Onslow and Pender Counties, North Carolina

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ABSTRACT The vascular plants of Sandy Run Savannas State Natural Area, located in portions of Onslow and Pender counties, North Carolina, are presented as an annotated species list. A total of 590 taxa in 315 genera and 119 families were collected from eight plant communities. Families with the highest numbers of species were the Asteraceae (80), Poaceae (66), and Cyperaceae (65). Two species, *Carex lutea* (golden sedge) and *Thalictrum cooleyi* (Cooley's meadowrue), have federal endangered status. A total of 23 taxa are tracked by the North Carolina Natural Heritage Program, while 29 others are considered rare, but not included on the priority list. Of 44 species considered strict endemic or near-endemic taxa to the North and South Carolina Coastal Plain, 18 (41%) were collected in this study. Selected pine savannas within the site were rated as nationally significant by the North Carolina Natural Heritage Program. Fifty-one (51) non-native species were present and represented 8.7 % of the flora.

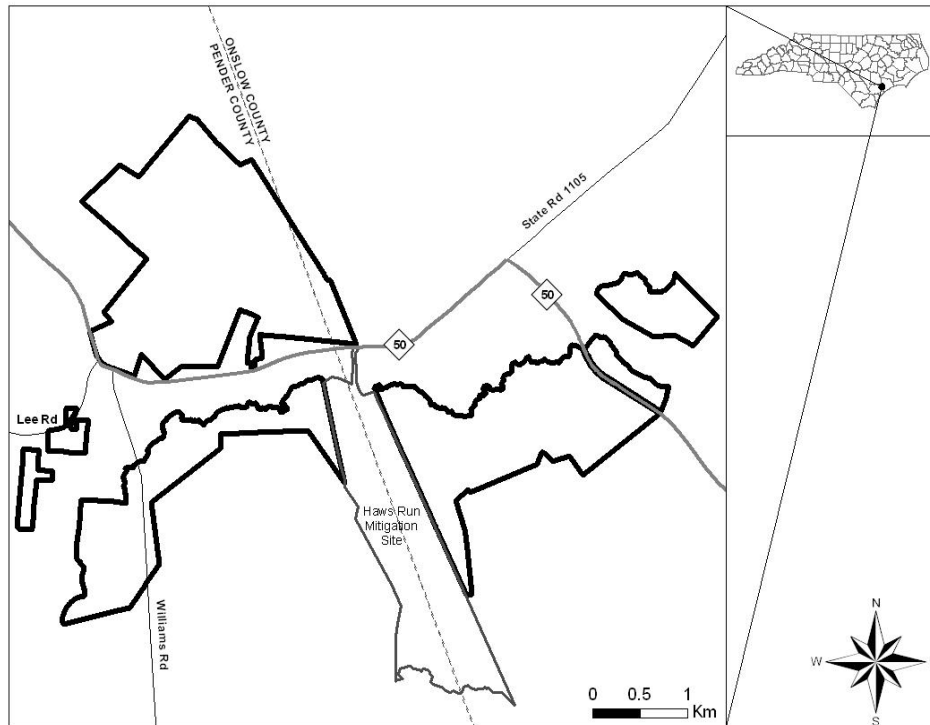
INTRODUCTION Sandy Run Savannas State Natural Area encompasses portions of western Onslow and northeastern Pender counties in North Carolina. State acquisition of this coastal plain site began in 2007 as a cooperative effort between The Nature Conservancy in North Carolina and the North Carolina Division of Parks and Recreation to protect approximately 1,214 ha. comprised of seven tracts (Figure 1). Haws Run Mitigation Site, a 239-ha. property located between two Sandy Run Savannas State Natural Area tracts, is currently owned by the North Carolina Department of Transportation. However, because transfer to the North Carolina Division of Parks and Recreation is anticipated, this parcel is included in the study and the aforementioned total area. All tracts will be managed by the North Carolina Division of Parks and Recreation as a state natural area for protection of natural communities and ecological processes (Jean Lynch, North Carolina Division of Parks and Recreation, pers. comm., 2009).

The objective of the study was to complete a floristic inventory that would inform future site management and uses such as visitor access planning, educational programs, plant community restoration, and species protection/recovery efforts. Although previous botanical studies (LeBlond and Weakley 1991; LeBlond 1999, 2000) and rare plant species records from the North Carolina Natural Heritage Program (2009) identified significant tracts within the natural area, a comprehensive vascular plant survey that encompassed all properties was lacking.

STUDY AREA Sandy Run Savannas State Natural Areas is located between 34° 36' 22" and 34° 39' 22" N and 77° 36' 26" and 77° 40' 30" W within the Northeast Cape Fear River Subbasin

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Figure 1. Location of Sandy Run Savannas State Natural Area, North Carolina. Current natural area tracts have dark boundaries, while Haws Run Mitigation Site will be added in the near future.



of the Cape Fear River Basin. The geographic center of the tracts is approximately 5.5 km. southeast of Maple Hill, North Carolina. The entire site is depicted on portions of the Folkstone, Haws Run, Maple Hill, and Maple Hill SW 7.5 minute quadrangle maps for North Carolina (United States Department of the Interior, Geological Survey 1981). Primary road access is via NC 50 and then by secondary and unpaved roads to the various parcels.

The physical setting is the lower North Carolina Coastal Plain, approximately 25 km. from the Atlantic Ocean, on the Pamlico terrace that is comprised of Holocene and Pleistocene sediments. The natural area is underlain by the Castle Hayne formation, an Eocene marine limestone (Horton and Zullo 1991). Elevations within the site range from 1.83 m. to 4.27 m. above sea level (United States Department of the Interior, Geological Survey 1981).

Weather data from the nearest long-term stations, Jacksonville and Willard, during 1990-2008 indicated a humid - subtropical climate with a typical annual growing season of 240 days. Mean annual precipitation during that period was approximately 133 cm., although a drought during 2007 resulted in a precipitation total of just 88 cm. (Barnhill 1990, 1992; National Climatic Data Center 1990-2008; Peel et al. 2007).

Barnhill (1990, 1992) mapped and described a mosaic of nine soil series that ranged from strongly acid to circumneutral and moderately well drained to very poorly drained in Sandy Run Savannas State Natural Area tracts (Table 1). Soil profiles within many portions of the natural

area were modified to varying degrees by plowing, ditching, or filling as consequences of prior silvicultural and road construction/maintenance activities.

Table 1. Soils mapped at Sandy Run Savannas State Natural Area, North Carolina according to Barnhill (1990, 1992)

Soil Series	Taxonomy	Drainage Class (__ drained)
Foreston	coarse-loamy, siliceous, thermic Aquic Paleudult	moderately well
Grifton	fine-loamy, siliceous, thermic Typic Ochraqualf	poorly
Leon	sandy, siliceous, thermic Aeric Haplaquod	poorly
Mandarin	sandy, siliceous, thermic Typic Haplohumod	somewhat poorly
Muckalee	coarse-loamy, siliceous, thermic Typic Fluvaquent	poorly
Pactolus	thermic, coated Aquic Quartzipsamment	moderately well/somewhat poorly
Stallings	coarse-loamy, siliceous, thermic Aeric Paleaquult	somewhat poorly
Torhunta	coarse-loamy, siliceous, thermic Typic Humaquept	very poorly
Woodington	coarse-loamy, siliceous, thermic Typic Paleaquult	poorly

Although most of the property had been affected by human activities, remnant pine savannas and flatwoods plus tracts too wet for silviculture served as reference sites for natural plant communities as classified by Schafale and Weakley (1990). These communities included: coastal plain small stream swamp forest – blackwater subtype, mesic pine flatwoods, nonriverine swamp forest, pine savanna, small depression pocosin, and wet pine flatwoods. The Nature Conservancy in North Carolina, who acquired most of the tracts before transfer to the North Carolina Division of Parks and Recreation, replanted some harvested areas with scattered *Pinus palustris* and performed prescribed burns on three tracts until 2007.

METHODS Collection of plants began in November 2007 and continued through November 2009. Fourteen collection sites were visited weekly to biweekly for floristic sampling while several others were visited monthly. Collection areas were selected following a review of pertinent maps, aerial photography, reports, and site reconnaissance. Vouchers for all species observed, including populations of non-native species, were processed following standard procedures and deposited at the University of North Carolina at Wilmington herbarium (WNC). Manuals used for specimen identification by the author included Radford et al. (1968) and Weakley (2008); the latter served as final taxonomic and nomenclatural authority.

RESULTS AND DISCUSSION

Plant Communities

Plants collected at Sandy Run Savannas State Natural Area occurred in eight communities that consisted of six natural communities correlated with classifications given in Schafale and Weakley (1990) and two habitats significantly influenced by human activities. Associated soils were derived from maps given in Barnhill (1990, 1992) and from field observations.

- 1.) Coastal Plain Small Stream Swamp – Blackwater Subtype: Sandy Run Creek and Shelter Swamp Creek plus their associated tributaries encompassed the local watersheds.

Dominant trees were *Taxodium distichum* and *Nyssa biflora* mixed with other floodplain canopy species (e.g., *Acer rubrum* var. *trilobum*, *Liquidambar styraciflua*, *Quercus laurifolia*). Understory included subcanopy trees (*Carpinus caroliniana*, *Persea palustris*), shrubs (*Itea virginica*, *Leucothoe axillaris*), and vines (*Berchemia scandens*, *Smilax* spp.) with sporadic patches of ground layer species (*Arundinaria gigantea*, *Carex* spp., *Saururus cernuus*) that grew in Muckalee soil.

- 2.) Mesic Pine Flatwoods: Two locations contained examples of the best drained natural community in the site. Canopy trees were *Pinus palustris* or *P. taeda* with a variable understory of medium to low shrubs (*Ilex glabra*, *Vaccinium arboreum*, *V. crassifolium*, *V. tenellum*), *Pteridium aquilinum* var. *pseudocaudatum*, and *Aristida stricta*. Species that distinguished this vegetation from wet pine flatwoods (described below) included *Carya alba*, legumes (*Lespedeza* spp., *Indigofera caroliniana*), and scattered oaks (*Quercus falcata*, *Q. incana*, *Q. margarettae*, *Q. nigra*). Soil series included Foreston and Mandarin.
- 3.) Nonriverine Swamp Forest: This community was described for Sandy Run Savannas State Natural Area tracts by LeBlond (1999, 2000) and consisted of floodplain forest in Grifton, Woodington, or Torhunta soils not influenced by local stream drainage. A number of species were in common with the small stream swamp community, although *Taxodium ascendens* often co-dominated with *Nyssa biflora*. Recently harvested sites were characterized by dense stands of *Acer rubrum* var. *trilobum* and *Liquidambar styraciflua*. Herbaceous patches often contained *Carex* spp. and peatmoss (*Sphagnum* spp.).
- 4.) Pine Savanna: Typical pine savanna consisted of scattered conifers (i.e., *Pinus palustris* and occasional *P. serotina* plus *Taxodium ascendens*) with few shrubs and a continuous herbaceous ground cover with such dominant graminoids as: *Arisida stricta*, *Andropogon* spp., *Ctenium aromaticum*, *Muhlenbergia expansa*, *Rhynchospora* spp., and many other herbs. Soils associated with this community were the Foreston, Grifton, Mandarin, Stallings, and Woodington series. Three floristic variants were present in pine savannas of the natural area: wet spodosol, wet ultisol, and very wet clay. Portions of the site received a national significance rating by the North Carolina Natural Heritage Program for examples of the globally rare very wet clay variant that contained populations of two federally endangered species: *Carex lutea* (golden sedge) and *Thalictrum cooleyi* (Cooley's meadowrue) plus other rare plant populations (LeBlond 1999, 2000; North Carolina Natural Heritage Program 2009).
- 5.) Small Depression Pocosin: Isolated areas of shrub bog or pocosin (LeBlond 2000) occurred in local depressions dominated by shrubs (*Clethra alnifolia*, *Cyrilla racemiflora*, *Ilex coriacea*, *I. glabra*, *Lyonia lucida*,) often with vines of *Smilax laurifolia* and scattered trees (*Gordonia lasianthus*, *Magnolia virginiana*, *Persea palustris*, *Pinus serotina*, and *Taxodium ascendens*). Herbs were represented by sparse patches of *Carex* spp. and ferns (*Osmundastrum cinnamomeum*, *Woodwardia virginica*, and *W. areolata*). Torhunta and Woodington soils underlay this community.

- 6.) Wet Pine Flatwoods: This community occurred adjacent to pine savannas and exhibited variable canopies of *Pinus spp.* and various hardwoods (*Liquidambar styraciflua*, *Nyssa biflora*) with scattered low shrubs (*Gaylussacia spp.*, *Ilex glabra*, *Lyonia mariana*) and sporadic colonies of *Aristida stricta* plus other savanna herbs. Similar structure and composition occurred in some fire-suppressed pine savanna tracts that corresponded to successional community development (i.e., by loss of herb diversity/cover and shrub increase) mentioned by Schafale and Weakley (1990). Soil series present in wet pine flatwoods included Foreston, Leon, Mandarin, Pactolus, and Woodington.
- 7.) Anthropogenic Roadside and Old Field: Areas disturbed by road construction/maintenance and silvicultural activities (i.e., current and former tree plantations) consisted largely of aggressive native species (*Andropogon virginicus var. virginicus*, *Aster dumosus*, *Baccharis halimifolia*, *Diodia teres*, *Morella cerifera*, *Pinus taeda*, *Solidago spp.*) mixed with various exotics (*Lespedeza cuneata*, *Medicago lupulina*, *Paspalum dilitatum*, *Plantago lanceolata*, *Taraxacum officinale*). Associated soils included examples of all nine series mapped within the site (Table 1).
- 8.) Anthropogenic Wetland: Miles of drainage ditches and water-filled borrow areas were legacies of both road construction and efforts to improve drainage for silviculture. One exception was a large pond complex located at the north end of Haws Run Mitigation Site where wetlands restoration was performed by the North Carolina Department of Transportation. Various woody and herbaceous species (*Alnus serrulata*, *Baccharis halimifolia*, *Ludwigia spp.*, *Morella cerifera*, *Nymphaea odorata*, *Proserpinaca spp.*, *Salix spp.*, *Typha spp.*, *Utricularia spp.*) occurred in altered soils of all series listed in Table 1.

Floristic Inventory

A total of 590 taxa of vascular plants in 315 genera and 119 families were collected (see Annotated List of Plant Species). These species were distributed among major taxonomic groupings as: Pteridophytes (14 species), Gymnosperms (6 species), and Angiosperms (570 species) – Dicotyledons (366 species) and Monocotyledons (204 species) (Table 2). Of the 11 best represented families, the Asteraceae (80 species), Poaceae (66 species), and Cyperaceae (65 species) were most prominent (Table 3).

Table 2. Taxonomic distribution of vascular plants collected at Sandy Run Savannas State Natural Area, North Carolina

Division	Species and Sub-specific Taxa	Genera	Families	Endemics	Exotics
Pteridophytes	14	12	10	0	0
Gymnosperms	6	3	2	0	0
Angiosperms					
Dicotyledons	366	214	82	12	32
Monocotyledons	204	86	25	6	19
Totals	590	315	119	18	51

Table 3. Species richness in the 11 largest families collected at Sandy Run Savannas State Natural Area, North Carolina

Family	Species and Sub-specific Taxa	Genera	Endemics	Exotics
Asteraceae	80	44	6	7
Poaceae	66	38	2	15
Cyperaceae	65	11	2	1
Fabaceae	23	15	1	9
Ericaceae	18	9	2	0
Orchidaceae	14	7	0	0
Apiaceae	13	7	0	0
Plantaginaceae	12	7	0	4
Onagraceae	12	3	0	0
Lamiaceae	11	10	0	0
Juncaceae	11	1	0	0
Totals	325	152	13	36

Among the specimens collected in this study, a total of seven have federal status and 23 have state status (Table 4). Both *Carex lutea* (golden sedge) and *Thalictrum cooleyi* (Cooley's meadowrue) are federally and state endangered; *Parnassia caroliniana* (Carolina Grass-of-Parnassus), *Plantago sparsiflora* (pineland plantain), and *Rhynchospora thornei* (Thorne's beaksedge) are state endangered. A total of 29 other species are considered rare, but not tracked by the North Carolina Natural Heritage Program (Table 5).

Table 4. Species tracked by the North Carolina Natural Heritage Program that were collected at Sandy Run Savannas State Natural Area, North Carolina. Status categories follow Buchanan and Finnegan (2008).

Species	Federal Status	State Status
<i>Agrostis altissima</i>	-	SR-T ¹
<i>Allium species 1</i>	FSC ²	SR-L ³
<i>Andropogon mohrii</i>	-	SR-P ⁴
<i>Aristida simpliciflora</i>	-	SR-T
<i>Arnoglossum ovatum</i>	-	SR-P
<i>Carex lutea</i>	E ⁵	E
<i>Cirsium lecontei</i>	-	SR-P
<i>Coreopsis helianthoides</i>	-	SR-P
<i>Dionaea muscipula</i>	FSC	SR-L, SC ⁶
<i>Hypericum brachyphyllum</i>	-	SR-P
<i>Linum floridanum</i> var. <i>chrysocarpum</i>	-	SR-T
<i>Packera crawfordii/paupercula</i>	-	SR-T
<i>Parnassia caroliniana</i>	FSC	E
<i>Pinguicula pumila</i>	-	SR-P
<i>Plantago sparsiflora</i>	FSC	E
<i>Polygala hookeri</i>	-	SR-T
<i>Rhychospora breviseta</i>	-	SR-P
<i>Rhychospora divergens</i>	-	SR-P
<i>Rhychospora pinetorum</i>	-	SR-T
<i>Rhychospora thornei</i>	FSC	E
<i>Scleria species 1</i>	-	SR-L
<i>Spiranthes laciniata</i>	-	SR-P
<i>Thalictrum cooleyi</i>	E	E

Status Categories:

¹ Significantly Rare Throughout

² Federal Species of Concern

³ Significantly Rare Limited

⁴ Significantly Rare Peripheral

⁵ Endangered

⁶ Special Concern (State)

Table 5. Species included on the North Carolina Watch List -- considered rare or otherwise threatened with serious decline, but not included on the priority list -- by the North Carolina Natural Heritage Program that were collected at Sandy Run Savannas State Natural Area, North Carolina. Status categories follow Buchanan and Finnegan (2008).

Species	State Status
<i>Agalinus aphylla</i>	W1 ¹
<i>Agalinus linifolia</i>	W1
<i>Agalinus obtusifolia</i>	W1
<i>Aletris farinosa</i>	W5B ²
<i>Bartonia verna</i>	W1
<i>Cleistis divaricata</i>	W1
<i>Coelorachis rugosa</i>	W1
<i>Dichanthelium dichotomum</i> var. <i>roanokense</i>	W1
<i>Dichanthelium ovale</i> var. <i>ovale</i>	W1
<i>Habenaria repens</i>	W1
<i>Listera australis</i>	W1
<i>Lycopus amplexans</i>	W1
<i>Lysimachia loomisii</i>	W1
<i>Oenothera fruticosa</i> var. <i>unguiculata</i>	W7 ³
<i>Paspalum praecox</i>	W1
<i>Platanthera blephariglottis</i>	W1
<i>Rhynchospora inundata</i>	W1
<i>Rhynchospora nitens</i>	W1
<i>Rhynchospora oligantha</i>	W1
<i>Rhynchospora pallida</i>	W1
<i>Sarracenia flava</i>	W5B
<i>Sarracenia purpurea</i> var. <i>venosa</i>	W5B
<i>Sarracenia rubra</i> ssp. <i>rubra</i>	W5B
<i>Solidago pulchra</i>	W1
<i>Sporobolus pinetorum</i>	W1
<i>Spriodela polyrrhiza</i>	W7
<i>Stachys aspera</i>	W7
<i>Typha domingensis</i>	W7
<i>Xyris brevifolia</i>	W1

Status Categories:

- ¹ rare, but relatively secure
² exploited plants
³ rare and poorly known

Of 44 species listed by LeBlond (2001) as strict endemic and near-endemic taxa of the North and South Carolina Coastal Plain, 18 (41%) were collected at Sandy Run Savannas State Natural Area. These species included: *Allium species 1*, *Aristida stricta*, *Baptisia cinerea*, *Carphephorus bellidifolius*, *Carphephorus tomentosus*, *Carex lutea*, *Cirsium repandum*, *Coreopsis falcata*, *Dionaea muscipula*, *Lysimachia loomisii*, *Marshallia graminifolia*, *Scleria species 1*, *Solidago pulchra*, *Sporobolus pinetorum*, *Thalictrum cooleyi*, *Tofieldia glabra*, *Vaccinium crassifolium*, and *Zenobia pulverulenta*. All of these species were collected in mesic pine flatwoods, pine savanna, or wet pine flatwoods communities, while 13 were members of five families with the highest species richness for the site (Table 3).

Although 51 non-native or exotic species (8.7% of the flora) were collected, the majority occurred in the anthropogenic roadside and old field community. None appeared to be invading natural communities; for example, *Lespedeza cuneata* was common along roadsides, but not present in adjacent pine savanna or flatwood communities. The majority (36) of these non-native species were found among the Poaceae, Fabaceae, Asteraceae, Plantaginaceae, and Cyperaceae (Table 3).

A total of 66 species cited in previous reports (LeBlond and Weakley 1991; LeBlond 1999, 2000) and North Carolina Natural Heritage Program (2009) records were not collected. Most of these taxa were reported by LeBlond and Weakley (1991) from two western-most tracts. Fire suppression during intervening years was a likely reason for some of these “missing” species, while others were observed only in a vegetative state (e.g., *Cladium mariscoides*) and not collected. Future searches for these taxa on all tracts should be pursued, especially after prescribed burning and other habitat restoration activities are initiated. With proper management this nationally significant site will serve as an excellent example of coastal plain biodiversity for researchers, educators, and the public.

ANNOTATED LIST OF PLANT SPECIES Nomenclature and circumscription of plant families, genera, and species follow Weakley (2008). The species list is arranged alphabetically by genus and species within alphabetically arranged families. These are further organized into Pteridophytes, Gymnosperms, and Angiosperms – subdivided into Dicotyledons and Monocotyledons. Each species entry includes the scientific name, author(s), associated plant community(ies)^a, and collection number. Non-native or exotic taxa, using Weakley (2008) as a guide, are denoted by an asterisk (*) before the name. Voucher specimens were deposited at WNC. Sixty-four species not collected in this study, but observed by LeBlond and Weakley (1991) and LeBlond (1999, 2000), have an exclamation point (!) before the name. Two additional species not collected but documented in North Carolina Natural Heritage Program records (2009) have a pound sign (#) before the name. Any federal or state status for an uncollected record is given in parenthesis and follows categories listed in Buchanan and Finnegan (2008).

^a Plant community abbreviations: AROF = Anthropogenic Roadside and Old Field, AW = Anthropogenic Wetland, MPF = Mesic Pine Flatwoods, NRSF = Nonriverine Swamp Forest, PS = Pine Savanna, SDP = Small Depression Pocosin, SSS = Coastal Plain Small Stream Swamp – Blackwater Subtype, WPF = Wet Pine Flatwoods

PTERIDOPHYTES

ASPLENIACEAE

Asplenium platyneuron (Linnaeus) Britton -- AROF; 101

BLECHNACEAE

Woodwardia areolata (Linnaeus) T. Moore -- NRSF, SDP, SSS; 078

Woodwardia virginica (Linnaeus) J.E. Smith -- NRSF, PS, SDP, SSS; 149

DENNSTAEDTIACEAE

Pteridium aquilinum (Linnaeus) Kuhn var. *pseudocaudatum* (Clute) Heller – MPF, PS, WPF; 149

LYCOPODIACEAE

Lycopodiella alopecuroides (Linnaeus) Cranfill – PS, WPF; 509

Lycopodiella appressa (Chapman) Cranfill – PS; 515

Pseudolycopodiella caroliniana (Linnaeus) Holub – PS; 508

OPHIOGLOSSACEAE

Sceptridium biternatum (Savigny) Lyon – AW, NRSF, SSS; 630

OSMUNDACEAE

Osmunda regalis Linnaeus var. *spectabilis* (Willdenow) A. Gray – SSS; 112

Osmundastrum cinnamomeum (Linnaeus) C. Presl – PS, SDP, SSS; 075

POLYPODIACEAE

Pleopeltis polypodioides (Linnaeus) E.G. Andrews & Windham ssp. *michauxiana* (Weatherby) E.G. Andrews & Windham – NRSF, SSS; 579

SELAGINELLACEAE

Selaginella apoda (Linnaeus) Spring – AW, PS; 124

THELYPTERIDACEAE

Thelypteris palustris Schott var. *pubescens* (Lawson) Fernald – NRSF, SSS; 205

WOODSIACEAE

Athyrium asplenioides (Michaux) A.A. Eaton – SSS; 520

GYMNOSPERMS

CUPRESSACEAE

Chamaecyparis thyoides (Linnaeus) Britton – AROF, AW, NRSF; 069

Taxodium ascendens Brongniart – AW, NRSF, PS, SDP; 245

Taxodium distichum (Linnaeus) L.C. Richard – AW, SSS; 310

PINACEAE

Pinus palustris P. Miller – MPF, PS, WPF; 020

Pinus serotina Michaux – AW, PS, SDP, WPF; 018

Pinus taeda Linnaeus – AROF, MPF, NRSF, PS, SSS, WPF; 053

ANGIOSPERMS
DICOTYLEDONS
ACANTHACEAE

Ruellia caroliniensis (J.F. Gmelin) Steudel – AROF; 289

AMARANTHACEAE

**Alternanthera philoxeroides* (Martius) Grisebach – AW, SSS; 201

**Amaranthus hybridus* Linnaeus – AROF; 563

ANACARDIACEAE

Rhus copallinum Linnaeus var. *copallinum* – AROF, MPF, PS, WPF; 412

Toxicodendron radicans (Linnaeus) Kuntze var. *radicans* – AROF, MPF, NRSF, SSS, WPF;
199

APIACEAE

Centella erecta (Linnaeus f.) Fernald – AW, PS; 450

Eryngium aquaticum Linnaeus var. *aquaticum* – AW; 661

Eryngium aquaticum Linnaeus var. *ravenelii* (A. Gray) Mathias & Constance – AW, PS; 411

Eryngium integrifolium Walter – AW, PS; 421

Eryngium yuccifolium Michaux var. *synchaetum* A. Gray ex Coulter & Rose – PS; 280

Eryngium yuccifolium Michaux var. *yuccifolium* – PS; 340

Hydrocotyle umbellata Linnaeus – AW; 382

Oxypolis denticulata (Baldwin) J.R. Edmondson – PS; 494

Oxypolis filiformis (Walter) Britton – PS; 437

Oxypolis rigidior (Linnaeus) Rafinesque – NRSF, PS; 484

Ptilimnium capillaceum (Michaux) Rafinesque – AROF, AW; 346

Sanicula canadensis Linnaeus var. *floridana* (Bicknell) H. Wolff – AROF, AW, SSS; 338

Thaspium barbinode (Michaux) Nuttall – AROF, NRSF, SSS; 500

APOCYNACEAE

Apocynum cannabinum Linnaeus – AROF; 586

! *Asclepias incarnata* Linnaeus var. *pulchra* (Ehrhart ex Willdenow) Persoon

Asclepias lanceolata Walter – PS; 150

Asclepias longifolia Michaux – PS; 137

Asclepias pedicellata Walter (state SR-P status)

Asclepias rubra Linnaeus – WPF; 277

AQUIFOLIACEAE

Ilex coriacea (Pursh) Chapman – PS, SDP, WPF; 104

Ilex glabra (Linnaeus) A. Gray – AROF, MPF, PS, SDP, WPF; 050

Ilex myrtifolia Walter – PS, WPF; 131

Ilex opaca Aiton var. *opaca* – AROF, MPF, WPF; 102

ARALIACEAE

Aralia spinosa Linnaeus – AROF, MPF; 428

ASTERACEAE

- **Acanthospermum australe* (Loefling) Kuntze – AROF; 293
Ambrosia artemisiifolia Linnaeus – AROF; 324
Arnoglossum ovatum (Walter) H.E. Robinson var. *lanceolatum* (Nuttall) D.B. Ward – PS; 376
Baccharis halimifolia Linnaeus – AROF, AW; 531
Balduina uniflora Nuttall – PS; 409
Bidens bipinnata Linnaeus – AROF, AW; 481
**Bidens polylepis* Blake – AROF; 462
Bigelovia nudata (Michaux) A.P. de Candolle var. *nudata* – PS; 418
Carphephorus bellidifolius (Michaux) Torrey & A. Gray – MPF, PS, WPF; 491
Carphephorus odoratissimus (J.F. Gmelin) Herbert var. *odoratissimus* – PS; 497
Carphephorus paniculatus (J.F. Gmelin) Herbert – PS; 530
Carphephorus tomentosus (Michaux) Torrey & A. Gray – PS, WPF; 461
Chaptalia tomentosa Ventenat – AROF, PS; 009
Chrysopsis mariana (Linnaeus) Elliott – AROF, PS; 495
Cirsium horridulum Michaux var. *horridulum* – AROF, PS; 024
Cirsium horridulum Michaux var. *vittatum* (Small) R.W. Long – PS; 592
Cirsium lecontei Torrey & A. Gray – AROF, PS; 250
Cirsium repandum Michaux – AROF, PS; 342
Cirsium virginianum (Linnaeus) Michaux – AROF, MPF, PS, WPF; 455
Coreopsis falcata Boynton – PS; 145
Coreopsis helianthoides Beadle – PS; 422
! *Coreopsis lanceolata* Linnaeus
Coreopsis linifolia Nuttall – PS; 456
Conyza canadensis (Linnaeus) Cronquist var. *pusilla* (Nuttall) Cronquist – AROF; 392
! *Eclipta prostrata* (Linnaeus) Linnaeus
Elephantopus nudatus A. Gray – AROF, MPF, WPF; 398
Erechtites hieraciifolius (Linnaeus) Rafinesque ex de Candolle – AROF; 407
Erigeron quercifolius Lamarck – AROF; 218
Erigeron strigosus Muhlenberg ex Willdenow var. *strigosus* – AROF; 270
Erigeron vernus (Linnaeus) Torrey & A. Gray – AROF, AW, PS; 028
Eupatorium capillifolium (Lamarck) Small – AROF; 503
Eupatorium hyssopifolium Linnaeus – AROF, PS; 639
Eupatorium leucolepis (A.P. de Candolle) Torrey & Gray – PS; 357
Eupatorium mohrii Greene – PS; 403
Eupatorium perfoliatum Linnaeus – AROF, PS; 466
Eupatorium pilosum Walter – PS; 356
Eupatorium rotundifolium Linnaeus – PS; 349
Eurybia compacta Nesom – PS; 448
Eurybia paludosa (Aiton) Nesom – AROF, PS, WPF; 347
Euthamia caroliniana (Linnaeus) Greene ex Porter & Britton – AROF, MPF, PS, WPF; 480
**Gamochaeta coarctata* (Willdenow) Kerguelen – AROF; 567
Gamochaeta purpurea (Linnaeus) Cabrera – AROF; 058
**Gamochaeta simplicicaulis* (Willdenow ex Sprengel) Cabrera – AROF; 343

**Helenium amarum* (Rafinesque) H. Rock var. *amarum* – AROF; 244
Helenium autumnale Linnaeus – AROF, PS; 460
 ! *Helenium pinnatifidum* (Nuttall) Rydberg (state SR-P status)
Helianthus angustifolius Linnaeus – PS; 405
Helianthus heterophyllus Nuttall – PS; 459
Hieracium gronovii Linnaeus – AROF; 397
Ionactis linariifolia (Linnaeus) Greene – AROF, PS, WPF; 492
 **Hypochaeris radicata* Linnaeus – AROF; 147
Krigia cespitosa (Rafinesque) K.L. Chambers var. *cespitosa* – AROF; 090
Krigia virginica (Linnaeus) Willdenow – AROF; 026
Lactuca canadensis Linnaeus – AROF; 425
 **Leucanthemum vulgare* Lamarck – AROF; 128
Liatris spicata (Linnaeus) Willdenow var. *resinosa* (Nuttall) Gaiser – AROF, MPF, PS, WPF; 410
Marshallia graminifolia (Walter) Small – AROF, PS; 362
Mikania scandens (Linnaeus) Willdenow – AROF, AW, NRSF, SSS, WPF; 312
Packera anonyma (Wood) W.A. Weber & Á. Löve – AROF; 089
Packera crawfordii (Britton) A.M. Mahoney & R.R. Kowal ined. / *Packera paupercula* (Michaux) Á. & D. Löve – PS; 010
Pityopsis graminifolia (Michaux) Nuttall var. *latifolia* Fernald – AROF, MPF, PS, WPF; 363
 ! *Pluchea camphorata* (Linnaeus) A.P. de Candolle
Pluchea foetida (Linnaeus) A.P. de Candolle var. *foetida* – AW, PS; 354
Prenanthes autumnalis Walter – PS; 549
Pseudognaphalium obtusifolium (Linnaeus) Hilliard & Burt – AROF; 566
Pterocaulon pycnostachyum (Michaux) Elliott – MPF, PS, WPF; 278
Pyrrhopappus carolinianus (Walter) A.P. de Candolle – AROF; 063
 ! *Rudbeckia hirta* Linnaeus var. *angustifolia* (T.V. Moore) Perdue
Sericocarpus tortifolius (Michaux) Nees – PS, AROF; 264
Silphium compositum Michaux var. *compositum* – PS; 470
Solidago fistulosa P. Miller – AROF; 474
Solidago latissimifolia P. Miller – AROF; 506
Solidago nemoralis Aiton var. *nemoralis* – AROF; 513
Solidago odora Aiton – AROF, MPF; 476
Solidago pinetorum Small – AROF, PS; 496
Solidago puberula Nuttall var. *pulverulenta* (Nuttall) Chapman – AROF, PS; 534
Solidago pulchra Small – PS; 401
Solidago rugosa P. Miller var. *aspera* (Aiton) Fernald – AROF; 546
Solidago stricta Aiton – PS; 512
Symphyotrichum dumosum (Linnaeus) Nesom var. *dumosum* – AROF; 391
Symphyotrichum lateriflorum (Linnaeus) Löve & Löve var. *lateriflorum* – AROF; 547
 ! *Symphyotrichum novi-belgii* (Linnaeus) Nesom var. *elodes* (Torrey & A. Gray) Nesom
Symphyotrichum pilosum (Willdenow) Nesom var. *pilosum* – AROF; 514
Symphyotrichum walteri (Alexander) Nesom – PS; 552
Taraxacum officinale G.H. Weber ex Wiggers – AROF; 006
 ! *Vernonia angustifolia* Michaux var. *angustifolia*
Vernonia noveboracensis (Linnaeus) Michaux – AW, PS; 355

BETULACEAE

- Alnus serrulata* (Aiton) Willdenow – AW, NRSF, SSS; 116
Carpinus caroliniana Walter var. *caroliniana* – NRSF, SSS; 557

BIGNONIACEAE

- Bignonia capreolata* Linnaeus – SSS; 323
Campsis radicans (Linnaeus) Seemann ex Bureau – AROF, SSS; 198

BRASSICACEAE

- Descurainia pinnata* (Walter) Britton var. *pinnata* – AROF; 041
**Erysimum repandum* Linnaeus – AROF; 033
Lepidium virginicum Linnaeus var. *virginicum* – AROF; 209
**Teesdalia nudicaulis* (Linnaeus) Aiton f. – AROF; 031

BURMANNIACEAE

- Burmannia capitata* (J.F. Gmelin) von Martius – AW, PS; 651

CAMPANULACEAE

- Lobelia canbyi* A. Gray – PS; 446
Lobelia glandulosa Walter – PS, AROF, SSS; 478
Lobelia nuttallii J.A. Schultes – PS, AROF; 152
Triodanis perfoliata (Linnaeus) Nieuwland – AROF; 057

CAPRIFOLIACEAE

- **Lonicera japonica* Thunberg – AROF; 511
Lonicera sempervirens Linnaeus var. *hirsutula* Rehder – AROF; 072
Viburnum nudum Linnaeus – AW, SSS, WPF; 091

CARYOPHYLLACEAE

- **Cerastium glomeratum* Thuillier Rehder – AROF; 035

CELASTRACEAE

- Euonymus americanus* Linnaeus – AROF, SSS; 156

CISTACEAE

- ! *Lechea minor* Linnaeus
Lechea pulchella Rafinesque var. *ramosissima* (Hodgdon) Sorrie & Weakley – AROF, MPF,
PS, WPF; 364

CLETHRACEAE

- Clethra alnifolia* Linnaeus – NRSF, PS, SDP, SSS, WPF; 258

CONVOLVULACEAE

- Cuscuta pentagona* Engelm. – AROF, PS; 637
Ipomoea cordatotriloba Dennstedt var. *cordatotriloba* – AROF; 361

Ipomoea lacunosa Linnaeus – AROF; 396

CORNACEAE

Cornus florida Linnaeus – AROF; 163

Cornus stricta Lamarck – AW, SSS; 211

CUCURBITACEAE

Melothria pendula Linnaeus var. *pendula* – AROF; 337

CYRILLACEAE

Cyrilla racemiflora Linnaeus – AROF, AW, NRSF, PS, SDP, SSS, WPF; 229

DIAPENSIACEAE

Pyxidantha barbulata Michaux – PS, WPF; 019

DROSERACEAE

Dionaea muscipula Ellis – PS, WPF; 114

Drosera brevifolia Pursh – PS, WPF; 082

Drosera capillaris Poirer – AW, PS, WPF; 172

Drosera intermedia Hayne – AW, PS; 144

EBENACEAE

Diospyros virginiana Linnaeus – AROF, MPF, WPF; 213

ERICACEAE

Chamaedaphne calyculata (Linnaeus) Moench – AW, PS, SDP; 015

Eubotrys racemosa (Linnaeus) Nuttall – AROF, WPF; 093

Gaylussacia dumosa (Andrews) Torrey & A. Gray – AROF, MPF, PS, WPF; 113

Gaylussacia frondosa (Linnaeus) Torrey & A. Gray ex Torrey – AROF, MPF, PS, WPF; 106

Kalmia carolina Small – AROF, WPF; 068

Leucothoe axillaris (Lamarck) D. Don – NRSF, PS; 669

Lyonia ligustrina (Linnaeus) A.P. de Candolle var. *foliosiflora* (Michaux) Fernald – AROF, NRSF, PS, WPF; 092

Lyonia ligustrina (Linnaeus) A.P. de Candolle var. *ligustrina* – AROF, WPF; 226

Lyonia lucida (Lamarck) K. Koch – NRSF, PS, SDP, SSS, WPF; 071

Lyonia mariana (Linnaeus) D. Don – AROF, PS, WPF; 096

Rhododendron atlanticum (Ashe) Rehder – AROF, PS, WPF; 062

Rhododendron viscosum (Linnaeus) Torrey – PS, WPF; 596

Vaccinium arboreum Marshall – AROF, MPF; 219

Vaccinium crassifolium Andrews – AROF, MPF, PS, WPF; 076

Vaccinium formosum H.C. Andrews – AROF, SSS, WPF; 023

Vaccinium fuscatum Aiton – AROF, SSS, WPF; 216

Vaccinium tenellum Aiton – AROF, MPF, PS, WPF; 073

Zenobia pulverulenta (Bartram ex Willdenow) Pollard – AROF, PS, SDP, WPF; 181

EUPHORBIACEAE

Acalypha rhomboidea Rafinesque – AROF; 402
Chamaesyce maculata (Linnaeus) Small – AROF; 352
Cnidoscolus stimulosus (Michaux) Engelman & A. Gray – AROF, MPF; 220
Tragia urens Linnaeus – AROF; 228

FABACEAE

**Albizia julibrissin* – AROF; Durazzini 561
Baptisia cinerea (Rafinesque) Fernald & Schubert – AROF, PS; 129
Baptisia tinctoria (Linnaeus) Ventenat – AROF, PS, WPF; 176
Centrosema virginianum (Linnaeus) Bentham – AROF; 423
Chamaecrista fasciculata (Michaux) Greene var. *fasciculata* – AROF, MPF, PS, WPF; 406
Chamaecrista nictitans (Linnaeus) Moench var. *nictitans* – AROF, WPF; 643
! *Desmodium ciliare* (Muhlenberg ex Willdenow) A.P. de Candolle
! *Desmodium lineatum* A.P. de Candolle
! *Desmodium paniculatum* (Linnaeus) A.P. de Candolle var. *paniculatum*
Desmodium tenuifolium Torrey & A. Gray – AROF, MPF; 447
Galactia regularis (Linnaeus) Britton, Sterns, & Poggenburg – AROF; 368
Galactia volubilis (Linnaeus) Britton var. *volubilis* – AROF; 623
Indigofera caroliniana P. Miller – AROF, MPF; 389
**Medicago lupulina* Linnaeus – AROF; 025
Lespedeza capitata Michaux – AROF, MPF, PS, WPF; 467
**Lespedeza cuneata* (Dumont-Cours.) G. Don – AROF; 444
Lespedeza hirta (Linnaeus) Hornemann var. *curtissii* (Clewell) Isely – AROF, MPF, PS, WPF; 475
Lespedeza repens (Linnaeus) W. Barton – AROF; 426
**Senna obtusifolia* (Linnaeus) Irwin & Barneby – AROF; 644
! *Strophostyles umbellata* (Muhlenberg ex Willdenow) Britton
! *Stylosanthes biflora* (Linnaeus) Britton, Sterns, & Poggenburg
Tephrosia hispidula (Michaux) Persoon – PS; 321
! *Tephrosia spicata* (Walter) Torrey & A. Gray
**Trifolium aureum* Pollich – AROF; 166
* *Trifolium hybridum* Linnaeus – AROF; 625
* *Trifolium repens* Linnaeus – AROF; 576
**Vicia sativa* Linnaeus ssp. *nigra* (Linnaeus) Ehrhart – AROF; 039
**Wisteria sinensis* (Sims) A.P. de Candolle – AROF; 336
Zornia bracteata Walter ex J.F. Gmelin – AROF; 608

FAGACEAE

Fagus grandifolia Ehrhart var. *caroliniana* (Loudon) Fernald & Rehder – NRSF, SSS; 485
Quercus falcata Michaux – MPF, PS; 297
Quercus incana Bartram – MPF; 295
Quercus laurifolia Michaux – MPF, NRSF, SSS, WPF; 206
Quercus lyrata Walter – AW; 626
Quercus margarettae Ashe ex Small – MPF; 296
Quercus michauxii Nuttall – NRSF, SSS; 366
Quercus nigra Linnaeus – AROF, MPF, NRSF, PS, SSS, WPF; 212

Quercus velutina Lamarck – NRSF, WPF; 585

GELSEMIACEAE

Gelsemium sempervirens St. Hilaire – AROF, MPF, NRSF, PS, SSS, WPF; 011

GENTIANACEAE

Bartonia verna (Michaux) Rafinesque ex Barton – AW, PS; 572

Bartonia virginica (Linnaeus) Britton – AW, PS; 493

Gentiana autumnalis Linnaeus – AROF, PS, WPF; 510

Gentiana catesbaei Walter – AROF, PS; 548

Sabatia brachiata Elliott – AROF, PS; 260

Sabatia campanulata (Linnaeus) Torrey – PS; 314

Sabatia difformis (Linnaeus) Druce – PS, WPF; 247

Sabatia gentianoides Elliott – PS; 375

GERANIACEAE

Geranium carolinianum Linnaeus var. *carolinianum* – AROF; 029

HALORAGACEAE

Proserpinaca palustris Linnaeus var. *palustris* – AW, SSS; 588

Proserpinaca pectinata Lamarck – AW; 271

HAMAMELIDACEAE

Fothergilla gardenii Linnaeus – PS, WPF; 051

Liquidambar styraciflua Linnaeus – AROF, MPF, NRSF, PS, SSS, WPF; 164

HYDRANGEACEAE

Decumaria barbara Linnaeus – SSS; 231

HYPERICACEAE

Hypericum brachyphyllum (Spach) Steudel – PS; 613

Hypericum crux-andreae (Linnaeus) Crantz – AROF, PS, WPF; 308

Hypericum densiflorum Pursh – AROF, WPF; 325

Hypericum galioides Lamarck – AW, PS, WPF; 628

Hypericum gentianoides (Linnaeus) Britton – AROF; 246

! *Hypericum gymnanthum* Engelm. & A. Gray

Hypericum hypericoides (Linnaeus) Crantz – AROF, MPF, SSS, WPF; 103

Hypericum lloydii (Svenson) P. Adams – AROF, MPF, WPF; 378

Hypericum mutilum Linnaeus var. *mutilum* – AROF; 292

! *Hypericum nitidum* Lamarck

Hypericum setosum Linnaeus – AROF, WPF; 420

Hypericum tenuifolium Pursh – AROF, PS, WPF; 261

ITEACEAE

Itea virginica Linnaeus – NRSF, SSS; 276

JUGLANDACEAE

Carya alba (Linnaeus) Nuttall ex Elliott – AROF, MPF; 223

LAMIACEAE

Callicarpa americana Linnaeus – AROF, MPF; 283

Hyptis alata (Rafinesque) Shinnars – AROF, AW, PS, WPF; 404

Lycopus amplexans Rafinesque – PS; 468

Lycopus rubellus Moench – AROF, AW, PS; 498

Physostegia virginiana (Linnaeus) Benthams *ssp. praemorsa* (Shinnars) Cantino – AROF, PS; 238

Prunella vulgaris Linnaeus *var. lanceolata* (W. Barton) Fernald – AROF; 390

Pycnanthemum flexuosum (Walter) Britton, Sterns, & Poggenburg – AROF, PS, WPF; 191

Salvia lyrata Linnaeus – AROF; 064

Scutellaria integrifolia Linnaeus – AROF, PS, WPF; 117

Stachys aspera Michaux – AROF, SSS; 301

Trichostema dichotomum Linnaeus – AROF; 660

LAURACEAE

Persea palustris (Rafinesque) Sargent – AROF, NRSF, PS, SDP, SSS, WPF; 154

Sassafras albidum (Nuttall) Nees – MPF, WPF; 222

LENTIBULARIACEAE

Pinguicula caerulea Walter – PS, WPF; 055

Pinguicula pumila Michaux – PS; 574

Utricularia biflora Lamarck – AW; 326

Utricularia juncea M. Vahl – AW; 645

Utricularia purpurea Walter – AW; 591

Utricularia subulata Linnaeus – AW, PS, WPF; 143

LINACEAE

Linum floridanum (Planchon) Trelease *var. chrysocarpum* Rogers – PS, WPF; 565

Linum floridanum (Planchon) Trelease *var. floridanum* – PS; 525

! *Linum intercursum* Bicknell

! *Linum medium* (Planchon) Britton *var. texanum* (Planchon) Fernald

! *Linum striatum* Walter, Ridgestem Yellow Flax

LOGANIACEAE

Mitreola petiolata (J.F. Gmelin) Torrey & A. Gray – AW, PS; 374

Mitreola sessilifolia (J.F. Gmelin) G. Don – AW, PS; 334

Polyprenum procumbens Linnaeus – AROF; 373

LYTHRACEAE

! *Ammannia coccinea* Rottböll

Cuphea carthagenensis (Jacquin) J.F. Macbride – AROF, AW; 377

Lythrum lineare Linnaeus – AROF, AW; 353

MAGNOLIACEAE

Liriodendron tulipifera Linnaeus var. *1* – NRSF, PS, SSS, WPF; 162

Magnolia virginiana Linnaeus var. *australis* Sargent – AROF; 160

Magnolia virginiana Linnaeus var. *virginiana* – AROF, NRSF, PS, SDP, SSS, WPF; 553

MELASTOMATACEAE

Rhexia alifanus Walter – MPF, PS, WPF; 263

Rhexia lutea Walter – PS, WPF; 188

Rhexia mariana Linnaeus var. *mariana* – AROF, PS, WPF; 224

Rhexia nashii Small – PS, WPF; 429

Rhexia petiolata Walter – PS, WPF; 414

MENYANTHACEAE

Nymphoides aquatica (Walter ex J.F. Gmelin) Kuntze – AW; 638

MORACEAE

Morus rubra Linnaeus – AROF, SSS; 153

MYRICACEAE

Morella caroliniensis (P. Miller) Small – AROF, AW, NRSF, PS, SDP, SSS, WPF; 180

Morella cerifera (Linnaeus) Small – AROF, AW, MPF, NRSF, PS, SDP, SSS, WPF; 016

Morella pumila (Michaux) Small – AROF, MPF, PS, WPF; 302

MYRSINACEAE

Lysimachia loomisii Torrey – AROF, PS; 168

NYMPHAEACEAE

Nymphaea odorata W.T. Aiton ssp. *odorata* – AW; 580

NYSSACEAE

Nyssa biflora Walter – AW, NRSF, PS, SDP, SSS, WPF; 235

Nyssa sylvatica Marshall – AROF, MPF, PS, WPF; 582

OLEACEAE

Chionanthus virginicus Linnaeus – AW, SSS; 084

Fraxinus americana Linnaeus – AROF; 583

Fraxinus caroliniana P. Miller – SSS; 155

Fraxinus pennsylvanica Marshall – SSS; 559

**Ligustrum sinense* Loureiro – AROF; 335

ONAGRACEAE

Gaura angustifolia Michaux – AROF; 393

Ludwigia alternifolia Linnaeus – AROF, AW; 439

Ludwigia decurrens Walter – AW; 642

Ludwigia hirtella Rafinesque – AROF, AW; 306

Ludwigia linearis Walter var. *puberula* Engelm. & A. Gray – AROF, AW; 379

Ludwigia maritima R.M. Harper – AROF, PS, WPF; 652
Ludwigia microcarpa Michaux – AROF, AW; 417
Ludwigia palustris (Linnaeus) Elliott – AW; 597
Ludwigia pilosa Walter – AROF, AW; 430
Ludwigia virgata Michaux – AROF, PS; 304
Oenothera fruticosa Linnaeus var. *unguiculata* Fernald – AROF, PS, WPF; 095
Oenothera laciniata Hill – AROF; 032

OROBANCHACEAE

Agalinis aphylla (Nuttall) Rafinesque – PS; 458
Agalinis fasciculata (Elliott) Rafinesque – AROF, PS; 521
Agalinis linifolia (Nuttall) Britton – PS; 454
Agalinis obtusifolia Rafinesque – AROF, PS; 471
Agalinis purpurea (Linnaeus) Pennell – AROF, PS, WPF; 522
! *Agalinis virgata* Rafinesque (state SR-P status)
Pedicularis canadensis Linnaeus – PS; 577
Seymeria cassioides (J.F. Gmelin) Blake – AROF, MPF, PS, WPF; 502

OXALIDACEAE

Oxalis dillenii Jacquin – AROF; 007

PARNASSIACEAE

Parnassia caroliniana Michaux – PS; 529

PHRYMACEAE

Mimulus ringens Linnaeus var. *ringens* – AW, PS; 453

PHYLLANTHACEAE

**Phyllanthus urinaria* Linnaeus ssp. *urinaria* – AROF; 499

PHYTOLACCACEAE

Phytolacca americana Linnaeus – AROF; 394

PLANTAGINACEAE

Callitriche heterophylla Pursh var. *heterophylla* – AW; 427
Mecardonia acuminata (Walter) Small var. *acuminata* – AROF, AW; 419
Nuttallanthus canadensis (Linnaeus) D.A. Sutton – AROF; 042
Penstemon australis Small – AROF, PS, WPF; 118
**Plantago aristata* Michaux – AROF; 036
**Plantago lanceolata* Linnaeus – AROF; 100
**Plantago major* Linnaeus – AROF; 371
Plantago rugelii Decaisne – AROF; 208
Plantago sparsiflora Michaux – PS; 108
Sophronanthe pilosa (Michaux) Small – AW, PS; 648
**Veronica arvensis* Linnaeus – AROF; 125
Veronica peregrina Linnaeus var. *peregrina* – AROF; 027

POLYGALACEAE

- Polygala brevifolia* Nuttall – PS; 400
Polygala cruciata Linnaeus var. *cruciata* – PS; 266
Polygala cymosa Walter – AROF, AW; 399
Polygala hookeri Torrey & A. Gray – PS; 322
Polygala incarnata Linnaeus – AROF, PS; 184
Polygala lutea Linnaeus – AROF, AW, PS, WPF; 080
Polygala ramosa Elliott – AROF, AW, PS; 135

POLYGONACEAE

- Persicaria hydropiperoides* (Michaux) Small – AW, SSS; 380
Persicaria lapathifolia (Linnaeus) S.F. Gray – AW, SSS; 603
Persicaria pensylvanica (Linnaeus) M. Gómez – AROF, AW; 590
Persicaria sagittata (L.) Gross ex Nakai – AW; 359
**Rumex acetosella* Linnaeus – AROF; 070
**Rumex crispus* Linnaeus ssp. *crispus* – AROF; 327

RANUNCULACEAE

- Clematis crispa* Linnaeus – AROF, AW, SSS; 066
Ranunculus abortivus Linnaeus – AROF, AW; 311
Thalictrum cooleyi Ahles – AW, PS; 193

RHAMNACEAE

- Berchemia scandens* (Hill) K. Koch – AROF, SSS, WPF; 171

ROSACEAE

- Amelanchier canadensis* (Linnaeus) Medikus – AROF, SSS; 111
! *Amelanchier stolonifera* Wiegand
Aronia arbutifolia (Linnaeus) Persoon – AROF, PS, SSS; 017
Potentilla simplex Michaux – AROF; 083
! *Prunus angustifolia* Marshall var. *angustifolia*
!* *Prunus cerasus* Linnaeus
Prunus serotina Ehrhart var. *serotina* – AROF, MPF; 558
Rosa palustris Marshall – AROF, AW; 330
Rubus argutus Link – AROF; 305
Rubus cuneifolius Pursh – AROF, MPF, WPF; 227
Rubus trivialis Michaux – AROF; 037

RUBIACEAE

- Cephalanthus occidentalis* Linnaeus – AW, SSS; 556
Diodia teres Walter – AROF; 351
Diodia virginiana Linnaeus – AW, PS; 136
Galium circaezans Michaux var. *circaezans* – AW, SSS; 225
Galium obtusum Bigelow var. *filifolium* (Wiegand) Fernald – AROF, SSS; 079
Galium tinctorium (Linnaeus) Scopoli var. *floridanum* Wiegand – AW, SSS; 578

Houstonia caerulea Linnaeus – AROF; 012
Mitchella repens Linnaeus – AROF, SSS, WPF; 133
**Richardia brasiliensis* Gomes – AROF; 631

SALICACEAE

Salix caroliniana Michaux – AROF, AW; 254
Salix nigra Marshall – AW; 014

SAMOLACEAE

Samolus floribundus Humboldt, Bonpland, & Kunth – AW; 115

SAPINDACEAE

Acer rubrum Linnaeus var. *trilobum* Torrey & A. Gray ex K. Koch – AROF, AW, MPF, NRSF, PS, SDP, SSS, WPF; 008

SARRACENIACEAE

Sarracenia flava Linnaeus – PS, WPF; 056
Sarracenia purpurea Linnaeus var. *venosa* (Rafinesque) Fernald – NRSF, PS; 081
Sarracenia rubra Walter ssp. *rubra* – PS; 568

SAURURACEAE

Saururus cernuus Linnaeus – AW, NRSF, SSS; 197

SOLANACEAE

Solanum carolinense Linnaeus var. *carolinense* – AROF; 294

SYMPLOCACEAE

Symplocos tinctoria (Linnaeus) L'Heritier – AROF, MPF, NRSF, PS, SSS, WPF; 052

THEACEAE

Gordonia lasianthus (Linnaeus) Ellis – NRSF, PS, SDP, WPF; 214

ULMACEAE

Ulmus americana Linnaeus var. *americana* – AROF, NRSF, SSS; 299

URTICACEAE

Boehmeria cylindrica (Linnaeus) Swartz – AW, NRSF, SSS; 290

VALERIANACEAE

Valerianella radiata (Linnaeus) Dufresne – AROF; 038

VERBENACEAE

Phyla nodiflora (Linnaeus) Greene – AROF, AW; 169
**Verbena brasiliensis* Vellozo – AROF; 186
! *Verbena scabra* Vahl (state W7 status)
Verbena urticifolia Linnaeus var. *urticifolia* – AROF; 395

VIOLACEAE

- Viola affinis* Le Conte – AROF, AW SSS; 573
Viola bicolor Pursh – AROF; 013
Viola lanceolata Linnaeus var. *lanceolata* – AROF, PS; 109
Viola primulifolia Linnaeus – AROF, AW, NRSF, PS, SDP, SSS, WPF; 005
Viola sagittata Aiton – PS; 054

VISCACEAE

- Phoradendron serotinum* (Rafinesque) M.C. Johnston ssp. *serotinum* – NRSF, SSS; 562

VITACEAE

- Parthenocissus quinquefolia* (Linnaeus) Planchon – AROF, MPF, NRSF, SSS, WPF; 200
Vitis aestivalis Michaux var. *aestivalis* – AROF; 230
Vitis rotundifolia Michaux var. *rotundifolia* – AROF, SSS, WPF; 203

ANGIOSPERMS

MONOCOTYLEDONS

AGAVACEAE

- Yucca filamentosa* Linnaeus – AROF, WPF; 157

ALISMATACEAE

- Sagittaria graminea* Michaux – AW; 594

ALLIACEAE

- Allium species 1* – AW, PS; 452
**Allium vineale* Linnaeus – AROF, AW; 571
Nothoscordum bivalve (Linnaeus) Britton – AROF; 043

ARACEAE

- Spirodela polyrrhiza* (Linnaeus) Schleiden – AW, SSS; 333
Arisaema triphyllum (Linnaeus) Schott ssp. *triphyllum* – NRSF, SSS; 580

BROMELIACEAE

- Tillandsia usneoides* (Linnaeus) Linnaeus – SSS; 436

COLCHICACEAE

- Uvularia puberula* Michaux var. *nitida* (Britton) Fernald – PS; 046

COMMELINACEAE

- Commelina erecta* Linnaeus var. *angustifolia* (Michaux) Fernald – AROF; 341
**Murdannia keisak* (Hasskarl) Handel-Mazzetti – AW; 620

CYPERACEAE

- ! *Carex chapmanii* Steudel (state W1 status)
Carex debilis Michaux – SSS; 602
Carex elliotii Schweinitz & Torrey – SSS; 275

Carex gigantea Rudge – SSS; 288
Carex glaucescens Elliott – AROF, AW, PS, SSS; 486
Carex grayi Carey – SSS; 615
Carex leptalea Wahlenberg var. *leptalea* – SSS; 622
Carex lonchocarpa Willdenow – PS, SSS; 606
Carex longii Mackenzie – AW; 123
Carex lurida Wahlenberg – AW, SSS; 605
Carex lutea LeBlond – AW, PS; 088
! *Carex physorhyncha* Liebmann ex Steudel (state W1 status)
! *Carex species 1*
Carex species 4 (state SR-L status)
Carex striata Michaux var. *brevis* Bailey – PS, SSS; 607
Carex tribuloides Wahlenberg var. *sangamonensis* Clokey – AW; 616
! *Carex venusta* Dewey
Carex vulpinoidea Michaux – AW; 614
Cladium jamaicense Crantz – AW, PS, SSS; 575
! *Cladium mariscoides* (Muhlenberg) Torrey (state SR-O [significantly rare other] status)
Cyperus croceus Vahl – AROF; 488
Cyperus echinatus (Linnaeus) Wood – AROF; 464
Cyperus flavescens Linnaeus – AROF; 457
Cyperus haspan Linnaeus – AROF, AW PS; 472
**Cyperus iria* Linnaeus – AROF; 629
Cyperus plukenetii Fernald – AROF; 532
Cyperus pseudovegetus Steudel – AW; 640
Cyperus retrorsus Chapman – AROF; 659
Cyperus strigosus Linnaeus – AROF, AW; 443
Dulichium arundinaceum (Linnaeus) Britton var. *arundinaceum* – AW, PS, SSS; 232
Eleocharis microcarpa Torrey var. *filiculmis* Torrey – AW, PS; 621
! *Eleocharis obtusa* (Willdenow) J.A. Schultes
Eleocharis tuberculosa (Michaux) Roemer & J.A. Schultes – AW, PS; 555
Fimbristylis autumnalis (Linnaeus) Roemer & J.A. Schultes – AROF; 383
Fimbristylis puberula (Michaux) Vahl var. *puberula* – AROF, PS; 194
Fuirena breviseta (Coville) Coville in R.M. Harper – AROF, AW, PS; 381
Kyllinga odorata Vahl – AROF; 442
! *Rhynchospora baldwinii* A. Gray
Rhynchospora breviseta (Gale) Channell – PS; 666
Rhynchospora caduca Elliott – AROF, PS, WPF; 369
Rhynchospora cephalantha A. Gray var. *cephalantha* – AROF, AW; 635
Rhynchospora cephalantha A. Gray var. *pleiocephala* Fernald & Gale – PS; 385
Rhynchospora chalarocephala Fernald & Gale – PS; 505
Rhynchospora chapmanii M.A. Curtis – PS; 518
Rhynchospora ciliaris (Michaux) C. Mohr – AROF, PS; 386
Rhynchospora colorata (Linnaeus) H. Pfeiffer – AROF; 173
! *Rhynchospora debilis* Gale
! *Rhynchospora decurrens* Chapman (state SR-P status)
Rhynchospora divergens Chapman ex M.A. Curtis – PS; 612

Rhynchospora elliottii A. Dietrich – SSS; 601
Rhynchospora fascicularis (Michaux) Vahl var. *distans* (Michaux) Chapman – PS; 516
! *Rhynchospora fascicularis* (Michaux) Vahl var. *fascicularis*
! *Rhynchospora globularis* (Chapman) Small
Rhynchospora glomerata (Linnaeus) Vahl var. *glomerata* – PS; 533
Rhynchospora gracilentata A. Gray – PS; 473
Rhynchospora grayi Kunth – WPF; 600
Rhynchospora harveyi W. Boott – PS, SSS; 636
Rhynchospora inexpansa (Michaux) Vahl – PS; 519
Rhynchospora inundata (Oakes) Fernald – SSS; 319
Rhynchospora latifolia (Baldwin ex Elliott) Thomas – AROF, PS; 185
Rhynchospora macrostachya Torrey ex A. Gray var. *macrostachya* – AW, PS; 256
! *Rhynchospora microcephala* (Britton) Britton ex Small
Rhynchospora nitens (Vahl) A. Gray – AROF, AW, PS; 415
Rhynchospora oligantha A. Gray – PS; 554
Rhynchospora pallida M.A. Curtis – AROF, PS; 215
Rhynchospora pinetorum Small – PS; 665
Rhynchospora plumosa Elliott – AROF, MPF, PS, WPF; 239
Rhynchospora pusilla Chapman ex M.A. Curtis – PS; 372
! *Rhynchospora rariflora* (Michaux) Elliott
Rhynchospora thornei Kral – PS; 634
Rhynchospora torreyana A. Gray – PS; 317
Scirpus cyperinus (Linnaeus) Kunth – AW, SSS; 313
! *Scirpus lineatus* Michaux (state SR-P status)
! *Scleria ciliata* Michaux var. *glabra* (Chapman) Fairey
Scleria georgiana Core – PS; 315
Scleria minor W. Stone – AROF, PS; 253
Scleria muehlenbergii Steudel – PS; 667
Scleria oligantha Michaux – SSS; 598
Scleria pauciflora Muhlenberg ex Willdenow var. *caroliniana* A. Wood – PS; 370
Scleria species 1 – AROF, PS; 316
Scleria triglomerata Michaux – PS; 329
! *Scleria verticillata* Muhlenberg ex Willdenow (state SR-P status)

DIOSCOREACEAE

Dioscorea villosa Linnaeus – AROF, SSS; 501

ERIOCAULACEAE

Eriocaulon decangulare Linnaeus var. *decangulare* – AW, PS; 165
Lachnocaulon anceps (Walter) Morong – PS; 120
Lachnocaulon beyrichianum Sporleder ex Körnick – PS, WPF; 217

HAEMODORACEAE

Lachnanthes caroliniana (Lamarck) Dandy – AW, PS, WPF; 221

HYPOXIDACEAE

Hypoxis hirsuta (Linnaeus) Coville – SSS, WPF; 034
Hypoxis wrightii (Baker) Brackett – AROF, PS; 255

IRIDACEAE

Iris tridentata Pursh – AW, PS; 175
Iris verna Linnaeus var. *verna* – PS, WPF; 045
Iris virginica Linnaeus var. *virginica* – AW, SSS; 110
! *Sisyrinchium albidum* Rafinesque
Sisyrinchium atlanticum E.P. Bicknell – AROF, PS; 074
Sisyrinchium capillare E.P. Bicknell – AROF, PS; 178
Sisyrinchium rosulatum E.P. Bicknell – AROF; 087

JUNCACEAE

Juncus biflorus Elliott – AW; 318
Juncus bufonius Linnaeus var. *bufonius* – AROF, AW; 300
Juncus canadensis J. Gay ex Laharpe – AROF, AW, PS; 618
Juncus coriaceous Mackenzie – AW; 610
Juncus dichotomus Elliott – AROF, AW, PS; 259
Juncus effusus Linnaeus ssp. *solutus* (Fernald & Wiegand) Hämet-Ahti – AROF, AW; 257
Juncus marginatus Rostkovius – AW; 632
Juncus megacephalus M.A. Curtis – AW; 298
Juncus polycephalus Michaux – AROF, AW; 617
Juncus repens Michaux – AW, SSS; 269
Juncus scirpoides Lamarck var. *scirpoides* – AROF, AW; 633

LILIACEAE

Lilium catesbaei Walter – AROF, PS, WPF; 463

MELANTHIACEAE

Stenanthium densum (Desrousseaux) Zomlefer & Judd – AROF, AW, PS, WPF; 174
Veratrum virginicum (Linnaeus) Aiton – PS, WPF; 646
Zigadenus glaberrimus Michaux – PS, WPF; 365

NARTHECIACEAE

Aletris aurea Walter – PS; 309
Aletris farinosa Linnaeus – AROF, PS, WPF; 121

ORCHIDACEAE

Calopogon barbatus (Walter) Ames – PS; 105
Calopogon pallidus Chapman – PS, WPF; 179
Calopogon tuberosus (Linnaeus) Britton, Sterns, & Poggenburg var. *tuberosus* – PS; 187
Cleistes divaricata (Linnaeus) Ames – PS; 587
Habenaria repens Nuttall – AW; 657
Listera australis Lindley – SSS; 048
Platanthera blephariglottis (Willdenow) Lindley – AROF, PS; 424
Platanthera ciliaris (Linnaeus) Lindley – AROF, PS; 441

! *Platanthera clavellata* (Michaux) Luer
Platanthera cristata (Michaux) Lindley – PS; 360
! *Platanthera integra* (Nuttall) A. Gray ex Beck (state T status)
! *Platanthera nivea* (Nuttall) Luer (state T status)
Pogonia ophioglossoides (Linnaeus) Ker-Gawler – PS; 190
! *Ponthieva racemosa* (Walter) C. Mohr (state SR-P status)
Spiranthes cernua (Linnaeus) L.C. Richard – AW, PS; 543
Spiranthes lacera (Rafinesque) Rafinesque var. *gracilis* (Bigelow) Luer – PS; 285
Spiranthes laciniata (Small) Ames – PS; 177
! *Spiranthes longilabris* Lindley (state T status)
Spiranthes praecox (Walter) S. Watson – AW, PS, SSS; 589

POACEAE

Agrostis altissima (Walter) Tuckerman – PS; 550
Amphicarpum amphicarpon (Pursh) Nash – AROF, PS; 538
Andropogon capillipes Nash var. 1 – AW, PS; 662
Andropogon capillipes Nash var. 2 – AROF, PS; 647
! *Andropogon elliottii* Chapman
Andropogon gerardii Vitman – PS; 408
Andropogon glaucopsis Elliott – AROF, AW, MPF, PS, WPF; 489
Andropogon glomeratus (Walter) Britton, Sterns, & Poggenburg var. *glomeratus* – AROF, AW, PS, WPF; 541
Andropogon mohrii (Hackel) Hackel ex Vasey – PS; 539
! *Andropogon perangustatus* Nash
Andropogon virginicus Linnaeus var. *virginicus* – AROF, MPF, PS, WPF; 003
Anthenantia rufa (Nuttall) J.A. Schultes – AW, PS; 433
Aristida simpliciflora Chapman – PS; 551
Aristida stricta Michaux – MPF, PS, WPF; 001
Aristida virgata Trinius – PS; 451
**Arthraxon hispidus* (Thunberg) Makino var. *hispidus* – AROF; 445
Arundinaria gigantea (Walter) Muhlenberg – AROF, AW, NRSF, SSS, WPF; 564
Arundinaria tecta (Walter) Muhlenberg – AROF, PS; 161
**Avena sativa* Linnaeus – AROF; 182
Calamagrostis cinnoides (Muhlenberg) W.P.C. Barton – AROF, PS; 432
! *Calamovilfa brevipilis* (Torrey) Scribner (state W1 status)
Chasmanthium laxum (Linnaeus) Yates – AROF, AW, NRSF, PS, SSS; 273
Coelorachis rugosa (Nuttall) Nash – AW, PS; 490
Ctenium aromaticum (Walter) Wood – PS; 242
**Cynodon dactylon* (Linnaeus) Persoon var. *dactylon* – AROF; 272
Dichantherium aciculare (Desvaux ex Poiret) Gould & Clark – AROF, PS; 609
Dichantherium acuminatum (Swartz) Gould & Clark var. *acuminatum* – AROF, PS; 653
Dichantherium commutatum (Schultes) Gould var. *ashei* (Pearson ex Ashe) Mohlenbrock – AROF; 284
! *Dichantherium dichotomum* (Linnaeus) Gould var. *dichotomum*
Dichantherium dichotomum (Linnaeus) Gould var. *roanokense* (Ashe) LeBlond – PS; 609
! *Dichantherium ensifolium* (Baldwin ex Elliott) Gould

Dichanthelium longiligulatum (Nash) Freckmann – PS; 654
 ! *Dichanthelium mattamuskeetense* (Ashe) Mohlenbrock
Dichanthelium ovale (Elliott) Gould & Clark var. *ovale* – AROF, PS; 537
Dichanthelium scabriusculum (Elliott) Gould & Clark – AROF, PS; 544
 ! *Dichanthelium scoparium* (Lamarck) Gould
 ! *Dichanthelium species 2* (=webberianum)
 ! *Dichanthelium species 3* (=lancearium)
Dichanthelium sphaerocarpon (Elliott) Gould – PS; 542
 ! *Dichanthelium strigosum* (Muhlenberg) Freckmann var. *leucoblepharis* (Trinius) Freckmann
Digitaria filiformis (Linnaeus) Köler var. *filiformis* – AROF; 440
Digitaria villosa (Walter) Persoon – AROF; 438
 **Echinochloa colonum* (Linnaeus) Link – AROF, AW; 663
 **Eleusine indica* (Linnaeus) Gaertner – AROF; 483
Elymus virginicus Linnaeus var. *virginicus* – AROF, AW; 569
Eragrostis elliottii S. Watson – AW, PS; 524
Eragrostis refracta (Muhlenberg) Scribner – AROF, AW, PS; 416
 **Eremochloa ophiuroides* (Munro) Hackel – AROF; 388
 ! *Gymnopogon brevifolius* Trinius
 **Holcus lanatus* Linnaeus – AROF; 641
 **Lolium perenne* Linnaeus var. *aristatum* Willdenow – AROF; 127
Melica mutica Walter – AROF; 065
 **Microstegium vimineum* (Trinius) A. Camus – AROF; 233
Muhlenbergia expansa (Poiret) Trinius – PS; 434
Panicum anceps Michaux var. *anceps* – AROF; 435
Panicum hemitomon J.A. Schultes – AW, SSS; 241
Panicum longifolium Torrey var. *longifolium* – PS; 540
Panicum verrucosum Muhlenberg – AW, PS; 611
Panicum virgatum Linnaeus var. *virgatum* – AROF, AW, MPF, PS; 248
 **Paspalum dilatatum* Poiret – AROF; 656
 ! *Paspalum distichum* Linnaeus
 ! *Paspalum floridanum* Michaux
 **Paspalum notatum* Flügge – AROF; 189
Paspalum praecox Walter var. *praecox* – PS; 195
Paspalum setaceum Michaux var. *ciliatifolium* (Michaux) Vasey – AROF, PS; 545
 ! *Paspalum setaceum* Michaux var. *setaceum*
 **Paspalum urvillei* Steudel – AROF; 339
 **Poa annua* Linnaeus – AROF; 030
Saccharum brevibarbe (Michaux) Persoon var. *contortum* (Elliott) R. Webster – AROF, WPF;
 477
Saccharum giganteum (Walter) Persoon – AROF, AW, PS, WPF; 004
Sacciolepis striata (Linnaeus) Nash – AROF, AW; 526
 **Schedonorus arundinaceus* (Schreber) Dumortier – AROF; 061
Schizachyrium scoparium (Michaux) Nash var. *scoparium* – AROF, MPF, PS, WPF; 536
 **Secale cereale* Linnaeus – AROF; 086
Setaria parviflora (Poiret) Kerguelen – AROF, PS; 240
Sorghastrum nutans (Linnaeus) Nash – AROF, MPF, PS, WF; 465

Sporobolus indicus (Linnaeus) R. Brown – AROF; 523
Sporobolus pinetorum Weakley & P.M. Peterson – PS; 560
Tridens flavus (Linnaeus) A.S. Hitchcock – AROF; 664
Vulpia sciurea (Nuttall) Henrard – AROF; 599

PONTEDERIACEAE

Pontederia cordata Linnaeus var. *cordata* – AW; 595

SMILACACEAE

Smilax bona-nox Linnaeus – AROF, MPF, PS, SSS, WPF; 414
Smilax glauca Walter – AROF, MPF, PS, SSS, WPF; P; 282
Smilax laurifolia Linnaeus – AROF, NRSF, PS, SDP, SSS, WPF; 159
Smilax rotundifolia Linnaeus – AROF, NRSF, SSS; 170
Smilax walteri Pursh – AROF, PS, SSS; 209

TOFIELDIACEAE

Pleea tenuifolia Michaux – AROF, PS, WPF; 469
Tofieldia glabra Nuttall – PS; 507
Triantha racemosa (Walter) Small – PS; 348

TRILLIACEAE

! *Trillium pusillum* Michaux var. *pusillum* (federal FSC status; state E status)

TYPHACEAE

Sparganium americanum Nuttall – AW, SSS; 287
*? *Typha angustifolia* Linnaeus – AW; 624
Typha domingensis Persoon – AW; 604
Typha latifolia Linnaeus – AW; 237

XYRIDACEAE

Xyris ambigua Beyrich ex Kunth – AROF, AW, PS, WPF; 384
Xyris baldwiniana J.A. Schultes – AROF, AW, PS; 236
Xyris brevifolia Michaux – AROF, AW, PS, WPF; 350
Xyris caroliniana Walter – AROF, AW, MPF, PS, WPF; 303
Xyris curtissii Malme – PS; 649
Xyris difformis Chapman – AW; 658
! *Xyris floridana* (Kral) Bridges & Orzell (state SR-P status)

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