THE VASCULAR FLORA OF THE TENNESSEE RIVER GORGE, HAMILTON AND MARION COUNTIES, TENNESSEE

By

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A Thesis
Submitted to the Faculty of the
University of Tennessee at Chattanooga
in Partial Fulfillment of the Requirements
for the Degree of Master of Science
in Environmental Science

The University of Tennessee at Chattanooga
Chattanooga, Tennessee

ABSTRACT

An inventory of the vascular flora of the Tennessee River Gorge (TRG) was conducted between April 2009 and July 2011. The TRG is a 41-km-long river canyon located on the Cumberland Plateau physiographic province within Hamilton and Marion Counties, Tennessee. According to previous ecological surveys, the 4,970 ha (12,281 acres) study area contains 12 natural communities and six unique habitats. A total of 960 specimens were collected. These comprised 692 species and lesser taxa, representing 392 genera from 123 families of vascular plants. Overall, 133 county range extensions were documented for Hamilton and Marion Counties. Ten rare species were reported, including *Castanea dentata*, *Cotinus obovatus*, *Lonicera dioica*, *Panax quinquefolius*, *Scutellaria montana*, *Viola tripartita* var. *tripartita*, *Hydrastis canadensis*, *Onosmodium bejariense* var. *hispidissimum*, *Phemeranthus mengesii*, and *Polymnia johnbeckii*. Of these, four were not reported in any other previous flora of the Cumberland Plateau (*Cotinus obovatus*, *Lonicera dioica*, *Onosmodium bejariense* var. *hispidissimum*, and *Polymnia johnbeckii*). Also identified were 92 introduced species, including *Albizia julibrissin*, *Lonicera japonica*, *Paulownia tomentosa*, and *Pueraria montana*. The largest families represented in the flora were Asteraceae, Poaceae, Cyperaceae and Fabaceae. In addition to the floristic component of this work, a phytogeographical analysis was conducted for the TRG and 12 other Cumberland Plateau floras. This analysis revealed that the floristic composition of the central and southern Cumberland Plateau in Tennessee exhibits southern geographic affinities. Specifically, examination of the phytogeography of the TRG reveals a

central geographic distribution to eastern North America; however, 9.5% of the flora has affinities to the southern region, while 3.3% has northern geographic affinities.

ACKNOWLEDGEMENTS

I wish to extend my utmost gratitude to my major advisor, Dr. Joey Shaw, for his exceptional mentorship. His constant support has provided me with the richest experiences and opportunities one could seek in a graduate program. I would like to acknowledge my committee members, Dr. Jennifer N. Boyd for her enthusiastic encouragement, and Dr. Thomas P. Wilson for his guidance in this project. I want to thank Mr. Andy Carroll for providing several maps of the study area and for his accessibility whenever GIS assistance was required. I would like to thank Dr. Dwayne Estes for providing novel information about species occurrences in the study area and Dr. Gary Morton for identifying several *Solidago* specimens. The TDEC Department of Natural Heritage is acknowledged for sharing rare species historical reports for the study site. Thanks to Mr. Jim Brown (Tennessee River Gorge Trust) for providing information and access to Tennessee River Gorge Trust protected lands for this research. Dr. Patricia Cox (Tennessee Valley Authority) is acknowledged for providing the location of *Phemeranthus mengesii* in the study area. I would like to thank Dr. B. Eugene Wofford (Herbarium of the University of Tennessee at Knoxville) for welcoming my visitation to the herbarium to review specimen records from the study area. I want to recognize the faculty and my peers in the Biological and Environmental Science Department for all of their support. My deepest appreciation goes to Erika Bohlin for her tireless encouragement, assistance during numerous collecting trips, and keen eye in spotting rare and interesting plants. Lastly, I thank the Graduate School for providing the financial support which made my success in this program possible.

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LIST OF ABBREVIATIONS

AC, Alliance for the Cumberlands

APSU, Austin Peay State University

ATV, All Terrain Vehicles

C, Common

°C, Celsius

CF/NR, Clear Fork/New River

Cm, Centimeters

DA, Disturbed areas

F, Frequent

°F, Fahrenheit

FCF, Fall Creek Falls

FG, Fiery Gizzard

FNA, Flora of North America

GIS, Geographic Information System

GPS, Global Positioning System

Ha, Hectares

I, Infrequent

Km, Kilometers

KY, Kentucky

LCM, Little Cedar Mountain

LGS, Lower gorge slopes

LMS, Limestone sinkhole

M, Meters

MS, Microsoft

MSS, Mesophytic slopes

Mya, Million years ago

Myo, Million years old

NBII, National Biological Information Infrastructure

NCCG, North Chickamauga Creek Gorge

NOAA, National Oceanic and Atmospheric Administration

NPS, National Park Service

NRG, New River Gorge

NWOCG, North White Oak Creek Gorge

O, Occasional

OB, Obed

PC, Prentice Cooper

PL, Power line

PS, Plateau surface

R, Rare

RA, Riverine areas

S, Scarce

SG, Savage Gulf

SORBA, Southern Off-Road Bicycle Association

SRCC, Southern Regional Climate Center

SW, Swales

TDEC, Tennessee Department of Environment and Conservation

TENN, Herbarium of the University of Tennessee at Knoxville

TN, Tennessee

TNHP, Tennessee Natural Heritage Program

TRG, Tennessee River Gorge

TRGT, Tennessee River Gorge Trust

TVA, Tennessee Valley Authority

UCHT, Herbarium of the University of Tennessee at Chattanooga

UGS, Upper gorge slopes

U.S., United States

USDA, United States Department of Agriculture

USDA-WSS, United States Department of Agriculture-Web Soil Survey

USFWS, United States Fish and Wildlife Service

USGS, United States Geological Survey

VR, Very rare

WC, Wolf Cove

WL, Wetlands

LIST OF SYMBOLS

°, degrees

*, non-native taxa

%, percent

**, rare taxa

‡, rare taxa of the TRG which are absent from the 12 other Cumberland Plateau floras

^{2}, squared

CHAPTER I

INTRODUCTION

The Tennessee River Gorge (TRG) is a large river canyon located at the southeastern boundary of the Cumberland Plateau physiographic province within Tennessee. Situated approximately 8 km west of Chattanooga, the gorge bisects 41 km of the Cumberland Plateau with escarpments as high as 305 m, thus earning the name "Tennessee's Grand Canyon" (Luther 1979, p. 13). The Ridge and Valley physiographic province and the Sequatchie Valley demarcate the east and west margins of the TRG respectively (Figure 1.1). The northern half of the gorge is considered part of the Walden Ridge geologic formation, a southeastern sub region of the Cumberland Plateau (Smalley 1982). Raccoon Mountain makes up the southern half of the gorge and is considered an extension of Walden Ridge. The study area is delineated as the southern half of the TRG, from the riverine edges to the escarpments of Raccoon Mountain. Since Beck and Van Horn (2007) previously surveyed the northern half of the gorge in their flora of Prentice Cooper State Forest (PC or Prentice Cooper), it was excluded from the study area. The eastern edge of the site is in Hamilton County, but the majority extends westward into Marion County to Little Cedar Mountain (LCM). While LCM is considered a remnant of the northern half of the gorge, it was included in this study, because it is a botanically interesting area and was not the focus of any prior floristic inventory.

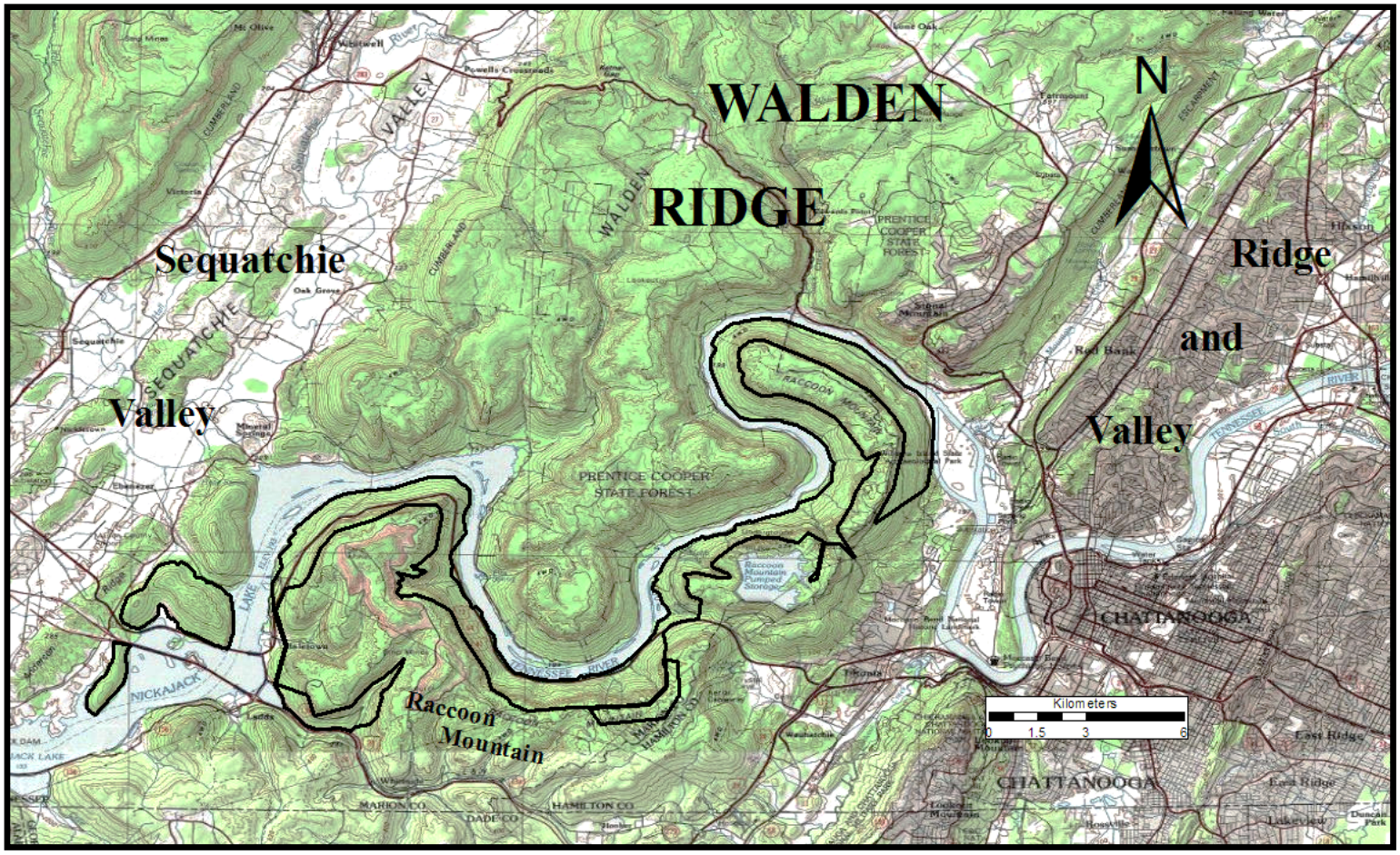

Figure 1.1 Location of the Tennessee River Gorge study area and surrounding physiographic features. The 4,970 hectare study area is delineated in black as the southern half of the Tennessee River Gorge on Raccoon Mountain and the two southern ridges of Little Cedar Mountain adjacent to the Sequatchie Valley.

Currently, land ownership and management of the TRG is divided among the Tennessee Valley Authority (TVA), the Tennessee River Gorge Trust (TRGT), and multiple private holders. Although the land is subject to multi-purpose usage, the rugged topography has provided an obstacle for significant development as well as a platform for grassroots conservation (TRGT 2011). In 1983, the Tennessee Nature Conservancy contracted with the Tennessee Natural Heritage Program (TNHP) to conduct an ecological survey of the gorge. This study resulted in the delineation of TRG's natural communities, the documentation of many rare species, and the identification of large tracts of ecologically significant habitat (Bridges et al. 1984).

Vegetation of the Cumberland Plateau has been documented for more than a century (Sudworth & Killebrew 1897; Foley 1903; Hall 1910), with the first comprehensive study produced by Braun (1950). She considered the Cumberland Plateau to be part of the Mixed Mesophytic Forest Region, though this classification is now generally dismissed (Quarterman et al. 1972; Hinkle 1978; Hinkle 1989). The TRG is situated in the southern district described by Braun as the Cliff Section, which she more aptly noted as having oak, oak-hickory and oak-pine forest types with mixed mesophytic elements limited to ravines. Küchler (1966) agreed with Braun's classification of the Cumberland Plateau as a mixed mesophytic region in his USGS Potential Natural Vegetation map. Hinkle (1978) provided the most recent extensive study of the Cumberland Plateau vegetation. He established 331 forest plots in uplands and ravines across the Cumberland Plateau in Tennessee. By recording the dominant tree species from each plot, Hinkle found mixed oak to be the leading forest type of the plateau uplands, rich mixed oak to prevail on the ravines and mixed mesophytic forests to be confined to mid and lower ravine slopes. Using data gathered by Bridges et al. (1984), Carroll (n.d.) produced a detailed map

delineating the forest communities of TRG (as previously mentioned). Their results befit Hinkle's (1978) description of southern Cumberland Plateau forests.

Tennessee supports a rich flora of about 2,931 vascular plant species and sub-specific taxa (TENN 2011). Botanical investigations on the Cumberland Plateau, in particular, reveal its high species richness as compared with other physiographic provinces in the state (Wofford & Chester 2002; TENN 2011). This high species richness is the result of variation in topography, geology, slope, aspect, and moisture content on the plateau, which in turn affords a diversity of plant habitats (Fenneman 1938; Braun 1950; Hinkle 1978). Relatively recent floristic studies of the Cumberland Plateau include Clark (1966), Wofford et al. (1979), Sole et al. (1983), Schmalzer et al. (1985), Clements & Wofford (1991), Allawos (1994), Goodson (2000), Bailey & Coe (2001), Weckman et al. (2003), Fleming & Wofford (2004), McEwan et al. (2005), Beck & Van Horn (2007), and Huskins & Shaw (2010). These studies include ten from Tennessee and three from Kentucky, and their findings are summarized in Table 1.1. The locations of the Tennessee studies on the Cumberland Plateau are presented in Figure 1.2. Prentice Cooper is the largest study area located in Hamilton, Marion, and Sequatchie counties, Tennessee. It covers 10,300 ha (25,452 acres) and documented 1,072 species (Beck & Van Horn 2007). The smallest study site is Big Everidge Hollow in Letcher County, Kentucky, which contains 52 ha (129 acres) and reported 263 species (McEwan et al. 2005).

Table 1.1 Floras of the Cumberland Plateau physiographic province in Kentucky and Tennessee[1].

Study Site	State	Area (ha)	Species	Rare Taxa	Non-Native Taxa
Prentice Cooper (Beck & Van Horn 2007)	TN	10,300	1,072	21 (2%)	176 (16%)
Fall Creek Falls (Flemming & Wofford 2004)	TN	8,900	879	16 (2%)	103 (12%)
North White Oak Creek Gorge (Allawos 1994)	TN	5,407	522	8 (2%)	41 (8%)
Savage Gulf (Wofford et al. 1979)	TN	4,047	675	17 (3%)	42 (6%)
Obed (Schmalzer et al. 1985)	TN	4,000	725	19 (3%)	60 (8%)
Fiery Gizzard (Clark 1966)	TN	3,626	597	9 (2%)	37 (6%)
NCCGSNA (Huskins & Shaw 2010)	TN	2,862	604	11 (2%)	74 (13%)
Clear Fork/New River (Goodson & Bailey 2001)	TN	1,896	585	13 (2%)	44 (8%)
Wolf Cove (Clements & Wofford 1991)	TN	1,000	574	10 (2%)	28 (5%)
Pilot Knob (Weckman et al. 2003)	KY	262	502	5 (1%)	55 (5%)
Lilley Cornett Woods (Sole et al. 1983)	KY	220	515	9 (2%)	61 (12%)
Big Everidge Hollow (McEwan et al. 2005)	KY	52	263	7 (3%)	1 (0.4%)
Tennessee River Gorge	TN	4,970	692	10 (1%)	92 (13%)

[1]All 13 floristic inventories on the Cumberland Plateau are reported including study area in hectares, total species richness, and the number of rare and non-native taxa documented. Values reported here may differ from those originally recounted by the authors, due to the fact that the taxonomic nomenclature for each study were normalized by Huskins & Shaw (2010) to follow that of the USDA PLANTS Database (2011). Values from Goodson (2000) and Bailey & Coe (2001) were combined by Huskins & Shaw (2010) due to overlapping study areas and are herein treated as Goodson & Bailey (2001).

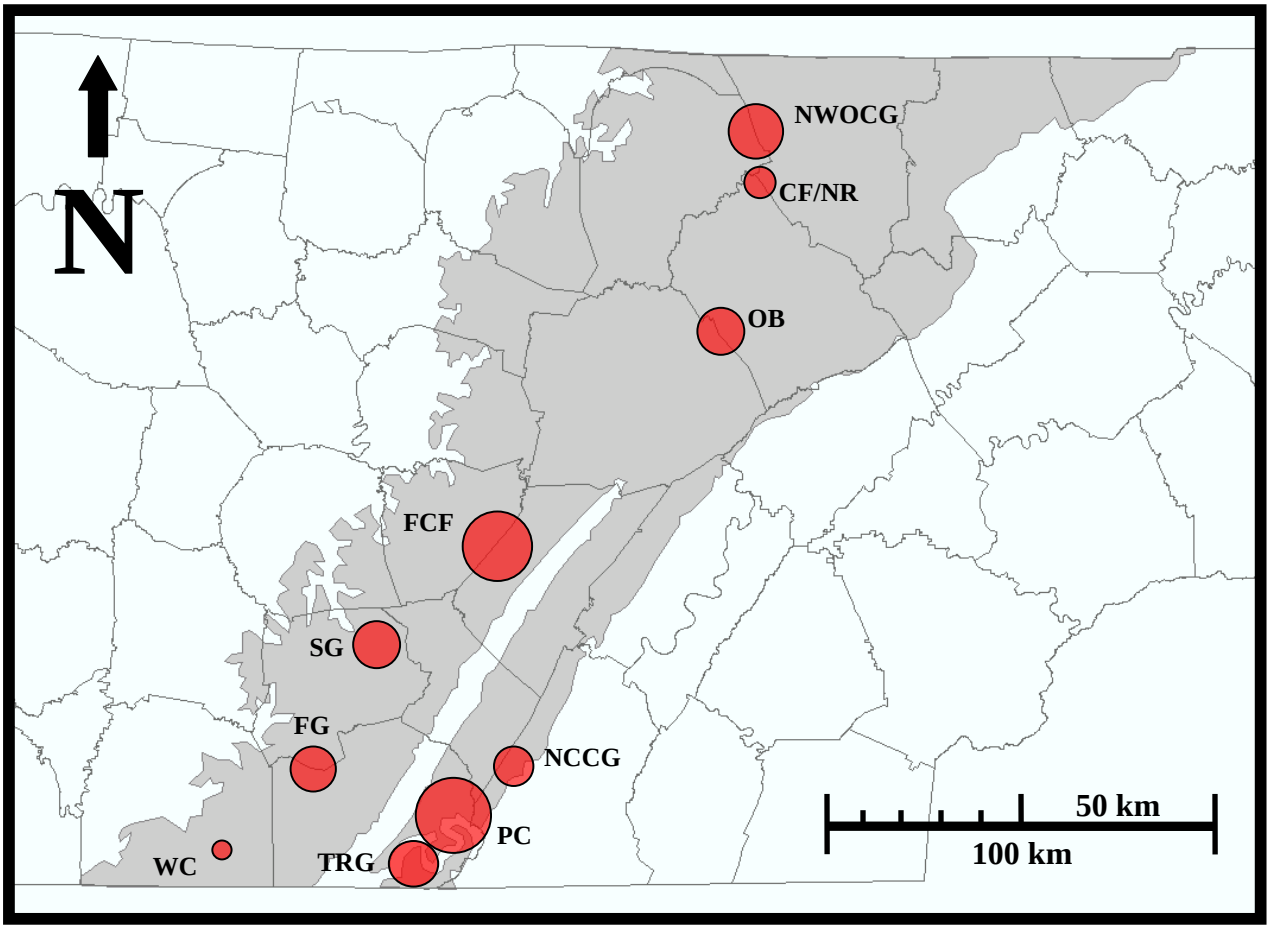

Figure 1.2 Distribution of floras on the Cumberland Plateau physiographic province (shaded area) within Tennessee. Map is adapted from The Cumberland Plateau National Heritage Corridor Feasibility Study (AC 2006). Red spheres illustrate the relative area of each study. Study site abbreviations are in alphabetical order as follows: CF/NR-Clear Fork / New River, FCF-Fall Creek Falls, FG-Fiery Gizzard, NCCG-North Chickamauga Creek Gorge, NWOCG-North White Oak Creek Gorge, OB-Obed Wild and Scenic River, PC-Prentice Cooper State Forest, SG-Savage Gulf, TRG-Tennessee River Gorge, and WC-Wolf Cove.

These kinds of studies provide baseline data upon which additional inquiries may be pursued, including but not limited to environmental impact assessments, biogeographical research, ecological restorations, and law and policy decisions (Palmer et al. 1995). In terms of conservation, botanical inventories, more often than not, document new populations of special concern species, including both rare and non-native taxa. Such investigations also provide a means by which to empirically measure the species richness of an area, results of which may have significant conservation implications.

There are two mathematical techniques commonly used to compare the floristic compositions of different areas. The first technique is the species-area curve. This regression model is not only useful for predicting the richness of a given area, but also for comparing richness between two or more study sites (Arrhenius 1921; Gleason 1922; Preston 1962). Arrhenius (1921) and Gleason (1922) are noted for some of the earliest research on the concept of the species-area relationship. However, Preston (1962) developed the regression equation:

$$S = cA^z$$

This equation is commonly used today to express the species-area curve, in which *S* is the number of species, *c* is a constant based on the geographical region and the taxonomic group, *A* represents the area in hectares, and *z* is a constant that signifies the degree to which species richness decreases with decreasing area. Monk (1971) constructed a broad scale species-area curve for the eastern deciduous forest. This was followed by Wade & Thompson's (1991) curve for the mixed and western mesophytic forest regions of Kentucky, and Huskins & Shaw (2010) generated yet a smaller scale species-area curve for the Cumberland Plateau in Tennessee.

The second quantitative technique that is commonly used to compare the floristic likeness of different study sites is a similarity index. Known as Sorenson's Coefficient of Community,

this index calculates a value between 0 and 1 (Smith & Smith 2002), with a higher value indicating a greater similarity between the two sites, and a lower value suggesting dissimilarity between the sites being compared.

Floristic studies also expand our knowledge about the geographic ranges of plant species, allowing us to clarify geographical affinities associated with floristic compositions (Murrell 1985; Murrell & Wofford 1987; Clements 1989; Allawos 1994; Bailey & Coe 2001). Distribution analyses can improve our understanding of the origins of historical plant migrations, relict populations, and forest community disjunctions (Murrell 1985; Graham 1972; FNA Vol. 1 1993). Several botanists have conducted some level of these analyses on the flora of east Tennessee. Murrell (1985) analyzed the phytogeographical significance of Big Frog Mountain in the Blue Ridge physiographic province of Polk County, Tennessee. On the Cumberland Plateau, Clements (1989) examined the geographic distributions of the Wolf Cove flora in Franklin County, Tennessee. Allawos (1994) evaluated the distributions of the North White Oak Creek Gorge flora located in Fentress and Scott Counties, Tennessee. Also in Fentress and Scott Counties, as well as Morgan County, Bailey & Coe (2001) analyzed the geographic affinities of the riparian flora along the Clear Fork and New Rivers. Shaw & Wofford (2003) investigated the phytogeography of Big South Fork National River and Recreation Area's woody flora in Scott County, Tennessee, and McCreary County, Kentucky. Each of these investigations revealed broad, central floristic distributions with significant northern components. These studies, with the exception of Clements (1989), were located in the northern part of Tennessee's Cumberland Plateau. Several early vegetation studies of the plateau in Tennessee proposed that the gorges in this region harbor more characteristically northern species. Some explanations for this were that the gorges maintained cooler and wetter conditions as well as a lack of human disturbance due to

their mature topography (Braun 1950; Quarterman et al. 1972; Caplenor 1979). While these were all excellent phytogeographical studies that revealed similar distributional patterns, comparisons between them are dubious for the reasons of incompatible taxonomic nomenclature, differing range interpretations derived by the various authors, and differing phytogeographical references employed. In any case, no such distribution analyses have been pursued in the recent floristic surveys on the southern plateau's Walden Ridge section (Beck & Van Horn 2007; Huskins & Shaw 2010), of which the current study is a part.

The objectives of this study were to (1) inventory the vascular flora of the TRG and the adjacent LCM, (2) document the presence of rare and non-native taxa (3) determine county records for Hamilton and Marion Counties, (4) compare the floristic richness and similarity of the TRG with other Cumberland Plateau floras, and (5) produce a phytogeographical analysis to elucidate the geographical affinities of the TRG flora.

Another purpose of this study is to add to the growing body of knowledge about the southern Cumberland Plateau flora. The information will also complement the body of work conducted in nearby Prentice Cooper to provide a comprehensive flora of the entire Tennessee River Gorge feature. The data collected here will be presented to the TRGT as a supplemental tool in their ongoing mission of environmental education, land acquisition and conservation of the gorge.

CHAPTER II

THE STUDY AREA

The study area is located between 35°00’25.200” (35.007) and 35°07’12.000” N (35.12) latitudes and 85°21’10.800” (-85.353) and 85°35’16.800” W (-85.588) longitudes. The steep topography of the gorge creates elevations that range from 193 m (636 ft) to 583 m (1,915 ft), a difference of 390 m (1,279 ft). The study area has been mapped by the United States Geological Survey on three 7.5 minute topographic quadrangles: Chattanooga, Wauhatchie, and Sequatchie.

The entire Tennessee River Gorge covers 10,927 ha (27,000 acres) of land from its northern escarpment on Walden Ridge to its southern escarpment on Raccoon Mountain. The delineated study area contains 4,970 ha (12,281 acres) and consists of two distinct units: Unit one includes the southern half of the gorge, on Raccoon Mountain, from the river margin to the escarpment and covers 4,310 ha (10,650 acres; Figure 1.1). A small eastern portion is located in Hamilton County with the majority contained in Marion County. Unit two is defined as the middle and southern ridges of Little Cedar Mountain (LCM), and it is surrounded to the east and south by Nickajack Lake. The western margin of Unit two parallels Anderson Ridge and the eastern edge of the Sequatchie Valley. It is located entirely within Marion County and contains 660 ha (1,631 acres) of karst limestone woodlands, bluffs and barrens.

The USGS Gap Analysis Program characterizes the TRG vegetation as predominantly southern dry calcareous forest and south-central interior mesophytic forest (USGS-NBII 2011). The principal natural communities mapped by Bridges et al. (1984) include mixed oak, oak-

hickory and oak-pine forests. General habitat types include riparian areas, Tennessee River floodplains, mesophytic gorge slopes, ravines, Cumberland Plateau uplands and ruderal sites. Within these major habitat classifications, several smaller unique habitats are supported including limestone sinkholes, a hardwood marsh, sandstone and limestone rock outcrops and bluffs, rich mesic coves, and limestone glades.

Geography

The TRG is adjacent to the southern end of Walden Ridge, a southeastern sub-region of the Cumberland Plateau physiographic province in Tennessee. The Cumberland Plateau is part of the larger Appalachian Plateau, which extends in a northeastern to southwestern orientation from southern New York to central Alabama (Fenneman 1938; Hinkle 1978; Luther 1977). Fenneman (1938) divided the Appalachian Plateau into seven sections based on "underlying rock [components], altitude, degree of [topographical] dissection, and presence or absence of glaciations (p. 283)." The southernmost of these provincial divisions is the Cumberland Plateau, which reaches its northern limits in northeastern Kentucky and its southern extent in central Alabama, spanning a distance of approximately 467 km (Hinkle 1978).

Within Tennessee, the Cumberland Plateau covers 6,920 km^2, representing over one-tenth the area of the state (Luther 1977). The Sequatchie Valley bisects the plateau through the southern half of the state, creating a straight and narrow northeast-southwest trending valley. This division by the Sequatchie Valley separates the western Cumberland Plateau proper from the slender, eastern sub-region of Walden Ridge. The Cumberland Escarpment lines the eastern border of Walden Ridge and the western perimeter of the Ridge and Valley physiographic province. Raccoon and Sand Mountains are located immediately south of Walden Ridge, and they represent extensions of the plateau spreading in to northern Alabama. Southeast of Raccoon

Mountain, Lookout Mountain signifies a remnant of the main plateau mass that has detached through time from erosion.

Geology

The geology of the Cumberland Plateau in Tennessee is characterized by rocks of Ordovician to Pennsylvanian age (500-300 myo; Hack 1966). The caprock that now covers the Cumberland Plateau surface was deposited in an ancient shallow sea more than 350 mya during the Mississippian and Pennsylvanian geologic periods (NPS n.d.). Time and pressure hardened the sedimentary deposits of limestone, shale, coal and sandstone. Near the end of the Paleozoic era, compressional tectonic forces initiated the mountain building event which ultimately formed the Appalachian Mountains and the subsequent Cumberland Plateau (Luther 1977).

These orogenic processes originated east of the Appalachian Mountains, thereby subjecting the eastern plateau to a higher magnitude of folding and faulting than the western plateau. The conglomeration of folds and faults along the southeastern plateau region is known as the Cumberland Plateau Overthrust System (Luther 1977). Two major anticlines were formed from this system, largely separating the southeastern section (Walden Ridge) from the rest of the plateau (Wilson & Stearns 1958). West of Walden Ridge, rock layers were uplifted along a 290 km fault, creating the Sequatchie Valley Anticline. To the north, the Sequatchie Valley Anticline is still topographically high and is referred to as the Crab Orchard Mountains; however, the majority of the anticline was so fractured that it has eroded to the present Sequatchie Valley. The Lookout Valley Anticline, resulting from an upright plunging fold, extends approximately 64 km from Hamilton County, Tennessee, to Dade County, Georgia, and joins the eastern border of Walden Ridge at the Cumberland Escarpment (Ponds & Slater 1999).

As the Tennessee River incised the Cumberland Plateau, weathering and erosion eventually formed the TRG (Fenneman 1938; TRGT 2011). Diverse soil types and plant communities that occur here are ultimately a result of the stratigraphy of the gorge (Braun 1950; Hinkle 1989; Jackson 1982). The youngest geologic layer rests on the Cumberland Plateau uplands and originates from the Pennsylvanian period more than 300 mya (Avel & Hartman 1979; Wilson 1979). This stratum comes from the Crab Orchard Mountains Group and is known as the Sewanee Conglomerate (Avel & Hartman 1979). The Sewanee Conglomerate formation contains hard erosion-resistant conglomerate and sandstone rock types ranging in thickness from 19.8 m to 69 m. It is among the most common formations on the plateau, and within the study area, it is restricted to the highest elevations on Raccoon Mountain. Along the upland slopes at a slightly lower elevation, formations from the Gizzard Group are encountered. The Gizzard Group, also of Pennsylvanian origin, consists of three formations which include, in ascending order, the Raccoon Mountain Formation, Warren Point Sandstone, and Signal Point Shale. The Raccoon Mountain is the thickest of the three formations (46 m to 122 m) and contains sandstone, siltstone, shale, and coal. Steep escarpments are formed from a thin band of Pennington Formation shale from the Mississippian period roughly 350 mya. Pennington outcrops are unstable and have resulted in three major landslides in the TRG in recent times (Carroll n.d.). The lower gorge slopes are characterized by a wide band of Mississippian age Bangor limestone from the Hartselle Formation. Bangor has a high dissolvability, thus producing many solution cavities and sinkholes. The lowest elevations are the riparian zones of the Tennessee River, consisting of flood plains and alluvial fan deposits.

Geologic formations of Little Cedar Mountain (LCM) are primarily composed of Mississippian Bangor limestone of the Hartselle Formation (Wilson 1979; Avel & Hartman

1979). Little Cedar Mountain exists at a lower elevation than the adjacent gorge (189 m to 426.7 m), and the terrain consists of karst limestone rocklands with ledges and outcrops occupying 51% of the surface area (USDA-WSS 2011). Because of this outcropping feature, the soils are very shallow, and calciphilous plant species are prevalent. The abundant solution cavities on LCM provide an exceptional example of limestone dissolution.

Soils

Elevation differences in the study area offer great contrasts in the geologic parent materials and therefore a diversity of soil types (Jackson 1982). Soils on the Cumberland Plateau uplands are of moderate depth, overlaying sandstone and shale bedrock. They are typically strongly acidic, very well drained, and low in fertility due to a lack of sufficient organic matter. On the Cumberland Escarpment and lower gorge slopes, the soil profile is moderately deep over a limestone and shale bedrock. Leaching and run off of nutrients and organic matter on the gorge slopes and ravines results in a slightly acidic soil with significantly higher fertility. The two major soil types on the rolling ridges of the plateau are classified in the Lily-Ramsey association (USDA-WSS 2011). These include Muskingam stony fine sandy loam and Hartsells fine sandy loam. At the western end of Raccoon Mountain, the upland slopes consist of Jefferson fine sandy loam. As you move down the plateau to the steep escarpment, the soils transition to sandstone rocklands of the Ramsey-Rock Outcrop association. Below the escarpment, a majority of the middle and base slopes of the gorge are delineated in the Bouldin-Gilpen group, characterized by bouldery colluviums of sandstone, limestone, and shale. Bouldin soils are well drained, stony sandy loams with a profile reaching 45.7 to 152.4 cm. Silt loam deposits of the Hamblen-Staser association are sparsely observed along riparian areas: the mouth of John McNabb Branch, Cummings Lake, the mouth of Hugden Branch (and the associated hardwood marsh), and the

mouth of Spring Creek. The Hamblen-Staser complex is a level, deep, moderately to well-drained soil that forms in alluvial sediments on flood plains, streams and drainageways (Jackson 1982).

Soils of the Talbott series cover approximately 49% of the surface area on LCM (USDA-WSS 2011). The remaining 51% is categorized as a rockland of Bangor limestone outcrops. The Talbott series consists of moderately deep soils weathered from limestone. They are well drained, gently sloping to moderately steep soils with a silty clay texture. Flat topped outcrops accumulate a thin layer of soil on which calciphilous and shallow rooted plant species establish. Due to the unique soil situations and geology, LCM supports a considerably different flora from the rest of the gorge, exhibiting a local area of high endemism (Estes & Beck 2011).

Climate

Climate of the TRG is broadly characterized by warm, humid summers and cool, mild winters with a growing season ranging from 180 to 220 days (NOAA 2001). Weather conditions differ to an extent from the lower elevations of the gorge to the higher elevations of the Cumberland Plateau surface. In general, the lower elevations experience a climate similar to the Ridge and Valley, while the plateau uplands have a climate typical of the Cumberland Plateau. Climatological data were gathered by the National Oceanic and Atmospheric Administration (NOAA) between the years of 1971 and 2000 and were distributed by the Southern Regional Climate Center (SRCC). These data were sourced from two weather stations: the Lovell Field Weather Station in Hamilton County and the Monteagle Weather Station in Marion County. The Lovell Field Weather Station is located at 35.03 N latitude and -85.20 W longitude, at an elevation of 204 m (671 ft). This weather station exists approximately 27 km (17 miles) east of the study area in the Ridge and Valley physiographic province. The Monteagle Weather Station

is located at 35.22 N latitude and -85.84 W longitude, at an elevation of 563 m (1850 ft; SRCC 2011). Located on the western escarpment of Walden Ridge, the Monteagle station is approximately 14 km (9 miles) northeast of the study area.

Based on these data, the climate of the lower gorge includes an average annual mean temperature of 15.5 °C (60.0 °F; Table 2.1; SRCC 2011). The highest mean monthly temperature is 26.4 °C (79.5 °F) during July, and the lowest mean temperature is 4.1 °C (39.4 °F) in January. Shown in Table 2.2, the average annual mean temperature on the plateau uplands is 13.3 °C (56.0 °F). The highest mean monthly temperature is 23.7 °C (74.7 °F) in July, and the lowest is 1.5 °C (34.7 °F) occurring in January.

The gorge lowlands experience an annual precipitation of 138.3 cm (54.4 in; SRCC 2011). While the maximum monthly amount of precipitation occurs in March with 15.7 cm (6.2 in), the lowest amount occurs in October with 8.3 cm (3.3 in) (Table 2.1). The upland plateau surfaces receive considerably more precipitation annually than the gorge lowlands. Normal annual precipitation on the upland surfaces is 161.9 cm (63.7 in; Table 2.2). The highest monthly amount, 17.6 cm (6.9 in), falls in March, and the lowest volume, 10.3 cm (4.1 in), falls in August. The most significant differences in climate between the upper and lower gorge are that the upper gorge, on average, is 2.2 °C (4.0 °F) cooler, and receives almost 23.6 cm (9.3 in) more precipitation annually than the lower gorge.

Table 2.1 Mean temperature and precipitation of the Lovell Field Weather Station, Chattanooga, Hamilton County, Tennessee (elevation 204.5 m). Average temperature and precipitation for period 1971-2000 (U.S. National Oceanic and Atmospheric Administration, obtained from Southern Regional Climate Center, 2011).

Lovell Field Weather Station (Ridge and Valley)				
Temperature and Precipitation Normals for 1971-2000				
Temperature (°C)			Precipitation (cm)	
January	4.1		January	13.7
February	6.3		February	12.3
March	10.8		March	15.7
April	15.3		April	10.7
May	19.8		May	10.9
June	24.1		June	10.1
July	26.4		July	12
August	25.8		August	9.1
September	22.3		September	10.9
October	15.8		October	8.3
November	10.2		November	12.4
December	5.8		December	12.2
Annual Mean	15.5		Annual Sum	138.3

Table 2.2 Mean temperature and precipitation of the Monteagle Weather Station, Monteagle, Marion County, Tennessee (elevation 563.9 m). Average temperature and precipitation for period 1971-2000 (U.S. National Oceanic and Atmospheric Administration, obtained from Southern Regional Climate Center, 2011).

Monteagle Weather Station (Cumberland Plateau)				
Temperature and Precipitation Normals for 1971-2000				
Temperature (°C)			Precipitation (cm)	
January	1.5		January	15.2
February	3.9		February	12.8
March	8.5		March	17.6
April	13.3		April	12.8
May	17.6		May	14
June	21.6		June	12.1
July	23.7		July	13.8
August	23.2		August	10.3
September	20.1		September	12.5
October	14.2		October	10.8
November	8.7		November	14.9
December	3.6		December	15.1
Annual Mean	13.3		Annual Sum	161.9

Land Use

The Cumberland Plateau has been subject to human habitation and gradual alteration over the last 11,000 years (Satz 1979). Archaeological sites located in both Hamilton and Marion counties have unearthed artifacts from Paleo, Woodland, Mound Builder, and Cherokee Indians (AC 2006). The earliest of these tribes, the Paleo-Indians, migrated into North America from Asia across the Alaska-Siberia land bridge while following the large game herds they hunted. These small nomadic tribes spread throughout most of North America, including the Cumberland Plateau and the Tennessee Valley. During several thousand years, Native American cultural periods progressed from a nomadic, hunter-gatherer way of life to a more settled, agricultural existence. By the 18th century, Cherokee Indian tribes had established settlements in the Cumberland Plateau and adjacent Ridge and Valley region of present day Chattanooga. They utilized the rugged wilderness of the plateau as their hunting and foraging grounds and the fertile lands of the adjacent Ridge and Valley as farmland.

By the mid-18th century, much of the eastern U.S. had been colonized by European settlers, and the pressures of westward expansion were great (AC 2006). One obstacle impeding westward migration, however, was the eastern escarpment of the Cumberland Plateau. There were two known migration routes around the plateau: the Cumberland Gap near the border of Tennessee and Kentucky and the TRG. Both migration routes were dangerous due to the threat of Indian attack, but the route through the TRG proved far more hazardous with challenges of navigating its deadly rapids, shoals, and narrows (Satz 1979). Between 1775 and 1800, more than 300,000 European travelers successfully crossed the plateau and continued onto the lowlands of Tennessee and Kentucky (AC 2006). Aside from a few homestead farms nested in the coves, most European settlers overlooked the Cumberland Plateau as a potential dwelling

place, because its rugged terrain and poor soils limited the prospects of development and agriculture. As the population of frontiersmen grew in the Tennessee Valley, Cherokee tribes began actively opposing their further encroachment. Through a series of battles and uncompromising treaties, the Cherokee lost more and more land until they were finally displaced altogether by the Indian Removal Act of 1830 (Livingood 1981).

After removal of the remaining Cherokee people, the natural landscape of the Tennessee Valley began a significant transformation. The abundance of coal seams and vast forestlands throughout the Cumberland Plateau began to attract the attention of local industry. By the mid-19th century, entrepreneurs and resource companies took advantage of purchasing cheap, large tracts of land on the plateau for future extraction of its coal and timber resources (Bridges et al. 1984; AC 2006). Timber production played a fundamental role in the economic stimulus of Cumberland Plateau communities, and between 1880 and 1930, a majority of the plateau's timber was harvested. As a result, the study area and most of the plateau now sustain secondary growth forests varying in age from 80 to 120 years.

During this time, coal mines were established in towns across the plateau province, including more than twenty in Marion County alone (Mader & Littlefield 1969). One coal mine site is located just outside of the study area on the western end of Raccoon Mountain (locally called Aetna Mountain). Limestone quarries provided another type of mining operation in Marion County. These quarries produced agricultural lime and general purpose stone, some of which was used in the nearby construction of Interstate-24 in the 1970s. Rock harvesting of "Tennessee mountain stone" or "river rock" is another very profitable operation in the region (Manning 1993; Huskins 2008). Unfortunately, many private landholders have encountered legal struggles over the proprietorship of the mineral rights of their property by mining companies. In

many cases, rock harvesting companies purchased the mineral rights to a land parcel years earlier and have been paying taxes on them (Sohn 2007). In such situations, these companies have the legal right to enter private property, extract the underlying mineral resources, and leave the mining site free of any reclamation responsibilities. This practice has led to countless lawsuits involving private landowners seeking retribution from resource companies.

In the early 1980s, a community based organization in Chattanooga was initiated in response to the long history of natural resource exploitation on the Cumberland Plateau's TRG. The Tennessee River Gorge Trust (TRGT) is a 501 (c) (3) non-profit organization founded in 1981 and incorporated in 1986 (TRGT 2011). This local land trust promotes environmental stewardship in the TRG through various land acquisitions and public education outreach programs. The trust also provides access to the gorge for scientific research. Currently the TRGT owns more than 2,428 ha (6,000 acres) of river gorge land but protects more than 6,475 ha (16,000 acres) through direct purchases, conservation easements, and memorandum of understandings. Other land ownerships in the gorge include TVA properties and numerous privately owned parcels. Although the TRGT is making strides in environmental conservation, the gorge is still susceptible to significant anthropogenic disturbance.

Access

The study area is accessed by a network of public roads, one highway, a small cluster of interconnected mountain biking and hiking trails, one ATV trail, and one TVA day-use hiking trail. The eastern section of Raccoon Mountain (locally named Elder Mountain) is accessed by three main roads. On the east side of Elder Mountain at the head of the gorge, Cash Canyon Road stretches for several miles, connecting to multiple riverfront residences. Cash Canyon Road originates at O'Grady Drive in Tiftonia near Pan Gap Branch (east), and it terminates at the

northern most point on Raccoon Mountain north of Dividing Hollow. Grindstone Ridge and the TVA Pumped Storage Reservoir are circumnavigated by TVA Access Road which provides day-time, public admittance to the TVA Raccoon Mountain Trail System. The TVA trail system is a network of approximately 19 miles of hiking and mountain biking trails provided in conjunction with the Southern Off-Road Bicycle Association (SORBA). TVA Access Road connects to Raccoon Mountain Road at Pan Gap Branch and Scout Hollow. Raccoon Mountain Road provides easy access to two major collecting areas: Pan Gap Slopes and John McNabb Branch. Connecting to Raccoon Mountain Road at Huff Branch is Scenic Highway 41, a major road corridor for Interstate-24 overflow traffic. Scenic Highway 41 (also called Cummings Highway) bisects the western half of the gorge from Lookout Valley to LCM and offers access points to the lower gorge slopes and riparian areas. A poorly maintained ATV Trail network begins near Grant Cave and runs between Harwood Gulf and Hugden Branch on a tract of land owned by the TRGT.

Interstate-24 skirts the southwestern boundary of the study area as it runs east to west between Raccoon and Sand Mountains. Upon crossing Nickajack Lake, Interstate-24 and Highway 41 separate the middle and southern ridges of LCM from each other. Aside from these two major thoroughfares, the only access to the middle ridge of LCM is from Lock and Dam Road on the north side of the mountain, although many private residences hinder easy access to this vicinity. Access to the southern ridge of LCM is made easy by a TVA day-use trail that spans the small mountain from a parking area near the interstate to the southern tip of Gray's Bluff. Due to the aesthetic nature of the gorge and the construction of Scenic Highway 41 in the 1970s, the area has attracted a significant population in pursuit of river recreation and riverfront property. Consequently, the TRG is mottled with hundreds of small, private residential tracts, a

restaurant, a convenience store, boat ramps, Hales Bar Marina, and various other developments, which have increased accessibility but have compromised the natural integrity of the gorge.

CHAPTER III

METHODS

Field Collection

Vascular plant specimens were collected regularly during the growing seasons of 2009 to 2011. In the first field season, 22 collecting trips were made, then 18 in the second year, and 21 in the final year. A habitat classification map of the TRG (Carroll n.d.) was consulted particularly during the first field season to determine the locations of major habitat types as well as unique habitats that may be botanically significant. An effort was made to visit each representative habitat in the study area biweekly throughout the growing season. A total of 61 collecting trips were made to the various habitats between March and November of each year to cover a majority of vascular plant phenologies. Those areas determined in the first year to be exceptionally species rich were visited more frequently in subsequent seasons. Using visual encounter, vouchers were collected by digging up entire herbaceous specimens and trimming samples of woody specimens. In areas of major collection, GPS coordinates were recorded using a Garmin eTrex Vista Cx (Garmin International, Inc., Olathe, Kansas, unreferenced), accurate to 5 m positioning in real time. For rare species, increased precision was used when gathering biogeospatial data, and detailed field notes were taken, including associated species and habitat types. Accession numbers were then assigned to each specimen along with locality data and supplementary field notes.

Specimen Identification and Processing

Species identifications were made using multiple taxonomic treatments, including Radford et al. (1968), Cronquist (1980), Wofford (1989), Gleason & Cronquist (1991), Wofford and Chester (2002), selected volumes from the Flora of North America series (FNA Editorial Committee 2002 and 2003), Jones (2005), and Weakley (in preparation). Species determinations were cross examined with voucher specimens from the University of Tennessee at Chattanooga Herbarium (UCHT) as well as images from the online databases of the University of Tennessee Herbarium at Knoxville (TENN) and the United States Department of Agriculture, Natural Resources Conservation Services PLANTS Database (USDA PLANTS Database). Illustrations in Holmgren et al. (1998) also were referenced for some species identifications. County records for Hamilton and Marion Counties were determined by county level distribution maps from TENN (2011). The nomenclature and native status of all taxa reported follows the USDA PLANTS Database (USDA 2011) and *A Fifth Checklist of Tennessee Vascular Plants* (Chester et al. 2009). Species of non-native status were further examined in the Tennessee Exotic Pest Plant Council's (TN-EPPC) list of Invasive Plants of Tennessee (2009). TN-EPPC maintains a list of the most invasive species in Tennessee and assigns a rank to each based on their potential threat to native plant communities. If such a rank was given by TN-EPPC, it is incorporated into the annotated checklist for TRG. For rare species designations, the Tennessee Natural Heritage Program Rare Plant List (TDEC 2008) was consulted. The relative abundance for each species follows Murrell and Wofford (1987). Voucher specimens were pressed, mounted, and processed according to standard herbarium protocols, and the collection was deposited at UCHT. Duplicates and triplicates were sent to the herbaria of Austin Peay State University (APSU) and TENN.

Herbarium Visitation

In addition to collection efforts from this study, 116 existing herbarium vouchers from the study area were examined. These included 58 specimens from UCHT and 58 specimens from TENN. The UCHT vouchers originated from collections by Edwin Bridges and Paul Somers during the ecological survey of the TRG (Bridges et al. 1984). The TRG vouchers at TENN were largely collected by John Beck and Dwayne Estes in independent investigations of the flora of Tennessee.

Sørenson's Coefficient of Community

Quantitative comparisons were generated between the flora of the TRG and 12 other studies on the Cumberland Plateau using Sørenson's Coefficient of Community (CC). This calculation of floristic similarity is given by the formula

$$CC = 2c / (s_1 + s_2)$$

where c is the number of species common to both communities, s_1 represents the number of species known from the TRG community, and s_2 is the number of species in the community being compared (Smith & Smith 2002). The CC index can fall between zero and one: a value closer to zero indicates dissimilarity between the compared communities and a value closer to one signifies a higher similarity between the compared communities. The species numbers for all 12 floristic studies used in this calculation were previously standardized by Huskins (2008) in a normalized comparative plant list which will be further discussed in the next section.

Phytogeographical Analysis

The distributions of all native species were examined from a regional and range-wide perspective in an effort to elucidate the geographical affinities of the TRG vascular flora.

Methodology for the distribution analysis was adapted from Murrell (1987) and Allawos (1994) and was developed in Microsoft Office Excel 2007 (Microsoft Corporation, Redmond, Washington, unreferenced) spreadsheets. The MS Excel 2003 version of Huskins' (2008) "Normalized Comparative Plant List" was provided as an integral resource for this study. The document contains a comparative checklist of presence/absence species data from 12 Cumberland Plateau floras (Table 1.1). Huskins normalized the list by converting the taxonomic nomenclature of each study to a standardized type used by the USDA PLANTS Database. Once the nomenclature was standardized, comparisons could be made among the 12 floristic works, and this was an important step in making possible a broad and comparative phytogeographical analysis. The current study further developed the Normalized Comparative Plant List to include presence/absence species data for the TRG, as well as a phytogeographical analysis of all species from the 13 Cumberland Plateau floras. One flora (New River Gorge or NRG; Suiter & Evans 1999) located on the Allegheny Plateau in southern West Virginia was added to extend the analysis farther north on this contiguous plateau province and to add a northern flora comparable in size to the Cumberland Plateau studies.

Geographic distribution maps from the USDA PLANTS Database (2011) were consulted to derive accurate range descriptions. A column was added to the Normalized Comparative Plant List (Huskins 2008) prototype which would describe the geographic "Center of Distribution" of every native species in the list of all 14 floras (including the TRG). Five possible Centers of Distribution were identified: central, northern, eastern, southern, and western. Each taxon was assigned to one of the five categories based on the approximate center of their distributional spread. These headings were followed by a more detailed range description. Examples of the five possible Centers of Distribution are given in Figure 3.1. Species with widespread geographic

distributions in the Eastern U.S. were classified as central species. Taxa with broad ranges to the north that bottleneck southward were characterized as northern species. Similarly, species with broad southern distributions that tapered northward were considered southern taxa. Eastern taxa were those with distributions along the east coast ranging as far west as the Appalachian Mountains. Species with western distributions ranged from the west coast to the Midwestern region. By conducting this analysis for the entire comparative plant list, phytogeographical affinities were easily extracted for all 14 floras.

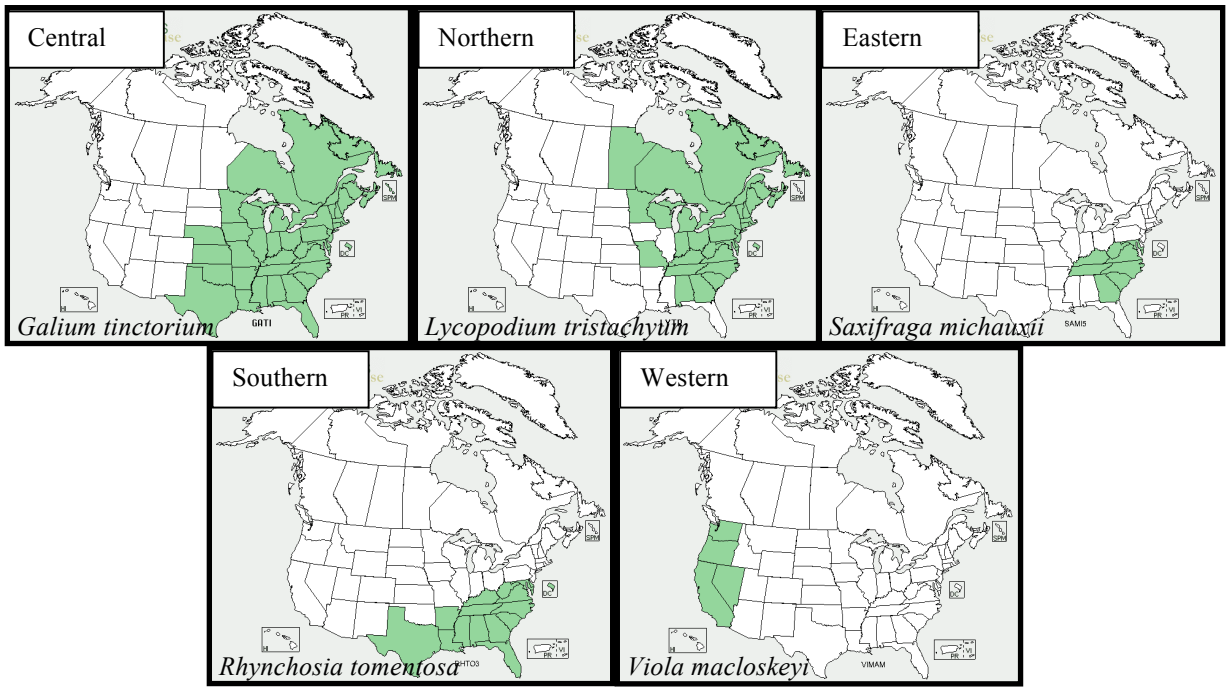

Figure 3.1 Sample species ranges demonstrating the five general centers of distribution in which a taxon may be characterized for the phytogeographical analysis (maps obtained from USDA PLANTS Database 2011).

The second component of this two-fold analysis was to categorize the "Geographical Affinities" of the TRG flora into four distinct groups: intraneous, extraneous, strict endemic, or introduced (Figure 3.2). This study defines taxa with intraneous distributions as those for which the TRG study area is located well within the margin of their range, with a buffer width of no

less than five counties of average county size for the eastern U.S. The extraneous group consists of taxa for which the study area is situated on the periphery of their range with a buffer width of no more than five average sized counties. The strict endemic species have ranges restricted to the southern Cumberland Plateau sensu Fenneman (1938), and the introduced group includes all non-native species.

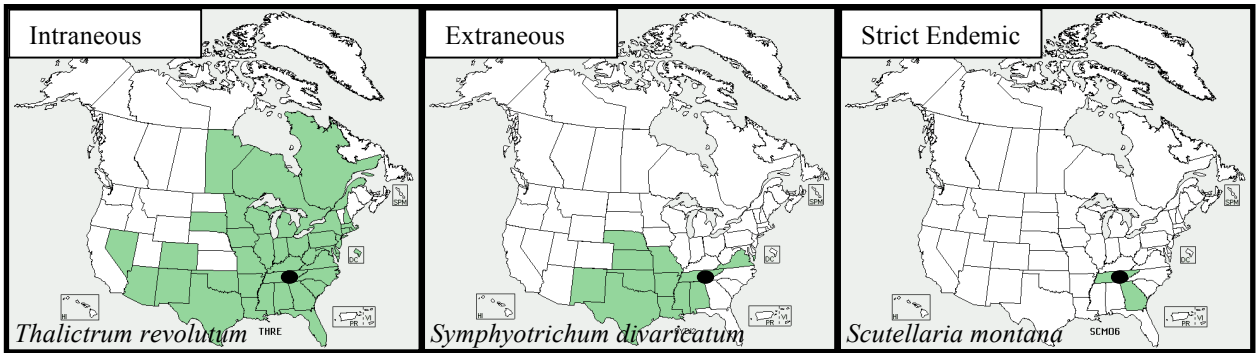

Figure 3.2 Sample species ranges demonstrating intraneous, extraneous, and strict endemic geographical affinities to the TRG (maps obtained from USDA PLANTS Database 2011). The black spheres indicate the study area.

CHAPTER IV

RESULTS AND DISCUSSION

Floristic Summary

In total, 960 specimens were collected from the study area over three growing seasons, and 116 additional herbarium specimens from other collectors were examined. From these combined collections, 692 species and sub-specific taxa were identified, representing 392 genera from 123 families of vascular plants (Table 4.1). The largest documented family was Asteraceae with 92 species representing 13.3% of the flora. This family was followed by Poaceae with 51 species (7.4%), Cyperaceae with 47 species (6.8%), Fabaceae with 35 species (5.1%), Rosaceae with 27 species (4%), and Lamiaceae with 25 species (3.6%). The largest genera were *Carex* with 30 species, followed by *Quercus* (14), *Viola* (12), and *Symphyotrichum* (10). In all, 133 county range extensions were documented, which implies that 16.3% of the TRG flora was not known previously from the respective counties from which they were collected. There were 15 county records for Hamilton County and 118 for Marion County. The number of vouchered taxa in Hamilton County was thus increased from 764 to 779, and the number of documented taxa in Marion County was increased from 976 to 1094. The complete annotated checklist of collected specimens is presented in Appendix A and includes accession numbers, county records, habitat associations, and relative abundances for all vouchers. The percentages of each taxonomic division in the flora are shown in Table 4.1, and these proportions are similar to that of other regional floras.

Table 4.1 Floristic summary of the Tennessee River Gorge.

Division	Families	Genera	Species	Percent of Total Species Composition
Equisetophyta	1	1	1	0.10%
Pteridophyta	9	18	29	4.20%
Coniferophyta	3	4	7	1.00%
Magnoliophyta	110	369	655	94.70%
(Liliopsida)[1]	(15)	(72)	(148)	(21.40%)
(Magnoliopsida)[1]	(95)	(297)	(507)	(73.30%)
Total	123	392	692	100%

[1]Values in parentheses represent the proportions of Liliopsida and Magnoliopsida to the division Magnoliophyta.

Rare Species

The study area protects ten species listed as rare by the state of Tennessee, comprising 1.4% of the total flora. The Natural Heritage Program of the Tennessee Department of Environment and Conservation (TDEC) assigns a state status and rank to rare taxa based on the number of occurrences throughout the state. The ranking system ranges from S1, a rank given to species that are critically imperiled and vulnerable to extirpation, to S4, assigned to species that are abundant within the state yet rare in parts of their range (TDEC 2008). Of the rare taxa documented in this study, one taxon holds an S1 classification, four are S2 ranked, one has an S3 rank, three of them have split classifications, and one (*Polymnia johnbeckii*) is not yet ranked by TDEC, but is under review by the U.S. Fish and Wildlife Service (USFWS) due to its species novum status (Table 4.2). Six of the rare species reported in this study were not documented in the neighboring floras of Prentice Cooper and North Chickamauga Creek Gorge (*Cotinus obovatus*, *Hydrastis canadensis*, *Lonicera dioica*, *Onosmodium bejariense* var. *hispidissimum*, *Phemeranthus mengesii*, and *Polymnia johnbeckii*) (Beck & Van Horn 2007; Huskins & Shaw

2010). Additionally, the four that are denoted by a double dagger in the table indicate taxa not found in any other Cumberland Plateau flora.

Table 4.2 Rare vascular plant species[1] of the Tennessee River Gorge study area.

Scientific Name	State Status	Federal Status	State Rank[2]
Castanea dentata (Marsh.) Borkh.	Special concern species		S2S3
Cotinus obovatus Raf.‡	Special concern species		S2
Hydrastis canadensis L.	Special concern-Commercially exploited		S3
Lonicera dioica L.‡	Special concern species		S2
Onosmodium bejariense DC. ex A. DC. var. *hispidissimum* (Mack.) B.L. Turn.‡	Endangered species		S1
Panax quinquefolius L.	Special concern-Commercially exploited		S3S4
Phemeranthus mengesii (W. Wolf) Kiger	Threatened species		S2
Polymnia johnbeckii D. Estes‡	Candidate	Under review	
Scutellaria montana Chapm.	Threatened species	Listed threatened	S2
Viola tripartita Ell.	Special concern species		S2S3

[1]Taxa are listed alphabetically followed by their state and federal statuses, if applicable, and state ranks given by the Tennessee Department of Environment and Conservation (2008). [1]A double dagger signifies taxa reported in this study but absent from the 12 other Cumberland Plateau studies.

[2]Descriptions of state rank abbreviations are as follows: S1-Tennessee State Rank 1. S1 species are extremely rare and critically imperiled with five or fewer occurrences, or very few remaining individuals, or because of some special condition where the species is particularly vulnerable to extirpation from Tennessee. S2-Tennessee State Rank 2. S2 taxa are very rare and imperiled, with six to 20 occurrences and less than 3000 individuals, or few remaining individuals, or because of some factor(s) making it vulnerable to extirpation from Tennessee. S3-Tennessee State Rank 3. S3 taxa are rare and uncommon, from 21 to 100 occurrences. S4-Tennessee State Rank 4. S4 species are widespread, abundant, and apparently secure, though they may be quite rare in parts of their range, especially at the periphery, and are of long-term concern. S2S3-Ranked between S2 and S3. S3S4-Ranked between S3 and S4.

Onosmodium bejariense var. *hispidissimum*, Shaggy False Gromwell, is a member of the Boraginaceae and is the only species reported from the study area with an S1 state rank and an endangered state status (TDEC 2008). This species covers a relatively broad geographic distribution in the eastern U.S., but within Tennessee, it has a disjointed distribution in only three counties: Sullivan, Knox and Marion. In general, *O. bejariense* var. *hispidissimum* occurs in dry wooded habitats in the Cumberland Plateau and Ridge and Valley physiographic provinces. The specimen reported in this study was a voucher located at the TENN herbarium from a 2005 collection by John Beck. The specimen was found growing in an open area on Gray's Bluff along the southwestern slopes of southern LCM. The vicinity from which the specimen was collected was surveyed multiple times in the current study and during the appropriate phonological timeframe. However, no additional specimens were observed.

Scutellaria montana, Large-flowered Skullcap, is a perennial herb from the Lamiaceae family, and it is the only species documented from the TRG study area with a federally threatened listing. It also maintains a state threatened status and an S2 state rank (TDEC 2008). Endemic to the Cumberland Plateau and the Ridge and Valley provinces, the global distribution of *S. montana* is restricted to four counties in southeastern Tennessee and ten counties in northwestern Georgia (USFWS 2011). Predominant habitats include rocky, well drained, slightly acidic soils of mixed oak, oak-hickory, and oak-pine forests (TDEC 2008; NatureServe 2010; Kile et al. IP). Several occurrences of *S. montana* were observed within the study area. The only voucher was documented from a cluster of about eight plants in the vicinity of Kelly's Ferry Church and Huff Branch between the Tennessee River and Highway 41. Another occurrence of six plants was observed along the east-facing slopes of Elder Mountain between Elder Mountain

Road and TVA Access Road. The greatest abundance of *S. montana* individuals was observed on the north and northwest-facing slopes of Elder Mountain, with approximately 40 to 80 plants sparsely distributed along the rocky lower gorge slopes.

Phemeranthus mengesii, Menge's Fameflower, is a delicate herb from the Portulacaceae family. This taxon is known from six southeastern states but is state threatened in Tennessee with an S2 classification (TDEC 2008). According to the Flora of North America (2008), *P. mengesii* is restricted to barrens, cliffs, and outcrops of sandstone, granite, and gneiss. According to the USDA PLANTS Database (2011), the Tennessee occurrences are restricted to the Cumberland Plateau physiographic province in Morgan, Grundy, and Marion counties. One occurrence of *P. mengesii* was documented from the study area. Approximately 100 plants were found growing in shallow soils on sandstone outcrops in a transmission line right-of-way atop Raccoon Mountain, near the Raccoon Mountain Pumped Storage Reservoir within the eastern most boundary of Marion County.

Cotinus obovatus, American Smoketree, is a small tree that grows in circumneutral soils in calcareous woodlands and glade margins of the Eastern Highland Rim and the Cumberland Plateau in Tennessee. This species also extends south to Georgia and Alabama and west to Oklahoma and Texas (TDEC 2008; Weakley IP). *Cotinus obovatus* is a member of the Anacardiaceae family, and it is an S2 species of special concern in Tennessee. Only one population of approximately 100-200 plants is known from the study area along the east facing bluffs of LCM, north of the Highway 41 Marion Memorial Bridge over Nickajack Lake. The Tennessee Department of Transportation (TDOT) recently proposed replacement of the Marion Memorial Bridge, and the current construction for this project has resulted in widening the road 100 yards and subsequently taking several individuals of *C. obovatus*. Prior to construction, an

evaluation determined that the population would not be significantly impacted from the project (Shaw & Boyd 2009).

While no populations of *Lonicera dioica*, Mountain Honeysuckle, were observed during this study, a specimen from the study area margin was located at UCHT. This specimen was collected by Milo Pyne in 1994 from the northern slopes of LCM on a private tract under the ownership of "H.H. and Sally Smith" (UCHT specimen label, unreferenced). The collector identified the specimen as *L. flava*, but it was later annotated by John Beck in 2001 as *L. dioica*. While *L. dioica* has secure populations in the Northern U.S., it is less common in the south due to increased habitat loss (NatureServe 2010). Tennessee marks the southeastern extent of its distribution, and it is considered an S2 species of special concern (TDEC 2008). *Lonicera dioica* is a member of the Caprifoliaceae family, and it typically occurs in mountain woods, rocky ridge tops, and thickets across northeastern North America. The TRG specimen was collected from calcareous, rocky woods presumably near Bennett Hollow on LCM.

A specimen of *Hydrastis canadensis*, Goldenseal, from the TRG study area was also located at UCHT. This S3 species was collected by Paul Somers and Edwin Bridges in 1983 from the lip of a limestone sinkhole east of Hugden Branch. The author visited this locality multiple times throughout the study, but no individuals of *H. canadensis* were identified. This member of the Ranunculaceae family is widespread in the Eastern U.S., but has experienced declines due to habitat loss from logging as well as commercial exploitation of the roots for their medicinal properties (NatureServe 2010). *Hydrastis canadensis* has been used as an anti-inflammatory and anti-microbial agent, and it is the second-most economically valuable product in the medicinal plant market after American Ginseng. It flourishes in rich, mesic hardwood forests atop limestone bedrock, and it is found in every physiographic province in Tennessee

except for the Mississippi Floodplain (TDEC 2008). The record from the gorge was located in an oak-hickory forest near Hugden Branch, an area unique for its few limestone sinkholes and the only location in the study area from which the calciphilous *Diplazium pycnocarpon* (Glade Fern) is known.

Three taxa have split conservation classifications. *Castanea dentata*, American Chestnut, is an S2S3 species (TDEC 2008) that was only observed once in the study area in a medium sloped, oak-hickory forest near river mile 434 between Parker Gap Branch and Hales Bar Dam and Marina. A member of the Fagaceae, *C. dentata* has been a commercially and ecologically important species for its timber and chestnut masts (NatureServe 2010). Between 1904 and the 1930s, the entire native population of *C. dentata* was devastated by the infestation of Chestnut Blight (*Cryphonectria parasitica*), a non-native fungus first introduced on nursery stock of *C. mollissima* (Chinese Chestnut) in New York City (Peattie 2007; Weakley IP). Although this species remains relatively abundant throughout its natural range, individuals never develop beyond stump shoots and small trees before they are reinfected by the blight, which persists on *Quercus* species.

Viola tripartita var. *tripartita*, Threepart Violet, is a small, yellow-flowered member of the Violaceae family with an S2S3 rank in Tennessee (TDEC 2008). It was observed in three locations of the study area in both Hamilton and Marion Counties. The only specimen comes from a rich, mixed oak-hickory forest drainage north of Parker Gap Cove, where approximately ten individuals were growing with *Panax quinquefolius*. A more robust population of approximately 20 to 30 individuals was observed along the mouth of John McNabb Branch to about 300 yards upstream, and the third sparse population of five individuals was noted from upland, wet flatwoods on the east-facing slopes of Elder Mountain, between the escarpment and

Cash Canyon Road. *Viola tripartita* thrives in bottomlands and wooded slopes over calcareous and mafic rocks (Weakley IP). Its distribution historically spanned from southern Pennsylvania to northern Florida, but it is now presumed extirpated in Pennsylvania and Ohio. In Tennessee, it is known from the Sequatchie Valley, Cumberland Plateau, and Ridge and Valley physiographic provinces (TDEC 2008).

The third species with a split classification is *Panax quinquefolius*, American Ginseng, from the family Araliaceae. This S3S4 plant is considered the most valuable species in the U.S. herbal trade with market demands in excess of $1000 per kilogram (Weakley IP). The primary medicinal uses include diabetes treatments, aphrodisiacs, and energy supplements (Radad et al. 2006). Although *P. quinquifolius* maintains a broad distribution from Minnesota and Maine, south to Oklahoma and Georgia, pervasive over-collecting has resulted in consistently low population densities throughout its range (NatureServe 2010). In Tennessee, *P. quinquifolius* can be found in all 11 physiographic provinces, usually in rich, mesic woods (TDEC 2008). In the TRG, Ginseng was located in three areas. The only voucher comes from mixed mesophytic woods along John McNabb Branch where only four plants were observed. The second occurrence was noted as a single plant growing in association with *Viola tripartita* in an oak-hickory forest one drainage north of Parker Gap Cove, and the third occurrence was in a white oak-mixed hardwood forest on the north facing slopes of Parker Gap Cove.

The last rare species reported from this study is newly described to science. *Polymnia johnbeckii*, John Beck's leafcup, is a member of the Asteraceae family that is endemic to two ridges of LCM in Marion County, Tennessee (Estes & Beck 2011). One population exists on the northernmost ridge of LCM and contains approximately 200 to 500 plants. The other population consists of several thousand plants and resides on the southernmost ridge of LCM. Since

publication of the newly described *P. johnbeckii*, the Tennessee Rare Plant Scientific Advisory Committee has elected to add it to the TDEC rare plant list as a state endangered species. The USFWS has not yet considered the species for federal listing, though this proposal is anticipated in the near future. Fortunately the two populations exist on protected lands administered by TVA.

It should be noted here that LCM supports the greatest number of rare taxa documented in this study and contains the four rare taxa that are not present in any other Cumberland Plateau flora (designated in Table 4.2 by a double dagger). Of all the land parcels surveyed in the TRG, LCM takes precedence in terms of land to be secured for conservation purposes. The TVA currently owns many large tracts on the three ridges that make up LCM, including the entire southernmost ridge. Relatively recently, Thunder Enterprises, a commercial real estate company, engaged in a land exchange with TVA for development of a property adjacent to the southernmost ridge (Parr 2005). While developments of the Thunder Enterprises parcel are at this point inevitable, TVA is advised to maintain ownership of the southern LCM tract. It is also recommended that TVA and the TRGT work together to investigate the possibilities of acquiring any remaining parcels on LCM as a protective buffer for sensitive habitats and associated rare species.

Introduced Species

In total, 92 non-native species were identified, accounting for 13.3% of the total vascular plant flora. The families that contributed the greatest numbers of introduced taxa included Fabaceae (13 species), Poaceae (12), and Asteraceae (6). The Tennessee Exotic Pest Plant Council (TNEPPC) provides a list of vascular plants that are introduced to the state. Species are added to this list and given a rank based on their invasive characteristics. A Rank of one

indicates that the species is a severe threat to native plant ecosystems, while a Rank of three signifies that the species is a lesser threat and mainly spreads in ruderal sites (TNEPPC 2011). The TRG contains 33 species reported on the TNEPPC list with Ranks from one to three (Table 4.3). There are 13 species with a Rank one classification, 14 have a Rank two, and six have a Rank three. The Rank one taxa that are most abundant in the TRG include: *Ligustrum sinense*, *Lonicera japonica*, *Microstegium vimineum*, and *Pueraria montana*.

Table 4.3 Listing and rank[1] of the non-native, invasive taxa of the Tennessee River Gorge from the Tennessee Exotic Pest Plant Council (2011).

Rank 1 – Severe threat	Rank 2 – Significant threat	Rank 3 – Lesser threat
Ailanthus altissima (Mill) Swingle	*Allium vineale* L.	*Buglossoides arvensis* (L.) I.M. Johnston
Albizia julibrissin Durazz.	*Alternanthera philoxeroides* (Mart.) Griseb.	*Cichorium intybus* L.
Celastrus orbiculatus Thunb.	*Arthraxon hispidus* (Thunb.) Makino	*Clematis terniflora* DC. Var. *terniflora*
Dioscorea oppositifolia L.	*Cirsium vulgare* (Savi) Ten.	*Euonymus fortunei* (Turcz.) Hand.-Maz.
Elaeagnus umbellata Thunb.	*Elaeagnus pungens* Thunb.	*Rubus phoenicolasius* Maxim.
Lespedeza cuneata (Dum. Cours.) G. Don	*Glechoma hederacea* L.	*Wisteria floribunda* (Willd.) DC.
Ligustrum sinense Lour.	*Lonicera maackii* (Rupr.) Herder	
Lonicera japonica Thunb.	*Murdannia keisak* (Hassk.) Hand.-Maz.	
Microstegium vimineum (Trin.) A. Camus	*Myriophyllum spicatum L.*	
Paulownia tomentosa (Thunb.) Siebold & Zucc. Ex Steud.	*Polygonum persicaria* L.	
Pueraria montana (Lour.) Merr. Var. *lobata* (Willd.)	*Setaria faberi* Herrm.	
Rosa multiflora Thunb.	*Verbascum thapsus* L.	
Sorghum halepense (L.) Pers.	*Vinca major* L.	
	Vinca minor L.	

[1]Rank descriptions are as follows: Rank 1-Severe threat. These species possess invasive characteristics, spread easily in native plant communities, and displace native vegetation. Rank 2-Significant threat. Such taxa possess invasive characteristics but are not presently considered to spread as easily into native plant communities as severe threat species. Rank 3-Lesser threat. These taxa spread in or near disturbed areas but are not presently considered a threat to native plant communities.

Percentages of non-native taxa from 12 other Cumberland Plateau studies are given in Table 1.1. The Tennessee studies on the plateau show that non-native species comprised anywhere between 5% and 16% of the flora. The percentage of introduced taxa in a flora can be positively correlated to sampling effort and the size of the study area (since overall species richness is generally tied to area; Preston 1962). Another correlation is seen between the number of introduced species and the year in which the study was conducted. In other words, the earlier studies reported significantly fewer non-native species than did studies in more recent years (Figure 4.1). According to Chester et al. (2009), introduced species currently make up 17.8% of the flora of Tennessee. While none of the protected lands on the Cumberland Plateau has obtained this high of a percentage, Prentice Cooper (PC) contains the highest proportion of non-native species with 16% (176 species), which raises concern about potential impacts to native plant communities in the designated state forest as well as the adjacent TRG. It should be noted, however, that the PC checklist included many ornamental species that are not naturalized in the area. The non-native species tally for PC is therefore inflated because other floras have traditionally excluded ornamental species like *Iris germanica* L.

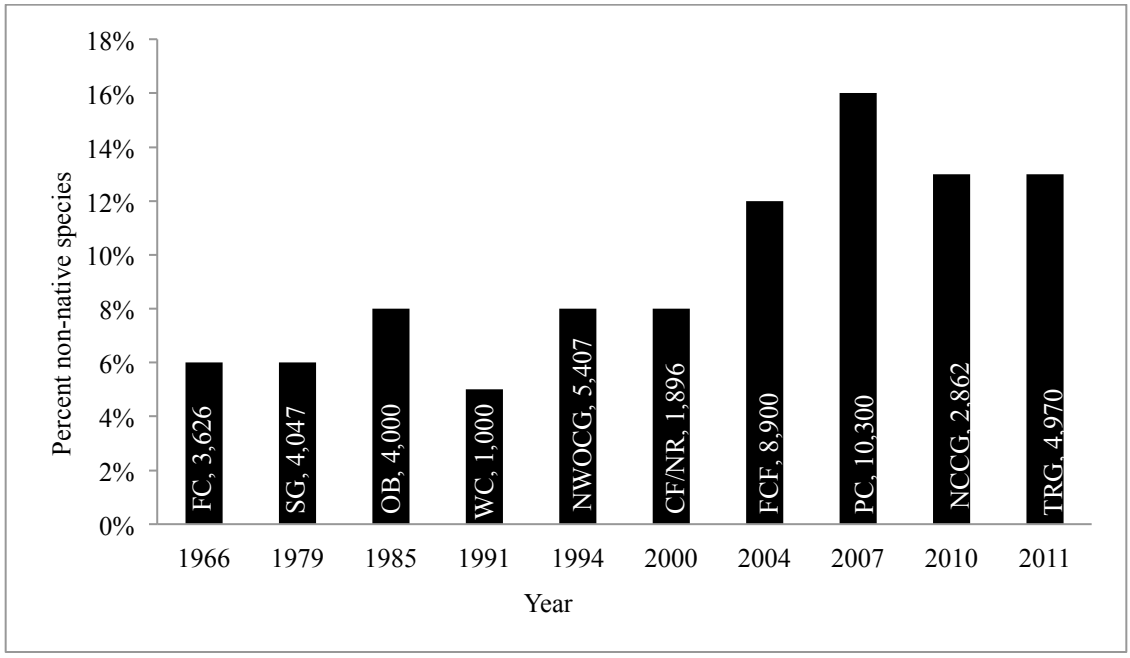

Figure 4.1 Increase in non-native species richness on the Cumberland Plateau in Tennessee through time. The study site and area (in hectares) are given inside the black bars. The year each study was conducted is plotted on the x-axis, and percent non-native species is plotted on the y-axis. Study site abbreviations are in alphabetical order as follows: CF/NR-Clear Fork/New River, FCF-Fall Creek Falls, FG-Fiery Gizzard, NCCG-North Chickamauga Creek Gorge, NWOCG-North White Oak Creek Gorge, OB-Obed, PC-Prentice Cooper, SG-Savage Gulf, TRG-Tennessee River Gorge, and WC-Wolf Cove.

Floristic Comparison

Two quantitative techniques were utilized to compare the flora of the TRG to other floras in the region. A species-area curve was employed to compare richness, and Sørenson's Coefficient of Community was calculated to assess floristic similarities. Species richness was compared to eight other regional floras using a species-area curve generated specifically for the Cumberland Plateau within Tennessee by Huskins & Shaw (2010). In developing this curve, they included floras based on selection criteria put forth by Wade & Thompson (1991): 1) only floras within Braun's Mixed Mesophytic region could be included and 2) no floras of highly disturbed areas or small uncommon areas could be used (Huskins 2008). Following these criteria, Huskins

& Shaw included the Tennessee Cumberland Plateau floras presented in Table 1.1 with the exception of the current study and North White Oak Creek Gorge (NWOCG). Inclusion of the NWOCG study was an outlier (due to a large, highly historically disturbed study area with a low species number), and it reduced the R^2 value to 0.51, thus reducing the model's reliability to accurately predict species-area trends. When this study was excluded, the R^2 value improved to 0.78. The species-area curve for the Tennessee Cumberland Plateau predicts a richness measure of approximately 760 taxa for a study area the size of the TRG (Fig. 4.2). With 692 species, the TRG is 68 species shy of the curve. In comparison to the three other floras that fall below the line (NCCG, FG, and SG), the TRG appears to be within a range of expected richness values on the plateau. Land-use history is one factor that could explain a lower than expected species richness. The biological elements of the gorge are compromised by ongoing human disturbance. The roads and residences that bisect the forest interior create edge effects, diminish habitat variability, and provide pathways for invasive species encroachments; all of which contribute to a decrease in plant species richness (Merriam 2003; Surette & Stephen 2008). With respect to the TRG and PC floras, the Tennessee River Gorge region represents a remarkably species rich geologic feature of the Cumberland Plateau in Tennessee, supporting 1,173 species and lesser taxa.

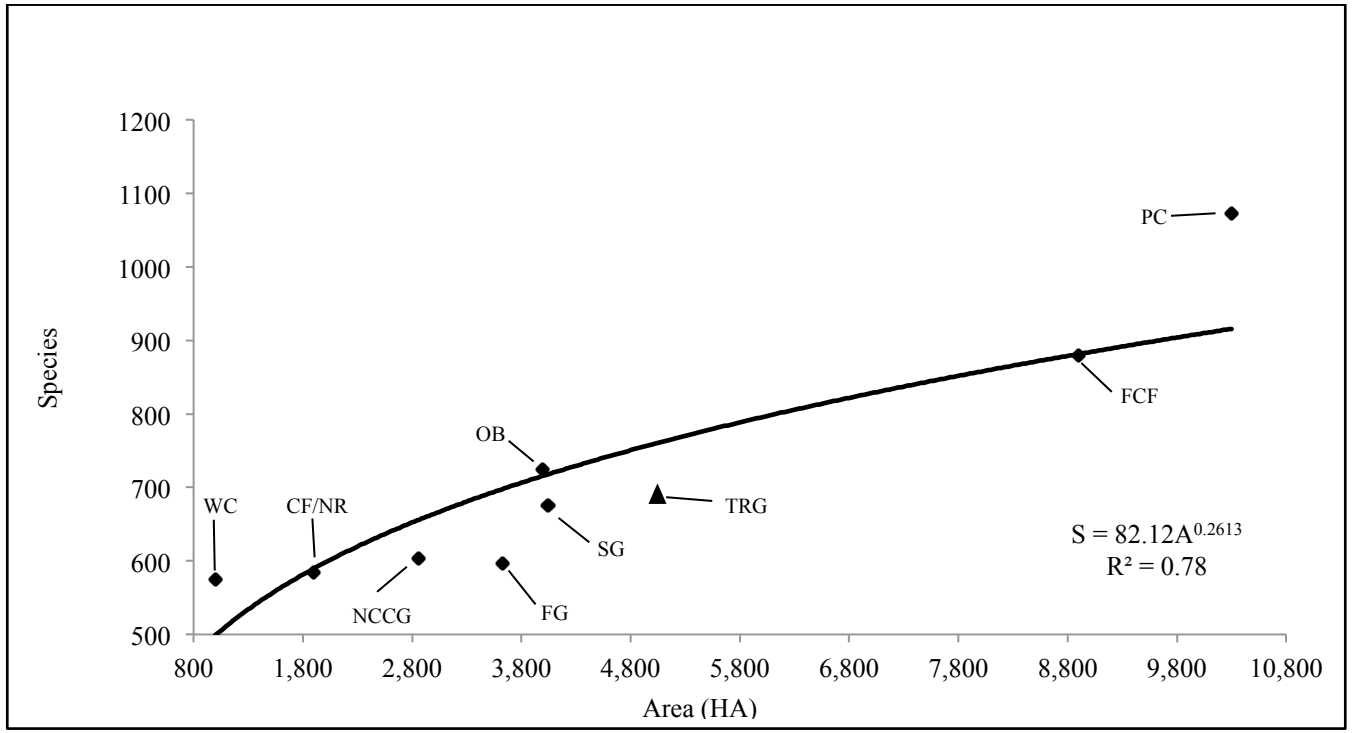

Figure 4.2 Species-area curve for nine Tennessee Cumberland Plateau floras adapted from Huskins & Shaw (2010). Study area is plotted on the x-axis in hectares, and species richness is plotted on the y-axis. The formula used to generate the curve and the R^2 value produced are inserted within the graph. The TRG study is designated by the black triangle while all other studies are represented by black diamonds. Huskins & Shaw excluded the NWOCG flora when generating the curve because it was an outlier that reduced the R^2 value to 0.51. The curve predicts approximately 760 species for the TRG study area (4,970 hectares). The actual richness reported for the gorge is 692 species. Study site abbreviations are in alphabetical order as follows: CF/NR-Clear Fork/New River, FCF-Fall Creek Falls, FG-Fiery Gizzard, NCCG-North Chickamauga Creek Gorge, OB-Obed, PC-Prentice Cooper, SG-Savage Gulf, TRG-Tennessee River Gorge, and WC-Wolf Cove.

The Sørenson's Coefficient of Community was used to generate the similarity indices that are reported in Table 4.4. Prentice Cooper was the site shown to be the most floristically similar to TRG, with a CC value of 0.67. This was followed by Fall Creek Falls with a value of 0.62, and North Chickamauga Creek Gorge with a value of 0.60. Floras indicated as the most dissimilar to the TRG included Big Everidge Hollow (0.38), Lilly Cornett Woods (0.49), and North White Oak Creek Gorge (0.51). The first two floras were of areas much smaller than the rest, and the latter flora was shown to be species poor (Huskins & Shaw 2010). These factors may explain the low CC value computed for each site.

Table 4.4 Results and relevant data[1] used in the calculation of Sørenson's Coefficient of Community (CC) for comparison of 12 Cumberland Plateau floras to the Tennessee River Gorge.

Study Site	Hectares	Species Total	Number in Common with TRG	CC Value	TRG>	TRG<
Prentice Cooper (Beck & Van Horn 2007)	10,300	1072	591	0.6701	101	481
Fall Creek Falls (Flemming & Wofford 2004)	8,900	879	494	0.6289	198	385
North Chickamauga Creek Gorge (Huskins & Shaw 2010)	2,862	604	394	0.6080	298	210
Fiery Gizzard (Clark 1966)	3,626	597	366	0.5679	326	231
Savage Gulf (Wofford et al. 1979)	4,047	675	386	0.5647	306	289
Obed (Schmalzer et al. 1979)	4,000	725	393	0.5547	299	332
Wolf Cove (Clements & Wofford 1991)	1,000	574	343	0.5419	349	231
Pilot Knob (Weckman et al. 2003)	262	502	318	0.5327	374	184
Clear Fork (Goodson 2000) + New River (Bailey & Coe 2001)	1,896	585	333	0.5215	359	252
North White Oak Creek Gorge (Allawos 1994)	5,407	522	312	0.5140	380	210
Lilley Cornett Woods (Sole et al. 1983)	220	515	298	0.4938	394	217
Big Everidge Hollow (McEwan et al. 2005)	52	263	182	0.3812	510	81

[1]Results are given in the CC Value column. The TRG> column reports the number of species found in the TRG but not in the study area being compared. The TRG< column shows the number of species found in the comparative study area but not in the TRG.

The TRG is most floristically similar to and shares the greatest number of species (591) in common with PC (Table 4.4). This is to be expected since the two sites are in such close proximity to one another, separated only by the Tennessee River. Interestingly, PC is also the flora with the greatest number of species (481) that were not likewise found within the TRG study area. While this discrepancy could be interpreted as dissimilarity, it is more likely attributed to PC's exceptionally large study area (10,300 ha), which contained greater habitat diversity of 18 basic habitat types and almost twice the species richness of the TRG. It is important to mention here that Sørenson's Coefficient of Community does not account for the correlation between area and richness. As a result, this calculation is capable of producing a low CC value for two study sites that are similar in floristic composition but that have different study areas (large vs. small) and, therefore, dissimilar richness values. If there was a means to compensate for this species-area relationship, it is presumed that the CC value representing PC's similarity to the TRG would be significantly higher than 0.67. Fall Creek Falls and North Chickamauga Creek Gorge also calculated relatively high CC values and had the second and third highest species numbers in common with the TRG (494 and 394 respectively). The high values reported for these two sites may be explained by the presence of a gorge system and predominance of gorge vegetation communities throughout both sites.

Phytogeographical Analysis

The geographic range of every native taxon in 13 Cumberland Plateau floras and one Allegheny Plateau flora was examined in an attempt to better understand the phytogeography of the Cumberland Plateau. Each species' center of distribution was characterized in one of five possible distribution categories: central, northern, eastern, southern, or western (adapted from Murrell 1985 and Allawos 1994). The results of the phytogeographical analysis are summarized

in Table 4.5, and the complete analysis can be found in Appendix B. Taxa with broad central distributions, ranging between Canada and Florida, dominate the Cumberland Plateau, accounting for 90.1% (Big Everidge Hollow) to 72.2% (Prentice Cooper) of the species composition. Southern species made up the second largest composition of the native flora on the plateau with nine of the 14 study sites having a larger southern than northern component. The TRG was the flora with the greatest percentage of southern taxa (9.5%), and Pilot Knob (PK) was the flora with the lowest percentage (1.8%). Conversely, the New River Gorge (NRG) contained the greatest percentage of northern species (10.7%), while Prentice Cooper has the lowest (3%). The final two distribution categories, eastern and western, were the least represented on the plateau province in only seven of the floras by only one to three taxa. The southern and northern geographic affinities of all 14 floras are illustrated in Figure 4.3. Study sites are arranged on the graph from left to right as northernmost location on the plateau to southernmost location. The NRG in Summers, Raleigh, and Fayette Counties, West Virginia, is the northernmost flora in this analysis, located on the southern Allegheny Plateau physiographic province. Pilot Knob in Powell County, Kentucky, is the northernmost flora on the Cumberland Plateau, and the TRG is the southernmost flora. The evident pattern is that the northernmost areas contain more northern than southern species, and the southernmost areas support more southern than northern species, as might be expected. Interestingly, the eventual transition from a higher northern to a higher southern species richness occurs between the North White Oak Creek Gorge flora in Fentress and Scott Counties, Tennessee, and the Clear Fork and New River flora in Fentress, Morgan, and Scott Counties, Tennessee.

Table 4.5 Phytogeographical summary of 14 Cumberland and Allegheny Plateau floras[1].

Study Site	NRG	PK	LCW	BEH	NWOCG	CF/NR	OB	FCF	SG	NCCG	FG	PC	WC	TRG
State	WV	KY	KY	KY	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN
Area (Ha)	25,123	262	220	52	5,407	1,896	4,000	8,900	4,047	2,862	3,626	10,300	1,000	4,970
Central	666 (74.0%)	419 (83.5%)	403 (78.3%)	237 (90.1%)	414 (79.3%)	465 (79.5%)	581 (80.1%)	670 (76.2%)	545 (80.7%)	448 (74.2%)	480 (80.4%)	774 (72.2%)	468 (81.5%)	511 (73.8%)
Northern	96 (10.7%)	18 (3.6%)	30 (5.8%)	15 (5.7%)	35 (6.7%)	32 (5.5%)	35 (4.8%)	44 (5%)	39 (5.8%)	29 (4.8%)	37 (6.2%)	33 (3%)	28 (4.9%)	23 (3.3%)
Eastern	1 (0.1%)	0	0	0	3 (0.6%)	2 (0.3%)	1 (0.1%)	2 (0.2%)	0	1 (0.2%)	0	1 (0.09%)	0	0
Southern	17 (1.9%)	9 (1.8%)	17 (3.3%)	9 (3.4%)	27 (5.2%)	38 (6.5%)	46 (6.3%)	59 (6.7%)	46 (6.8%)	49 (8.1%)	40 (6.7%)	87 (8.1%)	47 (8.2%)	66 (9.5%)
Western	2 (0.2%)	0	2 (0.2%)	0	1 (0.2%)	1 (0.2%)	0	0	1 (0.1%)	0	2 (0.3%)	0	0	0
Introduced	118 (13.1%)	55 (11%)	61 (11.8%)	1 (0.4%)	41 (7.9%)	44 (7.5%)	60 (8.3%)	103 (11.7%)	42 (6.2%)	74 (12.3%)	37 (6.2%)	176 (16.4%)	28 (4.9%)	92 (13.3%)
Totals[2]	900	502	515	263	522	585	725	879	675	604	597	1072	574	692

[1]Floras are arranged north to south from left to right, followed by their respective state and study area in hectares. Each flora is subdivided into the percentages of taxa from the six distribution categories (central, northern, eastern, southern, western, and introduced).

[2] Species totals for each flora are reported along the bottom row. The six distribution category totals do not in every case add up to the species totals for each study due to the fact that some studies included one or two species determinations at the generic level, which could not be evaluated in the distribution analysis.

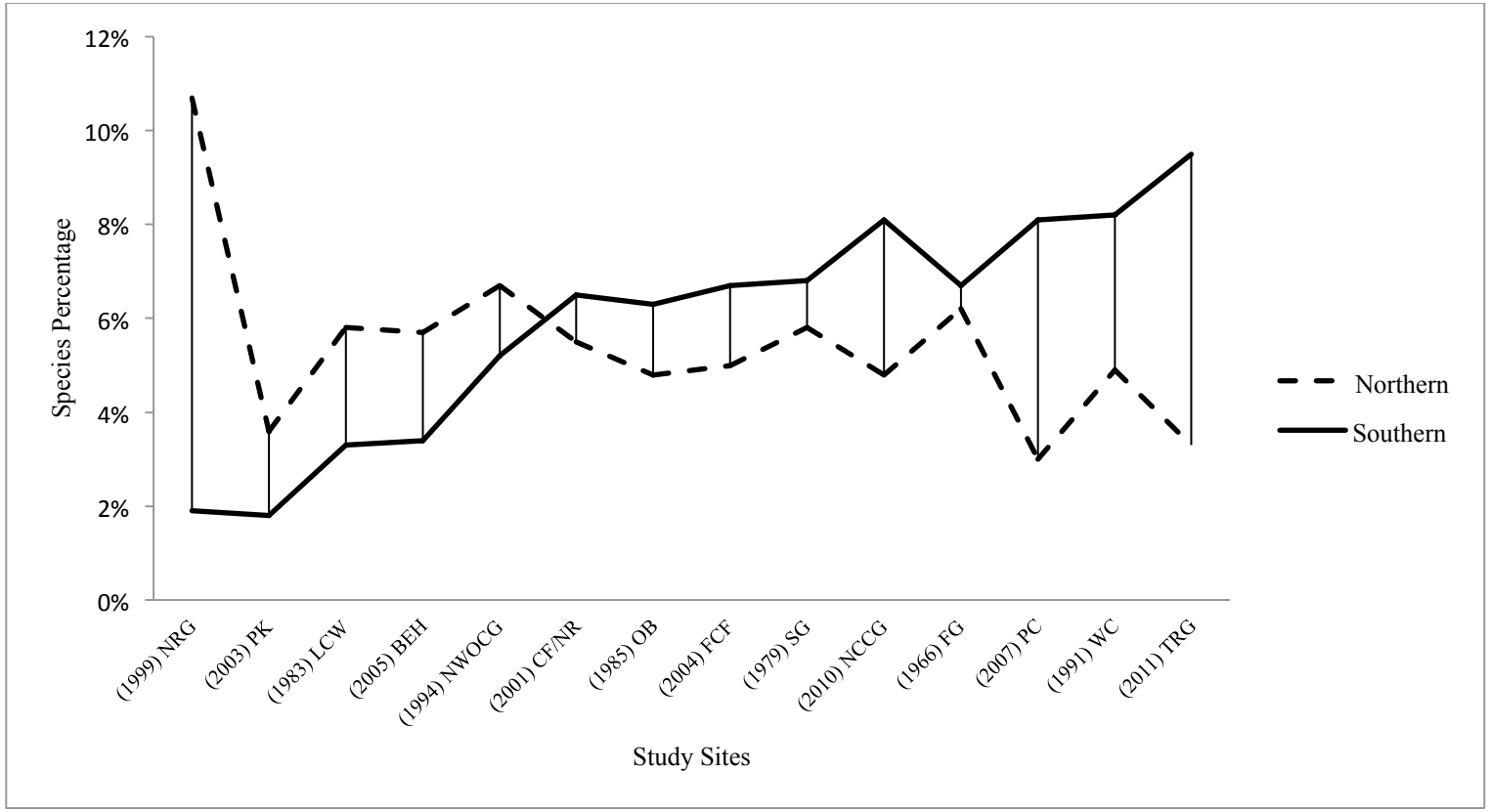

Figure 4.3 Geographical affinities of 14 Cumberland and Allegheny Plateau floras. Study sites and completion year are plotted on the x-axis, arranged as north to south from left to right. Species percentages are plotted on the y-axis, with percent northern taxa designated by the dashed line, and percent southern taxa indicated by the solid line. The five northernmost floras support a greater northern affinity, while the nine floras south of NWOCG maintain a greater southern affinity. Study site abbreviations are in alphabetical order as follows: BEH-Big Everidge Hollow, CF/NR-Clear Fork/New River, FCF-Fall Creek Falls, FG-Fiery Gizzard, LCW-Lilley Cornett Woods, NCCG-North Chickamauga Creek Gorge, NRG-New River Gorge, NWOCG-North White Oak Creek Gorge, OB-Obed, PC-Prentice Cooper, PK-Pilot Knob, SG-Savage Gulf, TRG-Tennessee River Gorge, and WC-Wolf Cove.

To further elucidate distributional characteristics of the TRG flora, each taxon was assigned to one of four major categories (after Murrell 1985 and Allawos 1994): intraneous, extraneous, strict endemic, or introduced. Descriptions of these categories are given in Chapter 3. The intraneous, extraneous, and strict endemic taxa were further examined to characterize their centers of distribution. The results of this dual geographic distribution analysis for the TRG flora are reported in Table 4.6. A majority of the flora (511 species, 73.8%) consists of species with central distributions, with the TRG study area being intraneous to their ranges. Introduced taxa make up the next largest proportion (13.3%), followed by intraneous southern taxa (6.6%). Extraneous southern species constituted a larger element than intraneous northern species (2.5% and 2% respectively). Only nine taxa (1.3%) with northern extraneous distributions to the TRG were documented, and three taxa (0.4%) were strict endemics to the southern Cumberland Plateau in southeast Tennessee, northwest Georgia, and northeast Alabama.

Table 4.6 Geographic distribution characteristics[1] of the Tennessee River Gorge flora.

Category	Sample Taxon	Range	# of Taxa	Percentage
Northern			23	3.30%
Intraneous	*Carex pensylvanica* Lam.	Manitoba, Quebec and Maine, s. to n. Ga., n. Miss., and Ark., w. to Iowa and N.D.	14	2%
Extraneous	*Houstonia canadensis* Willd. Ex Roem. & Schult.	N.D., Mich., N.Y. and Maine, s. to Va., Tenn., and n. Ga., w. to Missouri	9	1.30%
Central			511	73.80%
Intraneous	*Quercus alba* L.	Minn., Ontario, Quebec and Maine, s. to Fla., Miss., and La., w. to e. Tex. And Neb.	511	73.80%
Southern			66	9.50%
Intraneous	*Euphorbia mercurialina* Michx.	s. Ky. And Va., e. to N.C. and n. Ga., s. to Fla. And n. Miss.	46	6.60%
Extraneous	*Collinsonia tuberosa* Michx.	s. Tenn. And N.C., s. to Ga., Miss., and s. Louisiana	17	2.50%
Endemic	*Scutellaria montana* Champ.	s.e. Tenn. And n.w. Ga.	3	0.40%
Introduced	*Ailanthus altissima* (Mill) Swingle	China and Taiwan	92	13.30%

[1]Distributional categories are adapted from Murrell (1985) and Allawos (1994). Native species of the TRG were classified into one of three centers of distribution: northern, central, or southern. Within each center of distribution, the geographical affinities (number of intraneous, extraneous, or strict endemic species) are further broken down.

The findings of the phytogeographical analysis for the Cumberland Plateau show a moderate, but evident, increasing southern affinity from the Clear Fork/New River site to the TRG (Figure 4.3). From North White Oak Creek Gorge in northeast Tennessee to the New River Gorge in southern West Virginia, a clear northern affinity was observed. When interpreting the phytogeographical significance of the Cumberland Plateau, Estill & Cruzan (2001) suggest that one must consider both biogeographical history and contemporary ecology. As early as Braun's studies of the Mixed Mesophytic Forest Region (1950), it was observed that the vegetation of the Cumberland Plateau is coextensive with that of the unglaciated Appalachian Plateau. Several authors have suggested that the Blue Ridge and Cumberland Plateau physiographic provinces provided a pathway for southward migration of northern species during Pleistocene glaciations (Cain 1930; Watts 1970; Delcourt 1980; Davis 1983). Many northern taxa have since retreated to the Allegheny Plateau and farther north due to climatic warming during the Quaternary Period; however, northern elements persist on the Cumberland Plateau, particularly in coves, ravines, and gorges (Braun 1950; Quarterman et al. 1972; Caplenor 1979). In any case, to what limit northern affinities diminish and southern elements increase on the plateau had not been clarified, as this takes a breadth of floristic data which has taken nearly 45 years to accumulate.

In addition to historical biogeography, land-use history and contemporary ecology also have influenced the affinities of the plateau flora. The southern Cumberland Plateau in Tennessee has experienced continual timber harvesting and hardwood-to-pine conversion during the past 60 years (McGrath et al. 2004). In addition to large-scale logging, agricultural land uses and urban sprawl have reduced the once characteristic mature hardwood forests of the plateau. These land altering practices have been more widespread on the southern Cumberland Plateau, presumably because of better accessibility when compared to areas of higher topographic relief

to the north. In addition to the effects of human disturbance, the narrowing southern plateau is bounded by physiographic transitions with the Ridge and Valley and the Interior Low Plateaus, coupled with changes in edaphic and climatic conditions (Braun 1950; Omernik 1987; Cathey 1990; Griffith et al. 1997). According to Cathey (1990), a transverse gradient of plant hardiness zones exists in northern-central Tennessee. The area north of Blount, Loudon, and Cumberland Counties experiences average annual minimum temperatures of -15° to 0 °F, while the area to the south reaches minimum temperatures of 0 to 5 °F. This climatic gradient overlaps with the geographic affinity "transition zone" observed in the vicinity of the NWOCG and CF/NR floras (Figure 4.3). Also noted in Figure 4.3 is the increasing distance (and therefore difference) between southern and northern elements of the flora as you move farther southward or northward away from the "biogeographic break" on the plateau.

An important fact revealed about the phytogeography of the TRG is its larger composition of southern species, more characteristic of the Piedmont and Atlantic-Gulf Coastal Plains, than northern species which are attributed to the mixed mesophytic and northern hardwood forest formations. The Tennessee River Gorge is bound to the east and west by the Ridge and Valley and the Sequatchie Valley respectively, which have warmer drier climates. It appears that these valleys influence the affinities of the TRG flora by providing conduits for native southeastern Coastal Plain taxa (e.g. *Collinsonia tuberosa*, *Cotinus obovatus*, and *Ilex longipes*). The southern affinity is further shown by the greater presence of extraneous southern taxa than extraneous northern taxa. These extraneous species are significant not only for the purposes of elucidating geographical affiliations of the TRG but also perhaps for the broader purposes of monitoring species ranges with respect to climate change. If current climate trends continue, a recession of northern taxa would be expected as well as an encroachment of southern

taxa through the southern plateau. Of course, one must also consider the suitability of geologic substrate as a factor influencing plant species' dispersal abilities. In its present state, it is suggested that the southern Cumberland Plateau, from northern-central Tennessee and southward, maintains a more typically southern flora influenced by biogeographical history, recent land-use history, and contemporary ecological and environmental factors.

CHAPTER V

CONCLUSIONS

The results of this inventory indicate that the TRG is a floristically diverse and distinct feature of the Cumberland Plateau. Despite previous studies of the southern Cumberland Plateau in Tennessee, the need for this survey was reflected by the documentation of 133 county range extensions for Hamilton and Marion Counties. Even with the exhaustive inventory of Prentice Cooper on the northern half of the Tennessee River Gorge, 101 additional species were documented in the area. Ten taxa listed by the state of Tennessee as endangered, threatened, or of special concern are protected in the TRG, four of which were not reported from any other floristic study on the plateau (*Cotinus obovatus*, *Lonicera dioica*, *Onosmodium bejariense* var. *hispidissimum*, and *Polymnia johnbeckii*). The Tennessee Cumberland Plateau species-area curve (Fig. 4.2) predicted a species richness of 760 taxa for an area the size of the TRG. The 692 species found in this study falls within a range of projected richness for the plateau.

The phytogeographical analysis offered insights into the distributional patterns of the Cumberland Plateau flora. While the plateau has historically been regarded as a physiographic refuge for characteristically northern taxa, it is apparent that the central and southern Cumberland Plateau in Tennessee maintains a more typically southern floristic element. The TRG comprises the most distinct southern affinity due in part to its southernmost position on the plateau in Tennessee and its adjacency to the Ridge and Valley and Sequatchie Valley provinces, which are probable conduits for native southeastern taxa of the Coastal Plain province.

One major issue facing the TRG is the expansion of non-native species. The relatively high number (13.3%) of non-native taxa documented in this study reflects the magnitude of human disturbance endured by the TRG. Efforts to eradicate the more aggressive introduced taxa (e.g. *Ligustrum sinense*, *Lonicera japonica*, and *Pueraria montana*) should be a conservation priority for the local community and for groups like the TRGT who work to preserve the natural setting of the gorge. Issues of natural resource management are complicated, however, by the fact that the Tennessee River Gorge is not administered by one agency, but rather falls into the hands of many stakeholders with varied land-use practices. While the TRGT and TVA currently protect much of the land in the gorge, continued acquisition by these two organizations will be paramount in the preservation of this distinct natural feature.

Little Cedar Mountain represents an area of endemism and is the most botanically unique portion of the study area. The four rare taxa that were identified in the TRG but not in any other Cumberland Plateau flora exist on these small mountains at the western terminus of the gorge. In addition, several other interesting taxa were present on LCM but absent throughout the rest of the study site (e.g. *Cheilanthes alabamensis*, *Fraxinus quadrangulata*, and *Opuntia humifusa*). The TVA administers multiple large tracts on LCM, including the entire southernmost ridge which has been designated a Habitat Protection Area/Small Wild Area. Based on the findings of this study, southern LCM is worthy of its conservation status. It is recommended that TVA and TRGT work together to assure that this land is invariably secured as a conservation entity.

From the combined results of Prentice Cooper and the current study, the Tennessee River Gorge region represents a very rich area with plant species found nowhere else on the Cumberland Plateau. The gorge is a valuable natural resource to the local community, and it is a cultural and natural landmark of the Cumberland Plateau. Although the plateau is becoming

better studied, there is still considerable floristic work to be done. Walden Ridge, in particular, requires further attention due to its exceptional floristic diversity and divergent phytogeography.

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APPENDIX A

SPECIES CHECKLIST

The species checklist for the TRG is organized by division, subdivision, family, genus, and species. The taxonomic nomenclature of these groups follows the USDA PLANTS Database (USDA 2011) and *A Fifth Checklist of Tennessee Vascular Plants* (Chester et al. 2009). A single asterisk precedes an introduced taxon, and two asterisks precede a rare taxon. Accession numbers follow each species, and for taxa not collected in this study, the original accession number and citation are provided. County records, habitat associations, and relative abundance through the entire study area are indicated by a 1.

Key to Habitat Association Abbreviations

DA - Disturbed areas
LCM - Little Cedar Mountain
LGS - Lower gorge slopes
LMS - Limestone sinkholes
MSS - Mesophytic slopes
PL - Power line
PS - Plateau surface
RA - Riverine area
SW - Swales
UGS - Upper gorge slopes
WL - Wetlands

Key to Relative Abundance Abbreviations (following Murrell & Wofford 1987)

C - Common: Characteristic and dominant
F - Frequent: Generally encountered
O - Occasional: Well distributed, but not anywhere abundant
I - Infrequent: Scattered locations throughout
S - Scarce: Several locations, or scattered small populations
R - Rare: One or two locations in small populations
VR - Very rare: A single locale, few individuals

TRG MASTER PLANT LIST

List of Taxa	Accession No.	County Record	Habitat											Relative Abundance						
			DA	LCM	LGS	LMS	MSS	PL	PS	RA	SW	UGS	WL	C	F	O	I	S	R	VR
EQUISETOPHYTA																				
EQUISETACEAE																				
Equisetum hyemale L. var. affine (Engelm.) A.A. Eaton	483, 722	0								1	1					1				
PTERIDOPHYTA																				
ASPLENIACEAE																				
Asplenium montanum Willd.	152, 251, 572	0			1				1			1				1				
A. platyneuron (L.) Britton, Stearns & Poggenb. var. *platyneuron*	49, 172	0			1									1						
A. resiliens Kunze	164, 250	0		1														1		
A. rhizophyllum L.	307	0										1					1			
BLECHNACEAE																				
Woodwardia areolata (L.) T. Moore	628	0									1								1	
DENNSTAEDTIACEAE																				
Pteridium aquilinum (L.) Kuhn	528	0	1																1	
DRYOPTERIDACEAE																				
Athyrium filix-femina (L.) Roth	557	0			1															
A. filix-femina (L.) Roth. ssp. *asplenioides* (Michx.) Hultén	556	0						1												
Cystopteris fragilis (L.) Bernh. var. *tennesseensis* (Shaver) McGregor	667	0										1								1
C. protrusa (Weath.) Blasdell	175	0			1													1		
Diplazium pycnocarpon (Spreng.) Broun	80	0				1														1
Dryopteris marginalis (L.) A. Gray	52, 146, 741	0			1							1		1						
Onoclea sensibilis L.	485	0											1						1	
Polystichum acrostichoides (Michx.) Schott	76, 236	0			1							1		1						
Woodsia obtusa (Spreng.) Torr.	700, 706	0		1	1							1				1				
OPHIOGLOSSACEAE																				
Botrychium dissectum Spreng.	636	0			1		1											1		
B. virginianum (L.) Sw.	47	0		1	1		1				1					1				
Ophioglossum engelmannii Prantl	623	0		1													1			

List of Taxa	Accession No.	County Record	Habitat											Relative Abundance						
			DA	LCM	LGS	LMS	MSS	PL	PS	RA	SW	UGS	WL	C	F	O	I	S	R	VR
O. vulgatum L.	4899-Beck (2004)	0							1		1							1		
OSMUNDACEAE																				
Osmunda cinnamomea L.	657	0									1	1						1		
O. regalis L. var. *spectabilis* (Willd.) A. Gray	548	0	1						1								1			
POLYPODIACEAE																				
Pleopeltis polypodioides (L.) Andrews & Windham ssp. *michauxiana* (Weath.) Andrews & Windham	77, 265	0		1					1			1			1					
PTERIDACEAE																				
Adiantum capillus-veneris L.	575	0		1															1	
A. pedatum L.	50	0		1	1		1				1					1				
Cheilanthes alabamensis (Buckley) Kunze	298, 555, 755	0		1														1		
C. lanosa (Michx.) D.C. Eaton	468, 756	0		1													1			
Pellaea atropurpurea (L.) Link	150, 299	0		1													1			
THELYPTERIDACEAE																				
Phegopteris hexagonoptera (Michx.) Fée	228, 645	0			1		1					1				1				
Thelypteris noveboracensis (L.) Nieuwl.	640	0							1		1						1			
CONIFEROPHYTA																				
CUPRESSACEAE																				
Juniperus virginiana L.	144	0	1	1					1					1						
PINACEAE																				
Pinus echinata Mill.	174, 463	0			1				1			1		1						
P. strobus L.	569	0	1					1	1					1						
P. taeda L.	256	1	1					1	1			1		1						
P. virginiana Mill.	122	0	1		1			1	1			1		1						
Tsuga canadensis (L.) Carriére	568	0							1								1			
TAXODIACEAE																				
Taxodium distichum (L.) Rich.	726	1							1		1								1	
MAGNOLIOPHYTA - LILIOPSIDA																				
AGAVACEAE																				

List of Taxa	Accession No.	County Record	Habitat											Relative Abundance						
			DA	LCM	LGS	LMS	MSS	PL	PS	RA	SW	UGS	WL	C	F	O	I	S	R	VR
Manfreda virginica (L.) Salisb. ex Rose	487	0	1									1					1			
Yucca filamentosa L.	497	0	1	1						1						1				
ALISMATACEAE																				
Sagittaria australis (J.G. Sm.) Small	692	0								1			1				1			
S. latifolia Willd.	510	0								1			1				1			
ARACEAE																				
Arisaema dracontium (L.) Schott	698	0									1								1	
A. triphyllum (L.) Schott	79, 245, 346	0		1	1		1		1	1	1		1	1						
A. triphyllum (L.) Schott ssp. *quinatum* (Buckley) Huttleston	624	1			1						1							1		
COMMELINACEAE																				
**Commelina communis* L.	124, 493	1	1		1	1				1					1					
C. diffusa Burm. f.	48-85-Sharp et al. (1949)	1								1								1		
**Murdannia keisak* (Hassk.) Hand.-Maz.	516	1		1									1					1		
Tradescantia subaspera Ker Gawl.	69	0	1		1										1					
CYPERACEAE																				
Carex albicans Willd. ex Spreng. var. *albicans*	588, 599	0			1		1								1					
C. albicans Willd. ex Spreng. var. *emmonsii* (Dewey ex Torr.) J. Rettig	309	0			1									1						
C. amphibola Steud.	620	0		1	1				1			1		1						
C. atlantica L.H. Bailey ssp. *atlantica*	634	1		1	1										1					
C. austrocaroliniana L.H. Bailey	600, 736	0			1		1					1				1				
C. blanda Dewey	7515-Beck&Estes (2005)	0		1	1		1		1		1	1		1						
C. caroliniana Schwein.	218	0			1					1						1				
C. cherokeensis Schwein.	216, 277, 701	0		1						1			1			1				
C. complanata Torr. & Hook.	365-Bridges&Somers (1983)	0	1		1				1						1					
C. crinita Lam. var. *brevicrinis* Fernald	276, 386	0		1						1			1				1			
C. cumberlandensis Naczi, Kral & Bryson	6290-Beck (2005)	0					1									1				
C. digitalis Willd. var. *digitalis*	6292-Beck (2004)	0		1	1		1		1		1	1		1						
C. eburnea Boott	585	0		1								1						1		

List of Taxa	Accession No.	County Record	Habitat											Relative Abundance						
			DA	LCM	LGS	LMS	MSS	PL	PS	RA	SW	UGS	WL	C	F	O	I	S	R	VR
C. festucacea Schkuhr ex Willd.	217, 734	0		1	1										1					
C. frankii Kunth	210, 212	0								1			1			1				
C. granularis Muhl. ex Willd.	177-Bridges&Somers (1983)	0	1	1	1				1						1					
C. grayi Carey	207, 358	0		1						1			1			1				
C. hirsutella Mack.	7546-Beck&Estes (2005)	0			1				1			1			1						
C. jamesii Scwein.	445-Bridges&Somers (1983)	0			1											1				
C. lupulina Muhl. ex Willd.	384	0		1									1				1			
C. lurida Wahlenb.	385	0		1						1			1				1			
C. muehlenbergii Schkuhr ex Willd. var. *enervis* Boott.	444-Bridges&Somers (1983)	0		1														1		
C. nigromarginata Schwein.	283, 735, 742, 743, 744	1	1	1	1		1		1		1	1		1						
C. pedunculata Muhl. ex Willd.	282	0							1			1					1			
C. pensylvanica Lam.	745	0			1		1					1					1			
C. platyphylla Carey	439-Bridges&Somers (1983)	1			1												1			
C. purpurifera Mack.	6288-Beck (2005)	0			1		1								1					
C. rosea Schkuhr ex Willd.	353-Bridges&Somers (1983)	0			1		1		1			1			1					
C. virescens Muhl. ex Willd.	9488-Beck (2005)	0					1									1				
C. vulpinoidea Michx.	733	0		1									1			1				
**Cyperus difformis L.*	165	0								1			1				1			
C. echinatus (L.) Alph. Wood	6155-Beck (2005)	0								1			1				1			
C. pseudovegetus Steud.	9489-Beck (2005)	0								1			1			1				
C. strigosus L.	564	0								1			1				1			
Eleocharis microcarpa Torr.	6294-Beck (2005)	0	1										1				1			
E. obtusa (Willd.) Schult.	897-Bridges&Somers (1983)	0											1					1		
Fimbristylis autumnalis (L.) Roem. & Schult.	741-Bridges&Somers (1983)	0											1				1			
Kyllinga gracillima Miq.	703	0		1									1					1		
Rhynchospora capitellata (Michx.) Vahl	748-Bridges&Somers (1983)	0								1			1			1				

List of Taxa	Accession No.	County Record	Habitat											Relative Abundance						
			DA	LCM	LGS	LMS	MSS	PL	PS	RA	SW	UGS	WL	C	F	O	I	S	R	VR
R. corniculata (Lam.) A. Gray	4944-Beck (2004)	0	1							1			1			1				
Schoenoplectus pungens (Vahl) Palla	554	0								1			1				1			
S. tabernaemontani (C.C. Gmel.) Palla	565, 737	0								1			1			1				
Scirpus atrovirens Willd.	9492-Beck (2005)	0								1			1				1			
S. cyperinus (L.) Kunth	197									1			1			1				
Scleria ciliata Michx.	1016-Bridges&Somers (1983)	0			1														1	
S. oligantha Michx.	686	0		1														1		
S. triglomerata Michx.	1017-Bridges&Somers (1983)	0			1													1		
DIOSCOREACEAE																				
**Dioscorea oppositifolia* L.	181, 445	0	1	1	1				1	1	1	1	1	1						
D. villosa L.	328	0	1	1	1		1		1	1	1	1		1						
IRIDACEAE																				
Iris cristata Aiton	321	0			1					1							1			
Sisyrinchium angustifolium Mill.	348	0		1	1					1	1					1				
JUNCACEAE																				
Juncus acuminatus Michx.	6295-Beck (2005)	0								1			1			1				
J. coriaceus Mack.	317, 558	0								1			1		1					
J. effusus L.	209, 738	0								1			1		1					
J. marginatus Rostk.	2235-Price&Murphy (1979)	0								1			1				1			
J. tenuis Willd.	199	0			1					1	1		1			1				
Luzula echinata (Small) F. J. Herm.	323	0							1			1				1				
L. multiflora (Ehrh.) Lej.	157, 598	0			1		1		1		1	1		1						
LEMNACEAE																				
Spirodela polyrrhiza (L.) Schleid.	470	0								1								1		
LILIACEAE																				
Aletris farinosa L.	665	1	1					1										1		
Allium canadense L.	644	0								1			1				1			
**A. vineale* L.	350, 689	0		1	1							1				1				

List of Taxa	Accession No.	County Record	Habitat											Relative Abundance						
			DA	LCM	LGS	LMS	MSS	PL	PS	RA	SW	UGS	WL	C	F	O	I	S	R	VR
Chamaelirium luteum (L.) A. Gray	626	0							1										1	
Erythronium americanum Ker Gawl.	268, 315	0			1		1				1					1				
**Hemerocallis fulva* (L.) L.	351	1	1															1		
Hypoxis hirsuta (L.) Coville	370, 607	0		1									1			1				
Maianthemum racemosum (L.) Link ssp. *racemosum*	322	1			1		1		1		1	1		1						
Medeola virginiana L.	305-Bridges&Somers (1983)	1			1		1											1		
**Narcissus pseudonarcissus* L.	253	0	1							1									1	
Nothoscordum bivalve (L.) Britton	582	0		1			1										1			
Polygonatum biflorum (Walter) Elliot	325, 340	0			1	1	1		1		1	1		1						
Prosartes lanuginosa (Michx.) D. Don	313	0				1												1		
Trillium cuneatum Raf.	1, 159	0		1	1		1				1			1						
Uvularia grandiflora Sm.	314	0					1											1		
U. perfoliata L.	595, 335	0		1	1		1					1		1						
Veratrum parviflorum Michx.	670	1					1												1	
ORCHIDACEAE																				
Corallorhiza wisteriana Conrad	9464-Beck (2005)	0		1			1										1			
Goodyera pubescens (Willd.) R. Br.	90	1		1	1		1		1		1	1		1						
Tipularia discolor (Pursh) Nutt.	115, 176	0		1	1		1		1		1	1			1					
POACEAE																				
Agrostis perennans (Walter) Tuck.	1023-Bridges&Somers (1983)	0	1						1									1		
Andropogon gyrans Ashe var. *gyrans*	1013-Bridges&Somers (1983)	0	1						1								1			
A. virginicus L.	215	0	1		1			1								1				
Aristida dichotoma Michx. var. *dichotoma*	1015-Bridges&Somers (1983)	0	1	1											1					
A. oligantha Michx.	1004-Bridges&Somers (1983)	0	1						1							1				
**Arthraxon hispidus* (Thunb.) Makino	235	1	1		1												1			
Arundinaria gigantea (Walter) Muhl. ssp. *gigantea*	241, 246	0		1	1					1		1			1					
Brachyelytrum erectum (Schreb. ex Spreng.) P. Beauv.	211	0		1	1										1					

List of Taxa	Accession No.	County Record	Habitat											Relative Abundance						
			DA	LCM	LGS	LMS	MSS	PL	PS	RA	SW	UGS	WL	C	F	O	I	S	R	VR
Bromus pubescens Muhl. ex Willd.	440-Bridges&Somers (1983)	0			1													1		
**B. racemosus* L.	273	0	1		1											1				
Chasmanthium latifolium (Michx.) Yates	149, 205	0		1					1	1			1	1						
C. sessiliflorum (Poir.) Yates	170, 183, 203	1		1						1			1		1					
Cinna arundinacea L.	724-Bridges&Somers (1983)	0											1				1			
Danthonia spicata (L.) P. Beauv. ex Roem. & Schult.	7551-Beck&Estes (2005)	0			1											1				
Dichanthelium boscii (Poir.) Gould & C.A. Clark	155	0		1	1		1		1			1		1						
D. clandestinum (L.) Gould	9480-Beck (2005)	0									1				1					
D. commutatum (Schult.) Gould	170-Bridges&Somers (1983)	0		1	1				1					1						
D. dichotomum (L.) Gould var. *dichotomum*	204	0			1									1						
D. laxiflorum (lam.) Gould	832-Bridges&Somers (1983)	0	1		1				1			1			1					
D. scoparium (Lam.) Gould	4881-Beck (2004)	0	1													1				
D. sphaerocarpon (Elliot) Gould var. *sphaerocarpon*	1039-Bridges&Somers (1983)	0			1				1			1				1				
**Digitaria ischaemum* (Schreb.) Schreb. ex Muhl.	196	1	1		1												1			
D. sanguinalis (L.) Scop.	187	0	1							1						1				
**Echinochloa crus-galli* (L.) P. Beauv.	837-Bridges&Somers (1983)	0	1						1										1	
**Eleusine indica* (L.) Gaertn.	202, 213	0	1		1					1								1		
Elymus virginicus L.	206	0								1			1				1			
Eragrostis spectabilis (Pursh) Steud.	6322-Beck (2004)	0		1					1							1				
Leersia oryzoides (L.) Sw.	925-Bridges&Somers (1983)	0			1													1		
L. virginica Willd.	849-Bridges&Somers (1983)	0	1															1		
**Lolium perenne* L. ssp. *multiflorum* (Lam.) Husnot	223	1	1		1											1				
Melica mutica Walter	158	0		1	1											1				
**Microstegium vimineum* (Trin.) A. Camus	233	0	1		1				1	1			1	1						
Panicum capillare L.	551, 566	0							1	1	1	1			1					
P. dichotomiflorum Michx. var. *dichotomoflorum*	552	0							1		1			1						

List of Taxa	Accession No.	County Record	Habitat											Relative Abundance						
			DA	LCM	LGS	LMS	MSS	PL	PS	RA	SW	UGS	WL	C	F	O	I	S	R	VR
P. flexile (Gattinger) Scribn.	553	0	1						1		1	1			1					
P. rigidulum Bosc ex Nees var. *pubescens* (Vasey) Lelong	859-Bridges&Somers (1983)	1			1												1			
P. virgatum L.	214	0	1		1							1				1				
**Paspalum dilatatum* Poir.	198	0	1		1				1	1					1					
P. laeve Michx.	224	0	1					1	1						1					
Piptochaetium avenaceum (L.) Parodi	638	0		1					1			1			1					
Poa cuspidata Nutt.	278	0	1		1				1			1		1						
P. sylvestris A. Gray	272	0	1	1	1				1			1		1						
Saccharum alopecuroides (L.) Nutt.	75	0							1		1					1				
**Setaria faberi* Herrm.	745-Bridges&Somers (1983)	1	1															1		
S. parviflora (Poir.) Kerguélen	200, 208	0	1							1						1				
**S. pumila* (Poir.) Roem. & Schult. ssp. *pumila*	201	0	1							1						1				
**Sorghum halepense* (L.) Pers.	195	0	1	1	1				1			1		1						
Sphenopholis intermedia (Rydb.) Rydb.	274	0	1							1						1				
S. nitida (Biehler) Scribn.	156	0			1				1						1					
Tridens flavus (L.) Hitchc. var. *flavus*	244	0	1		1				1	1				1						
Zizaniopsis miliacea (Michx.) Döll & Asch.	947-Bridges&Somers (1983)	0								1								1		
POTAMOGETONACEAE																				
Potamogeton diversifolius Raf.	4943-Beck (2004)	0								1			1					1		
P. foliosus Raf.	383	0		1									1						1	
P. nodosus Poir.	404	1								1									1	
SMILACACEAE																				
Smilax bona-nox L.	102	0			1				1			1			1					
S. glauca Walter	58	0												1						
S. rotundifolia L.	59	0	1	1	1			1	1		1	1		1						
TYPHACEAE																				
Typha angustifolia L.	682	0		1						1			1			1				

List of Taxa	Accession No.	County Record	Habitat											Relative Abundance						
			DA	LCM	LGS	LMS	MSS	PL	PS	RA	SW	UGS	WL	C	F	O	I	S	R	VR
MAGNOLIOPHYTA - MAGNOLIOPSIDA																				
ACANTHACEAE																				
Justicia americana (L.) Vahl	381	0	1	1									1				1			
Ruellia caroliniensis (J.F. Gmel.) Steud.	54	0	1	1	1				1					1						
ACERACEAE																				
Acer negundo L.	39	0	1	1	1			1	1	1		1		1						
A. rubrum L.	60, 259	0	1	1	1			1	1	1	1	1	1	1						
A. saccharinum L.	398	0								1						1				
A. saccharum Marsh. var. *saccharum*	57	0	1	1	1		1	1	1	1	1	1		1						
AMARANTHACEAE																				
**Alternanthera philoxeroides* (Mart.) Griseb.	679	0								1			1						1	
ANACARDIACEAE																				
***Cotinus obovatus* Raf.	306	0		1															1	
Rhus aromatica Aiton	151, 688	0	1	1	1			1	1	1					1					
R. copallinum L.	452	0	1					1	1	1		1		1						
R. glabra L.	67, 453	1	1					1	1			1			1					
Toxicodendron radicans (L.) Kuntze	132	0	1	1	1		1	1	1	1	1	1	1	1						
ANNONACEAE																				
Asimina triloba (L.) Dunal	147	1		1	1		1		1		1	1		1						
APIACEAE																				
Chaerophyllum tainturieri Hook.	14, 334	0			1	1					1				1					
Cicuta maculata L.	93, 407	1	1							1			1				1			
Cryptotaenia canadensis (L.) DC.	7594-Beck&Estes (2005)	0			1		1				1				1					
**Daucus carota* L.	65	0	1					1		1		1		1						
Eryngium yuccifolium Michx.	727	0							1		1							1		
Hydrocotyle verticillata Thunb.	92	0								1			1				1			
Osmorhiza claytonii (Michx.) C.B. Clarke	333	0			1						1					1				
O. longistylis (Torr.) DC.	19, 337	0			1		1				1	1			1					

List of Taxa	Accession No.	County Record	Habitat											Relative Abundance						
			DA	LCM	LGS	LMS	MSS	PL	PS	RA	SW	UGS	WL	C	F	O	I	S	R	VR
Ptilimnium capillaceum (Michx.) Raf.	371	0		1									1			1				
Sanicula canadensis L.	382	0		1	1		1			1	1	1		1						
S. smallii E.P. Bicknell	354	0	1		1											1				
Thaspium trifoliatum (L.) A. Gray var. *aureum* (L.) Britton	632	0	1	1	1					1					1					
**Torilis arvensis* (Huds.) Link	424	0								1					1					
Zizia aptera (A. Gray) Fernald	9404-Beck (2005)	0			1				1		1				1					
APOCYNACEAE																				
Amsonia tabernaemontana Walter var. *tabernaemontana*	584	0		1														1		
**Vinca major* L.	602	0	1		1														1	
**V. minor* L.	288	1	1														1			
AQUIFOLIACEAE																				
Ilex decidua Walter	462	0			1											1				
I. longipes Chap. ex Trel.	749	0		1													1			
I. opaca Aiton	142	0			1											1				
I. verticillata (L.) A. Gray	378	0		1									1				1			
ARALIACEAE																				
***Panax quinquefolius* L.	622	0			1		1												1	
ARISTOLOCHIACEAE																				
Aristolochia serpentaria L.	649	0			1				1			1				1				
A. tomentosa Sims	650	0			1				1			1					1			
Hexastylis arifolia (Michx.) Small var. *ruthii* (Ashe) Blomquist	9	0			1		1		1		1	1		1						
H. shuttleworthii (Britten & Baker f.) Small	601, 625, 629	1							1									1		
ASCLEPIADACEAE																				
Asclepias quadrifolia Jacq.	342	0	1						1			1				1				
A. tuberosa L.	226, 414, 676	0	1		1				1	1					1					
A. variegata L.	46, 660	0			1	1	1					1			1					
A. verticillata L.	707	0		1																1
A. viridiflora Raf.	708	0		1																1

List of Taxa	Accession No.	County Record	Habitat											Relative Abundance						
			DA	LCM	LGS	LMS	MSS	PL	PS	RA	SW	UGS	WL	C	F	O	I	S	R	VR
Cynanchum laeve (Michx.) Pers.	472	1	1							1							1			
Matelea carolinensis (Jacq.) Woodson	13650-Bridges&Somers (1983)	0		1															1	
M. gonocarpos (Walter) Shinners	375	0		1														1		
ASTERACEAE																				
Achillea millefolium L.	365	1						1	1						1					
Ageratina altissima (L.) King & H. Rob. var. *altissima*	714, 15298-Bridges&Somers (1983)	1	1		1							1		1						
A. aromatica (L.) Spach. var. *aromatica*	15951-Bridges&Somers (1983)	0			1		1									1				
Ambrosia artemisiifolia L.	524, 530	0	1		1			1	1	1		1		1						
Antennaria plantaginifolia (L.) Richardson	279	0	1					1	1			1		1						
A. solitaria Rydb.	280	0						1	1			1			1					
Arnoglossum atriplicifolium (L.) H. Rob.	421	1		1									1			1				
Bidens aristosa (Michx.) Britt.	545	1						1	1							1				
B. frondosa L.	94-346-Pyne (1994)	0	1		1										1					
Chrysopsis mariana (L.) Elliot	529	0								1								1		
**Cichorium intybus* L.	705	1	1	1															1	
Cirsium discolor (Muhl. ex Willd.) Spreng.	526	1								1						1				
**C. vulgare* (Savi) Ten.	474	0	1					1	1	1				1						
Conoclinium coelestinum (L.) DC.	512	0	1	1	1				1	1				1						
Conyza canadensis (L.) Cronquist var. *canadensis*	527	1	1							1					1					
Coreopsis major Walter	362, 396	0	1		1			1	1	1		1		1						
C. tripteris L.	15791-Bridges&Somers (1983)	0								1			1				1			
Eclipta prostrata (L.) L.	15820-Bridges&Somers (1983)	0								1			1					1		
Elephantopus carolinianus Raeusch.	515	1		1	1				1			1		1						
E. tomentosus L.	460	0		1	1							1		1						
Erechtites hieraciifolia (L.) Raf. ex DC.	15838-Bridges&Somers (1983)	0	1		1					1						1				
Erigeron annuus (L.) Pers.	42, 190	1	1		1			1	1	1					1					

List of Taxa	Accession No.	County Record	Habitat											Relative Abundance						
			DA	LCM	LGS	LMS	MSS	PL	PS	RA	SW	UGS	WL	C	F	O	I	S	R	VR
E. philadelphicus L.	10, 332	0	1		1			1	1			1		1						
E. strigosus Muhl. ex Willd. var. *strigosus*	126, 434, 715	0	1						1	1				1						
Eupatorium album L. var. *album*	469	0	1		1			1	1			1			1					
E. capillifolium (Lam.) Small	543	1						1	1			1				1				
E. hyssopifolium L. var. *hyssopifolium*	275, 532	0			1			1	1		1					1				
E. perfoliatum L.	534	0							1		1						1			
E. purpureum L.	73	0	1		1		1	1	1	1		1		1						
E. rotundifolium L. var. *ovatum* (Bigelow) Torr.	230	0						1	1									1		
E. rotundifolium L. var. *rotundifolium*	716	1			1				1		1	1					1			
E. serotinum Michx.	538	0							1		1					1				
E. sessilifolium L.	16044-Bridges&Somers (1983)	0			1							1				1				
Eurybia divaricata (L.) G.L. Nesom	520	0		1	1		1								1					
Eutrochium purpureum (L.) E.E. Lamont var. *purpureum*	724	1							1		1	1					1			
Fleischmannia incarnata (Walter) King & H. Rob.	194	0		1												1				
**Galinsoga quadriradiata* Cav.	696	1	1		1											1				
Helenium amarum (Raf.) H. Rock	125	1	1					1	1	1					1					
H. flexuosum Raf.	723	0							1		1								1	
Helianthus divaricatus L.	16142-Bridges&Somers (1983)	0	1		1									1						
H. hirsutus Raf.	119, 732	0	1						1		1	1		1						
H. microcephalus Torr. & A. Gray	457	0	1		1				1	1		1		1						
H. tuberosus L.	489	0	1		1			1	1	1		1			1					
Heliopsis helianthoides (L.) Sweet	72	0			1							1				1				
Hieracium gronovii L.	647	0	1		1				1			1		1						
Krigia biflora (Walter) S.F. Blake	637	0	1						1			1		1						
K. virginica (L.) Willd.	663	1	1					1	1						1					
Lactuca canadensis L.	193	0	1							1						1				
L. floridana (L.) Gaertn.	499	0	1					1	1	1			1			1				
**L. saligna* L.	225	0	1							1							1			

List of Taxa	Accession No.	County Record	Habitat											Relative Abundance						
			DA	LCM	LGS	LMS	MSS	PL	PS	RA	SW	UGS	WL	C	F	O	I	S	R	VR
**Leucanthemum vulgare* Lam.	41, 359	0	1							1								1		
Liatris aspera Michx.	536	0	1						1		1	1				1				
L. squarrosa (L.) Michx.	709	0		1															1	
Packera anonyma (Alph. Wood) W.A. Weber & A. Löve	6184-Beck (2004)	0		1													1			
P. glabella (Poir.) C. Jeffrey	448	0	1				1									1				
P. obovata (Muhl. ex Willd.) W.A. Weber & A. Löve	713	0			1		1										1			
P. paupercula (Michx.) A. Löve & D. Löve	7, 234, 718	1							1			1				1				
Pityopsis graminifolia (Michx.) Nutt. var. *graminifolia*	560	0	1					1	1									1		
P. graminifolia (Michx.) Nutt. var. *latifolia* (Fernald) Semple & F.D. Bowers	559	0	1					1	1									1		
Polymnia canadensis L.	300	0		1	1											1				
**P. johnbeckii* D. Estes sp. nov.	153, 163	1		1															1	
Prenanthes serpentaria Pursh	666	0			1		1			1		1		1						
Pseudognaphalium obtusifolium (L.) Hillard & B.L. Burtt ssp. *obtusifolium*	544	0	1					1	1						1					
Ratibida pinnata (Vent.) Barnhart	685	1		1																1
Rudbeckia fulgida Aiton var. *fulgida*	16410-Bridges&Somers (1983)	0	1		1									1						
R. hirta L. var. *pulcherrima* Farw.	363, 691	0						1	1							1				
Sericocarpus linifolius (L.) Britton, Sterns & Poggenb.	521	0	1		1				1			1			1					
Silphium trifoliatum L. var. *latifolium* A. Gray	16529-Bridges&Somers (1983)	0		1													1			
S. trifoliatum L. var *trifoliatum*	409	0			1				1						1					
Smallanthus uvedalius (L.) Mack. ex Small	518	0			1		1					1			1					
Solidago caesia L.	719, 720, 721	0	1	1	1			1	1	1	1	1		1						
S. erecta Pursh	243	0													1					
S. flexicaulis L.	185, 542	0	1	1	1			1			1	1				1				
S. gigantea Aiton	133	1	1		1			1	1						1					
S. rugosa Ait. var. *aspera* (Aiton) Cronquist	138, 541	0	1					1	1	1				1						
S. sphacelata Raf.	232, 535	1	1					1	1		1			1						
S. ulmifolia Muhl. Ex Willd.	192, 242, 522	0		1	1									1						

List of Taxa	Accession No.	County Record	Habitat											Relative Abundance						
			DA	LCM	LGS	LMS	MSS	PL	PS	RA	SW	UGS	WL	C	F	O	I	S	R	VR
Symphyotrichum cordifolium (L.) G.L. Nesom	519	0	1	1	1				1		1	1		1						
S. divaricatum (Nutt.) G.L. Nesom	186	0	1		1			1	1	1				1						
S. dumosum (L.) G.L. Nesom var. *dumosum*	220, 546	0	1					1	1						1					
S. laeve (L.) A. Löve & D. Löve var. *laeve*	540	0	1		1				1	1						1				
S. novae-angliae (L.) G.L. Nesom	531	1	1						1		1				1					
S. ontarionis (Wiegand) G.L. Nesom	15482-Bridges&Somers (1983)	1	1		1												1			
S. patens (Aiton) G.L. Nesom var. *patens*	189, 537	0	1						1		1			1						
S. pilosum (Willd.) G.L. Nesom var. *pilosum*	221, 539	0	1	1	1			1	1					1						
S. shortii(Lindl.) G.L. Nesom	15533-Bridges&Somers (1983)	0	1		1				1						1					
S. undulatum (L.) G.L. Nesom	219, 533	1							1		1						1			
**Taraxacum officinale* F.H. Wigg.	295	1	1					1	1					1						
Verbesina occidentalis (L.) Walter	465	1			1		1				1				1					
V. virginica L.	717	0								1			1				1			
Vernonia flaccidifolia Small	117, 417	0	1		1			1	1							1				
V. gigantea (Walter) Trel. ssp. *gigantea*	188	0	1	1	1			1		1					1					
BALSAMINACEAE																				
Impatiens capensis Meerb.	89	0			1	1				1	1		1	1						
BERBERIDACEAE																				
Caulophyllum thalictroides (L.) Michx.	10630-Sharp et al. (1949)	0								1										1
Jeffersonia diphylla (L.) Pers.	576	1		1			1											1		
**Nandina domestica* Thunb.	162	0		1														1		
Podophyllum peltatum L.	292	0			1		1				1			1						
BETULACEAE																				
Alnus serrulata (Aiton) Willd.	357	1								1						1				
Carpinus caroliniana Walter	148, 446	0			1					1						1				
Ostrya virginiana (Mill.) K. Koch	379	0		1	1								1			1				
BIGNONIACEAE																				
Bignonia capreolata L.	5	0	1	1	1		1		1	1	1	1	1	1						

List of Taxa	Accession No.	County Record	Habitat											Relative Abundance						
			DA	LCM	LGS	LMS	MSS	PL	PS	RA	SW	UGS	WL	C	F	O	I	S	R	VR
Campsis radicans (L.) Seem. ex Bureau	78	0	1	1	1			1	1	1				1						
BORAGINACEAE																				
**Buglossoides arvensis* (L.) I.M. Johnston	4	0	1		1				1	1				1						
Cynoglossum virginianum L.	627	0		1	1		1								1					
Lithospermum canescens (Michx.) Lehm.	583	0		1													1			
L. latifolium Michx.	740	0		1															1	
Mertensia virginica (L.) Pers. ex Link	605	0		1			1													1
Myosotis macrosperma Engelm.	616	0			1		1									1				
Onosmodium bejariense DC. ex A. DC. Var. *bejariense* B.L. Turner	1039-Estes et al. (2009)	0		1																1
BRASSICACEAE																				
Arabis laevigata (Muhl. ex Willd.) Poir. var. *laevigata*	563, 579	0		1														1		
Cardamine angustata O.E. Schulz	310	0			1						1						1			
C. concatenata (Michx.) Sw.	263	0		1												1				
C. dissecta (Leavenworth) Al-Shehbaz	249	0			1		1				1					1				
**C. hirsuta* L.	254, 752	0					1				1	1					1			
**Draba verna* L.	271	0	1							1						1				
Lepidium virginicum L.	680	1								1			1				1			
**Thlaspi alliaceum* L.	594	1	1						1										1	
CACTACEAE																				
Opuntia humifusa (Raf.) Raf.	154	0		1													1			
CALYCANTHACEAE																				
Calycanthus floridus L. var. *floridus*	2	0			1	1					1	1		1						
CAMPANULACEAE																				
Campanula divaricata Michx.	143	0							1			1				1				
Campanulastrum americanum (L.) Small	416, 695	0		1	1								1		1					
Lobelia cardinalis L.	130, 498	1	1	1	1					1			1	1						
L. inflata L.	109, 435	0	1	1	1				1	1				1						
L. puberula Michx.	237, 549, 746	0		1				1							1					

List of Taxa	Accession No.	County Record	Habitat											Relative Abundance						
			DA	LCM	LGS	LMS	MSS	PL	PS	RA	SW	UGS	WL	C	F	O	I	S	R	VR
L. spicata Lam.	423, 687	0	1	1									1	1						
Triodanis perfoliata (L.) Nieuwl.	38	0	1							1					1					
CAPRIFOLIACEAE																				
***Lonicera dioica* L.**	94-042-Pyne (1994)	0		1																1
L. fragrantissima* Lindl. & Paxton	258	1	1							1							1			
L. japonica* Thunb.	17	0	1	1	1			1	1	1			1	1						
L. maackii* (Rupr.) Herder	182, 442	1	1	1	1			1	1	1			1	1						
L. sempervirens L.	757	0		1																1
Sambucus nigra L. ssp. *canadensis* (L.) R. Bolli	167, 366	1	1		1			1				1		1						
S. racemosa L. var. *racemosa*	66	0	1									1				1				
Symphoricarpos orbiculatus Moench	389	0		1									1				1			
Viburnum acerifolium L.	70	0		1	1		1		1		1	1		1						
V. rufidulum Raf.	227, 390	0	1					1	1			1			1					
CARYOPHYLACEAE																				
Cerastium fontanum* Baumg. ssp. *vulgare* (Hartm.) Greuter & Burdet	110	1	1												1					
Dianthus armeria* L.	690	0		1														1		
Silene stellata (L.) W.T. Aiton	136	0	1		1												1			
S. virginica L.	319, 347	0		1													1			
Stellaria media* (L.) Vill. ssp. *media*	262	0	1					1							1					
S. pubera Michx.	287	0	1						1						1					
CELASTRACEAE																				
Celastrus orbiculatus* Thunb.	6355-Beck (2004)	0	1															1		
C. scandens L.	431	0	1		1		1									1				
Euonymus americanus L.	440, 501	0		1	1	1	1		1		1	1	1	1						
E. atropurpureus Jacq.	12242-Bridges&Somers (1983)	0		1														1		
E. fortunei* (Turcz.) Hand.-Maz.	612	1			1		1									1				
CHENOPODIACEAE																				

List of Taxa	Accession No.	County Record	Habitat											Relative Abundance						
			DA	LCM	LGS	LMS	MSS	PL	PS	RA	SW	UGS	WL	C	F	O	I	S	R	VR
**Chenopodium ambrosioides* L.	9620-Bridges&Somers (1983)	0	1							1							1			
CISTACEAE																				
Lechea racemulosa Michx.	4925-Beck (2005)	0	1	1														1		
CLUSIACEAE																				
Hypericum densiflorum Pursh	710	1		1														1		
H. denticulatum Walter	461	0			1							1				1				
H. frondosum Michx.	240, 419	0		1									1		1					
H. gentianoides (L.) Britton, Sterns & Poggenb.	651	0						1	1								1			
H. hypericoides (L.) Crantz ssp. *hypericoides*	111	0			1		1				1	1		1						
H. hypericoides (L.) Crantz ssp. *multicaule* (Michx. ex Willd.) Robson	550, 729	0	1					1	1			1		1						
H. punctatum Lam.	121, 449, 662	0	1	1			1		1	1		1			1					
CONVOLVULACEAE																				
Ipomoea pandurata (L.) G. Mey.	412	0	1							1						1				
CORNACEAE																				
Cornus amomum Mill.	374, 750	0		1						1			1		1					
C. florida L.	180, 401	0	1	1	1		1	1	1	1	1	1		1						
C. foemina Mill.	6237-Beck (2004)	0								1							1			
Nyssa sylvatica Marsh.	64	1	1		1		1		1		1	1		1						
CRASSULACEAE																				
Sedum pulchellum Michx.	24, 578	0	1	1												1				
S. ternatum Michx.	88, 294, 615	0		1	1	1								1						
CUSCUTACEAE																				
Cuscuta gronovii Willd. ex Schult.	711	0	1	1														1		
EBENACEAE																				
Diospyros virginiana L.	35, 400	0		1	1		1			1		1		1						
ELAEAGNACEAE																				
***Elaeagnus pungens* Thunb.	229, 504	0	1	1						1					1					
***E. umbellata* Thunb.	36	1	1							1						1				

List of Taxa	Accession No.	County Record	Habitat											Relative Abundance						
			DA	LCM	LGS	LMS	MSS	PL	PS	RA	SW	UGS	WL	C	F	O	I	S	R	VR
ERICACEAE																				
Epigaea repens L.	284	1					1		1			1				1				
Kalmia latifolia L.	281	0							1			1				1				
Oxydendrum arboreum (L.) DC.	51	0	1		1		1	1	1	1	1	1		1						
Rhododendron catawbiense Michx.	562	0					1		1			1					1			
R. cumberlandense E. L. Braun	658	1							1			1						1		
Vaccinium arboreum Marsh.	103	0			1				1			1		1						
V. corymbosum L.	71	0							1			1		1						
V. pallidum Aiton	4928-Beck (2004)	0							1			1				1				
V. stamineum L.	702	0							1			1			1					
EUPHORBIACEAE																				
Acalypha gracilens A. Gray	503	0	1							1						1				
Chamaesyce nutans (Lag.) Small	112	0	1		1			1						1						
Croton monanthogynus Michx.	127	0	1												1					
Euphorbia corollata L.	85	0	1	1	1			1	1			1		1						
E. dentata Michx.	6103-Beck (2004)	0			1													1		
E. mercurialina Michx.	341, 751	0	1		1			1		1				1						
FABACEAE																				
**Albizia julibrissin* Durazz.	99	1	1					1		1				1						
Amorpha fruticosa L.	161, 373	0	1	1						1					1					
Amphicarpaea bracteata (L.) Fernald	128	0		1	1		1			1	1			1						
Apios americana Medik.	473	1		1	1					1				1						
Cercis canadensis L.	62	0	1	1	1		1		1	1	1	1		1						
Chamaecrista fasciculata (Michx.) Greene var. *fasciculata*	476	0	1							1					1					
C. nictitans (L.) Moench ssp. *nictitans* var. *nictitans*	507	0								1					1					
Cladrastis kentukea (Dum. Cours.) Rudd	11000-Bridges&Somers (1983)	0								1										1
Clitoria mariana L.	120	0	1						1	1					1					
Desmanthus illinoensis (Michx.) MacMill. ex B.L. Rob. & Fernald	179	1	1		1											1				

List of Taxa	Accession No.	County Record	Habitat											Relative Abundance						
			DA	LCM	LGS	LMS	MSS	PL	PS	RA	SW	UGS	WL	C	F	O	I	S	R	VR
Desmodium nudiflorum (L.) DC.	45	0		1	1	1			1	1		1		1						
D. nuttallii (Schindl.) B.G. Schub.	105	1	1		1										1					
D. pauciflorum (Nutt.) DC.	129, 450	1		1	1					1					1					
D. rotundifolium DC.	101	0	1	1	1					1		1		1						
Gleditsia triacanthos L.	34	1								1							1			
**Lathyrus latifolius* L.	100	0	1							1					1					
**Lespedeza cuneata* (Dum. Cours.) G. Don	303	1	1	1						1				1						
L. virginica (L.) Britton	6326-Beck (2004)	0		1												1				
**Medicago lupulina* L.	12	1	1					1	1						1					
**Melilotus officinalis* (L.) Lam.	123, 353, 739	1	1					1						1						
Mimosa microphylla Dryand.	492	0	1					1								1				
Orbexilum pedunculatum (Mill.) Rydb. var. *pedunculatum*	630	0	1						1								1			
Phaseolus polystachyios (L.) Britton, Sterns & Poggenb.	6240-Beck (2004)	0	1													1				
**Pueraria montana* (Lour.) Merr. var. *lobata* (Willd.) Maesen & S. Almeida	413, 475	0	1					1		1				1						
Rhynchosia tomentosa (L.) Hook. & Arn.	466	0										1				1				
Robinia pseudoacacia L.	32	1	1							1						1				
**Securigera varia* (L.) Lassen	37	1	1							1					1					
Senna marilandica (L.) Link	513	0	1							1								1		
**Trifolium campestre* Schreb.	7504-Beck&Estes (2005)	0	1															1		
**T. incarnatum* L.	619	1	1	1															1	
**T. pratense* L.	8	0	1	1				1	1					1						
**T. repens* L.	29	1	1					1	1					1						
Vicia caroliniana Walter	597	1	1		1											1				
**Wisteria floribunda* (Willd.) DC.	756	0																		
**W. sinensis* (Sims) DC.	84	0	1		1										1					
FAGACEAE																				
***Castanea dentata* (Marsh.) Borkh.	78	0					1													1
Fagus grandifolia Ehrh.	11, 392	0		1	1		1		1	1	1	1		1						

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			DA	LCM	LGS	LMS	MSS	PL	PS	RA	SW	UGS	WL	C	F	O	I	S	R	VR
Quercus alba L.	231	0	1	1	1	1	1		1	1	1	1		1						
Q. coccinea Münchh.	430	1	1		1		1		1					1						
Q. falcata Michx.	141, 160	1	1	1	1			1			1	1		1						
Q. marilandica Münchh.	674	0	1		1				1						1					
Q. michauxii Nutt.	486	0	1							1						1				
Q. muehlenbergii Engelm.	7539-Beck&Estes (2005)	0		1													1			
Q. nigra L.	505	0	1							1			1			1				
Q. pagoda Raf.	393	0							1			1			1					
Q. phellos L.	441	0	1		1												1			
Q. prinus L.	140, 239	0	1	1	1		1	1	1		1	1		1						
Q. rubra L.	447	0			1				1	1		1		1						
Q. shumardii Buckley	94-131-Pyne&Bowden (1994)	0		1													1			
Q. stellata Wangenh.	464, 664	0	1						1			1				1				
Q. velutina Lam.	429	0	1		1				1			1		1						
FUMARIACEAE																				
Corydalis flavula (Raf.) DC.	577	1		1													1			
GENTIANACEAE																				
Frasera caroliniensis Walter	7573-Beck&Estes (2005)	0	1													1				
Obolaria virginica L.	570, 590	0					1					1					1			
Sabatia angularis (L.) Pursh	6211-Beck (2004)	0			1												1			
GERANIACEAE																				
**Geranium dissectum* L.	289	1	1													1				
G. maculatum L.	293	0			1		1			1				1						
**G. molle* L.	324	0	1												1					
GROSSULARIACEAE																				
Itea virginica L.	356, 451	0	1		1				1	1		1			1					
HALORAGACEAE																				
**Myriophyllum spicatum L.*	482, 678	1	1							1			1		1					

List of Taxa	Accession No.	County Record	Habitat											Relative Abundance						
			DA	LCM	LGS	LMS	MSS	PL	PS	RA	SW	UGS	WL	C	F	O	I	S	R	VR
HAMAMELIDACEAE																				
Hamamelis virginiana L.	330	0			1					1	1			1						
Liquidamber styraciflua L.	23	0	1	1	1	1			1	1		1		1						
HIPPOCASTANACEAE																				
Aesculus flava Aiton	83	0				1	1									1				
HYDRANGEACEAE																				
Hydrangea cinerea Small	68	0			1						1	1		1						
Philadelphus hirsutus Nutt.	574	0		1			1								1					
HYDROPHYLLACEAE																				
Hydrophyllum macrophyllum Nutt.	296	0			1										1					
Nemophila aphylla (L.) Brummitt	586	0		1												1				
Phacelia bipinnatifida Michx.	336	0	1	1	1							1		1						
P. dubia (L.) Trel. var. *dubia*	608	0	1	1													1			
JUGLANDACEAE																				
Carya alba (L.) Nutt.	439	0		1	1				1		1	1		1						
C. cordiformis (Wang.) K. Koch	547	0			1					1				1						
C. glabra (Mill.) Sweet	426	0			1				1		1	1		1						
C. ovata (Mill.) K. Koch	423	1		1	1				1		1	1		1						
C. pallida (Ashe) Engl. & Graebn.	94-100-Pyne&Bowen (1994)	0			1							1			1					
Juglans nigra L.	405	1								1				1						
LAMIACEAE																				
Collinsonia canadensis L.	184	0			1							1		1						
C. tuberosa Michx.	238	0			1			1	1			1		1						
**Glechoma hederacea* L.	643, 747	0	1							1			1	1						
**Lamium amplexicaule* L.	270	1	1						1					1						
**L. purpureum* L.	257	1	1						1					1						
Lycopus virginicus L.	514	0		1	1							1			1					
Monarda clinopodia L.	641	0	1		1							1		1						

List of Taxa	Accession No.	County Record	Habitat											Relative Abundance						
			DA	LCM	LGS	LMS	MSS	PL	PS	RA	SW	UGS	WL	C	F	O	I	S	R	VR
M. fistulosa L.	364	0	1					1				1		1						
**Mosla dianthera* (Buch.-Ham. ex Roxb.) Maxim.	748	0					1					1				1				
**Perilla frutescens* (L.) Britton	870-Bridges&Somers (1983)	1			1		1				1				1					
Physostegia virginiana (L.) Benth. ssp. *praemorsa* (Shinners) Cantino	6302-Beck (2004)	0		1													1			
Prunella vulgaris L.	82, 433	0	1		1			1						1						
Pycnanthemum muticum (Michx.) Pers.	4929-Beck (2004)	0							1							1				
P. pycnanthemoides (Leavenworth) Fernald var. *pycnanthemoides*	456, 728	1							1		1	1			1					
P. tenuifolium Schrad.	432, 731	0					1		1						1					
Salvia lyrata L.	13	1	1	1	1					1				1						
S. urticifolia L.	22, 631	0	1	1	1									1						
Scutellaria elliptica Muhl. var. *hirsuta* (Short & Peter) Fernald	352, 654	0	1	1	1							1			1					
***S. montana* Chapm.	305	0			1							1					1			
S. ovata Hill	684	0		1	1											1				
S. pseudoserrata Epling	653	0			1							1			1					
Stachys cordata Riddell	108, 655	0	1		1				1			1		1						
S. tenuifolia Willd.	97, 411	0			1					1					1					
Teucrium canadense L.	6115-Beck (2004)	0											1			1				
Trichostema brachiatum L.	455	0								1							1			
LAURACEAE																				
Lindera benzoin (L.) Blume	106, 266	0		1	1		1		1		1	1		1						
Sassafras albidum (Nutt.) Nees	61	1		1	1		1		1	1	1			1						
LINACEAE																				
Linum striatum Walter	4958-Beck (2004)	0		1														1		
LOGANIACEAE																				
Spigelia marilandica (L.) L.	304	0		1	1								1		1					
LYTHRACEAE																				
Rotala ramosoir (L.) Koehne	6303-Beck (2004)	0								1							1			
MAGNOLIACEAE																				

List of Taxa	Accession No.	County Record	Habitat											Relative Abundance						
			DA	LCM	LGS	LMS	MSS	PL	PS	RA	SW	UGS	WL	C	F	O	I	S	R	VR
Liriodendron tulipifera L.	104	0			1		1		1	1	1	1		1						
MALVACEAE																				
Hibiscus moscheutos L.	415	1		1									1			1				
Sida spinosa L.	495	0	1							1							1			
MENISPERMACEAE																				
Cocculus carolinus (L.) DC.	500	0	1							1			1		1					
Menispermum canadense L.	376	0	1	1									1			1				
MONOTROPACEAE																				
Monotropa hypopithys L.	395	1										1						1		
M. uniflora L.	177	0									1	1						1		
MORACEAE																				
Morus rubra L.	427	0			1					1					1					
OLEACEAE																				
**Forsythia viridissima* Lindl.	252	1	1		1												1			
Fraxinus americana L.	53, 171, 659	0			1					1		1		1						
F. quadrangulata Michx.	344, 418	0		1														1		
**Ligustrum sinense* Lour.	27	0	1	1	1				1	1	1	1		1						
ONAGRACEAE																				
Circaea lutetiana L. ssp. *canadensis* (L.) Asch. & Magnus	43, 361, 697	1	1		1	1								1						
Gaura filipes Spach	20	0	1		1											1				
Ludwigia alternifolia L.	725	0							1		1						1			
L. decurrens Walter	496	0								1			1			1				
L. palustris (L.) Elliot	7131-Webb (2009)	0								1			1				1			
Oenothera biennis L.	502	1	1							1						1				
O. fruticosa L. ssp. *fruticosa*	7479-Beck&Estes (2005)	0			1												1			
O. laciniata Hill	494	0	1							1						1				
OROBANCHACEAE																				
Conopholis americana (L.) Wallr.	326	0		1	1							1			1					

List of Taxa	Accession No.	County Record	Habitat											Relative Abundance						
			DA	LCM	LGS	LMS	MSS	PL	PS	RA	SW	UGS	WL	C	F	O	I	S	R	VR
OXALIDACEAE																				
Oxalis stricta L.	131	1	1		1						1			1						
O. violacea L.	318	0			1		1									1				
PAPAVERACEAE																				
Sanguinaria canadensis L.	618	0		1			1											1		
PASSIFLORACEAE																				
Passiflora incarnata L.	113	0	1		1												1			
P. lutea L.	478, 517	0	1		1					1						1				
PHYTOLACCACEAE																				
Phytolacca americana L.	107	0	1		1				1			1		1						
PLANTAGINACEAE																				
Plantago aristata Michx.	675, 4774-Beck (2004)	0						1	1									1		
**P. lanceolata* L.	661	1	1					1	1					1						
P. rugelii Decne.	87	1	1						1						1					
P. virginica L.	28	0	1						1					1						
PLATANACEAE																				
Platanus occidentalis L.	55	1	1		1					1			1	1						
POLEMONIACEAE																				
Phlox amoena Sims	21, 343	0	1		1							1		1						
P. amplifolia Britton	693	0					1					1					1			
P. carolina L.	656	0	1									1				1				
P. divaricata L.	6	0	1		1						1	1		1						
POLYGALACEAE																				
Polygala verticillata L. var. *verticillata*	11851-Bridges&Somers (1983)	0	1							1							1			
POLYGONACEAE																				
Polygonum hydropiperiodes Michx.	425	0	1							1			1	1						
**P. persicaria* L.	135	0	1		1									1						
P. punctatum Elliot var. *punctatum*	98	0								1					1					

List of Taxa	Accession No.	County Record	Habitat											Relative Abundance						
			DA	LCM	LGS	LMS	MSS	PL	PS	RA	SW	UGS	WL	C	F	O	I	S	R	VR
P. scandens L. var. *scandens*	9614-Bridges&Somers (1983)	0								1			1				1			
P. virginianum L.	134	0	1		1									1						
Rumex altissimus Alph. Wood	6171-Beck (2004)	0									1					1				
PORTULACACEAE																				
Claytonia virginica L.	617	0			1		1										1			
***Phemeranthus mengesii* (W. Wolf) Kiger	642, 646	0						1	1										1	
**Portulaca oleracea* L.	511	1	1							1							1			
PRIMULACEAE																				
Dodecatheon meadia L.	580, 606	1		1												1				
Lysimachia tonsa (Alph. Wood) Alph. Wood ex Pax & R. Knuth	360, 394	0	1		1							1		1						
PYROLACEAE																				
Chimaphila maculata (L.) Pursh	48	0			1	1					1	1		1						
RANUNCULACEAE																				
Actaea pachypoda Elliot	81	0				1	1									1				
A. racemosa L. var. *racemosa*	671	0					1									1				
Anemone virginiana L.	9699-Bridges&Somers (1983)	0		1	1												1			
**Clematis terniflora* DC. var. *terniflora*	137	1	1							1					1					
Delphinium tricorne Michx.	320, 621	0		1												1				
Hepatica nobilis Schreb. var. *acuta* (Pursh) Steyerm.	248	0			1		1					1			1					
***Hydrastis canadensis* L.	716-Bridges&Somers (1983)	1					1													1
Ranunculus abortivus L.	339, 609	0			1		1				1	1		1						
**R. ficaria* L.	633-Harris (2010)	1								1										1
R. hispidus Michx. var. *hispidus*	596	0			1		1								1					
R. micranthus Nutt.	587	0		1												1				
R. recurvatus Poir.	338	0			1		1					1			1					
Thalictrum clavatum DC.	699	1			1		1										1			
T. revolutum DC.	459	0	1		1		1									1				

List of Taxa	Accession No.	County Record	Habitat											Relative Abundance						
			DA	LCM	LGS	LMS	MSS	PL	PS	RA	SW	UGS	WL	C	F	O	I	S	R	VR
T. thalictroides (L.) Eames & B. Boivin	3	0		1	1		1							1						
RHAMNACEAE																				
Berchemia scandens (Hill) K. Koch	302, 345	0		1	1										1					
Ceanothus americanus L.	683	0	1					1				1					1			
Frangula caroliniana (Walter) A. Gray	367	0	1		1			1	1			1			1					
ROSACEAE																				
Agrimonia gryposepala Wallr.	491	1	1														1			
A. pubescens Wallr.	436	0	1		1				1					1						
A. rostellata Wallr.	443	0	1		1									1						
Amelanchier arborea (Michx. f.) Fernald	63, 402	0			1							1				1				
Aruncus dioicus (Walter) Fernald	10423-Bridges&Somers (1983)	0					1											1		
**Duchesnea indica* (Andrews) Focke	290	0	1												1					
Geum canadense Jacq.	95, 387, 677	0	1		1					1				1						
G. virginianum L.	6263-Beck (2004)	0		1	1									1						
Gillenia stipulata (Muhl. ex Willd.) Baill.	467	0			1				1			1			1					
Malus angustifolia (Aiton) Michx. var. *angustifolia*	4460-Beck (2004)	0	1		1											1				
Physocarpus opulifolius (L.) Maxim., orth. cons.	7244-Beck&Estes (2005)	0	1		1										1					
Potentilla canadensis L.	329	1							1			1			1					
P. simplex Michx.	356-Bridges&Somers (1983)	0	1		1									1						
Prunus americana Marsh.	56, 391	0	1	1	1	1				1		1	1	1						
P. angustifolia Marsh.	490	0	1														1			
P. mexicana S. Watson	377	0		1									1				1			
**P. persica* (L.) Batsch	454	1			1											1				
P. serotina Ehrh.	40	0	1	1	1				1		1	1	1	1						
**Pyrus calleryana* Decne.	480	1	1							1						1				
**Rhodotypos scandens* (Thunb.) Makino	603	0	1		1												1			
Rosa carolina L.	7487-Beck&Estes (2005)	0										1				1				
**R. multiflora* Thunb.	511	0	1							1					1					

List of Taxa	Accession No.	County Record	Habitat											Relative Abundance						
			DA	LCM	LGS	LMS	MSS	PL	PS	RA	SW	UGS	WL	C	F	O	I	S	R	VR
Rubus argutus Link	16	0	1		1									1						
**R. bifrons* Vest ex Tratt.	9442-Beck (2004)	0	1													1				
R. flagellaris Willd.	694	0	1	1										1						
R. occidentalis L.	479	0	1					1							1					
**R. phoenicolasius* Maxim.	477	0	1					1							1					
RUBIACEAE																				
Cephalanthus occidentalis L.	408	0								1			1			1				
Diodia teres Walter	567	0	1											1						
Galium aparine L.	331	0			1		1				1			1						
G. circaezans Michx.	438	0	1		1										1					
**G. parisiense* L.	166	0	1							1							1			
G. tinctorium (L.) Scop.	681	0								1			1			1				
G. triflorum Michx.	444	1	1				1								1					
Houstonia canadensis Willd. ex Roem. & Schult.	327, 648, 669, 753	0		1	1			1				1		1						
H. purpurea L. var. *calycosa* A. Gray	4801-Beck (2004)	0	1													1				
H. purpurea L. var. *purpurea*	26	0	1						1			1			1					
H. pusilla Schoepf	267	1										1						1		
Mitchella repens L.	388	0		1							1	1	1	1						
RUTACEAE																				
**Poncirus trifoliata* (L.) Raf.	301	0		1												1				
SALICACEAE																				
Populus deltoides Bartram ex Marsh.	488, 635	0	1							1							1			
Salix caroliniana Michx.	481	1								1			1			1				
S. nigra Marsh.	406	0								1						1				
SAPOTACEAE																				
Sideroxylon lycioides L.	380	0		1									1			1				
SAURURACEAE																				
Saururus cernuus L.	91	0								1			1			1				

List of Taxa	Accession No.	County Record	Habitat											Relative Abundance						
			DA	LCM	LGS	LMS	MSS	PL	PS	RA	SW	UGS	WL	C	F	O	I	S	R	VR
SAXIFRAGACEAE																				
Astilbe biternata (Vent.) Britton	74, 673	0			1		1									1				
Heuchera americana L.	44, 349	0	1		1		1				1	1			1					
H. villosa Michx. var. *villosa*	312	0			1	1												1		
Saxifraga careyana A. Gray	672, 10262-Bridges&Somers (1983)	0			1		1										1			
SCROPHULARIACEAE																				
Agalinis purpurea (L.) Pennell	6306-Beck	0		1												1				
Aureolaria pectinata (Nutt.) Pennell	730	0							1		1	1					1			
A. virginica (L.) Pennell	116	0										1				1				
**Chaenorhinum minus* (L.) Lange	4909-Beck (2004)	0	1									1				1				
Chelone lyonii Pursh	169	0			1						1						1			
Lindernia dubia (L.) Pennell var. *dubia*	14140-Bridges&Somers (1983)	0								1			1			1				
Mimulus alatus Aiton	484, 509	0								1			1			1				
Nuttallanthus canadensis (L.) D.L. Sutton	639	0						1	1									1		
**Paulownia tomentosa* (Thunb.) Siebold & Zucc. ex Steud.	114	1	1		1			1	1	1					1					
Penstemon canescens (Britton) Britton	25, 652	0	1		1			1				1		1						
**Verbascum blattaria* L.	31	0	1							1						1				
**V. thapsus* L.	506	1	1	1						1					1					
**Veronica hederifolia* L.	260	1	1												1					
**V. persica* Poir.	255	1	1												1					
SIMAROUBACEAE																				
**Ailanthus altissima* (Mill) Swingle	33	1	1	1	1			1	1	1				1						
SOLANACEAE																				
Solanum carolinense L.	368	0	1					1						1						
S. ptychanthum Dunal	168	0	1		1							1			1					
STAPHYLEACEAE																				
Staphylea trifolia L.	525, 581	0		1						1						1				
STYRACACEAE																				

List of Taxa	Accession No.	County Record	Habitat											Relative Abundance						
			DA	LCM	LGS	LMS	MSS	PL	PS	RA	SW	UGS	WL	C	F	O	I	S	R	VR
Halesia tetraptera Ellis	399	0			1		1			1					1					
THYMELAEACEAE																				
Dirca palustris L.	613	0			1		1									1				
TILIACEAE																				
Tilia americana L. var. *americana*	86, 222	1		1	1					1			1		1					
T. americana L var. *heterophylla* (Vent.) Loudon	30	0	1		1					1						1				
ULMACEAE																				
Celtis laevigata Willd.	369	0		1									1				1			
C. occidentalis L.	247	0	1					1	1			1			1					
Ulmus alata Michx.	118, 145	0	1	1	1			1	1	1	1	1	1	1						
U. americana L.	410, 420	1		1	1					1			1			1				
U. rubra Muhl.	15, 264	0	1	1	1					1					1					
URTICACEAE																				
Boehmeria cylindrica (L.) Sw.	94	1			1					1					1					
Laportea canadensis (L.) Weddell	191	1			1	1					1					1				
Pilea pumila (L.) A. Gray	178	1			1		1			1	1			1						
VALERIANACEAE																				
Valerianella radiata (L.) Dufr.	668	0		1												1				
VERBENACEAE																				
Callicarpa americana L.	173, 372	0		1	1							1			1					
Phryma leptostachya L.	704	0		1											1					
Phyla lanceolata (Michx.) Greene	471	1	1							1							1			
**Verbena brasiliensis* Vell.	139	0	1													1				
V. simplex Lehm.	355	1	1													1				
VIOLACEAE																				
Hybanthus concolor (T. F. Forst.) Spreng.	712	1		1													1			
**Viola arvensis* Murray	291	0	1		1		1					1				1				
V. bicolor Pursh	261, 286	0	1		1			1				1		1						

List of Taxa	Accession No.	County Record	Habitat											Relative Abundance						
			DA	LCM	LGS	LMS	MSS	PL	PS	RA	SW	UGS	WL	C	F	O	I	S	R	VR
V. canadensis L.	308, 397	0		1		1						1			1					
V. cucullata Aiton	269	1			1													1		
V. hastata Michx.	311, 571	0			1		1				1	1			1					
V. hirsutula Brainerd	611	0			1		1									1				
V. x *palmata* L. (pro. sp.) [*brittoniana* or *pedatifida* x *affinis* or *sororia*]	610	0			1							1				1				
V. pedata L.	593	0	1						1								1			
V. pubescens Aiton var. *scabriuscula* Schwein. ex Torr. & A. Gray	604	0		1													1			
V. rostrata Pursh	285, 592	0			1		1		1			1			1					
V. sororia Willd.	316, 561, 573, 754	0		1	1		1									1				
***V.tripartita* Ell.	591	0			1		1											1		
VISCACEAE																				
Phoradendron leucarpum (Raf.) Reveal & M. C. Johnst.	297	0	1		1					1						1				
VITACEAE																				
Ampelopsis cordata Michx.	422	0	1	1									1		1					
Parthenocissus quinquefolia (L.) Planch.	18	0	1	1	1	1		1	1	1	1	1		1						
Vitis aestivalis Michx. var. *aestivalis*	458	0	1		1			1				1		1						
V. labrusca L.	96, 403	1	1							1		1			1					
V. rotundifolia Michx.	437	0	1	1	1		1		1		1	1		1						
V. vulpina L.	428	0	1		1							1						1		

APPENDIX B

NORMALIZED COMPARATIVE PLANT LIST AND PHYTOGEOGRAPHICAL ANALYSIS OF THE CUMBERLAND PLATEAU FLORA (MODIFIED FROM HUSKINS 2008)

The normalized comparative plant list is modified from Huskins (2008) to include a phytogeographical analysis of 13 Cumberland Plateau floras and one Allegheny Plateau flora. The list is organized by division, subdivision, family, genus and species. The taxonomic nomenclature of these groups follows the USDA PLANTS Database (USDA 2011). A single asterisk precedes an introduced taxon, and two asterisks precede a rare taxon. The floras are arranged left to right from largest study area to smallest. The 'Geographical Affinities to the TRG' column categorizes taxa found in the TRG as intraneous, extraneous, strict endemic, or introduced. The 'Center of Distribution' column reports the distributional category (central, northern, eastern, southern, or western) for all native taxa in the comparative list followed by a detailed range description. For native taxa documented only from the New River Gorge (Suiter & Evans 1999), the center of distribution category is not followed by a detailed range description. Empty cells in this column indicate a non-native taxon.

COMPARATIVE PLANT LIST

Flora	Prentice Cooper (Beck & Van Horn 2007) 25,452 Acres	New River Gorge (Suiter & Evans 1999) 25,123 acres	Fall Creek Falls (Flemming & Wofford 2004) 21,992 Acres	White Oak Creek Gorge (Allawos 1994) 13,361 Acres	Tennessee River Gorge (Blyveis & Shaw) 12,281 Acres	Savage Gulf (Wofford et al. 1979) 10,000 Acres	Obed (Schmalzer et al. 1985) 9,884 Acres	Fiery Gizzard (Clark 1966) ca. 8,960 Acres	NCCGSNA (Huskins & Shaw 2010) 7,073 Acres	Clear Fork/New River (Goodson & Bailey 2001) 4,685 Acres	Wolf Cove (Clements & Wofford 1991) 2,471 Acres	Pilot Knob (Weckman et al. 2003) 647 Acres	Lilley Cornett Woods (Sole et al. 1983) 544 acres	Big Everidge Hollow (McEwan et al. 2005) 129 Acres	Geographical Affinities to the TRG	Center of Distribution
EQUISETOPHYTA																
EQUISETACEAE																
Equisetum arvense L.	0	1	0	0	0	0	0	0	0	0	0	1	1	0		Central: Throughout N. America
E. hyemale L. var. affine (Engelm.) A.A. Eaton	0	1	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: North America	Central: Throughout N. America
LYCOPODIOPHYTA																
ISOETACEAE																
Isoetes engelmannii A. Braun	0	0	0	0	0	0	1	0	0	0	1	0	0	0		Central: Ontario, east to Maine and N. Carolina, south to Georgia and Mississippi, west to Arkansas and Missouri
I. valida (Engelm.) Clute	1	0	1	1	0	0	0	0	0	0	0	0	0	0		Eastern: West Virginia and Pennsylvania, east to Delaware and North Carolina, south to Georgia, west to Alabama and e. Tennessee
I. x *altonharvillii* L.J. Musselman & R.D. Bray [*engelmannii* x *vallida*]	0	0	1	0	0	0	0	0	0	0	0	0	0	0		Eastern: Delaware and Virginia
LYCOPODIACEAE																
Huperzia lucidula (Michx.) Trevis.	1	1	1	1	0	1	1	1	1	1	0	0	1	0		Northern: Manitoba to Quebec and Newfoundland, east to Nova Scotia and Massachusetts, south to Georgia and Alabama, west to Arkansas and Minnesota with disjuncts in New Mexico
H. porophila (Lloyd & Underw.) Holub	0	0	1	1	0	1	1	0	0	1	0	0	0	0		Central: Ontario and Vermont, east to Maryland and North Carolina, south to Georgia and Alabama, west to Missouri and Minnesota
Lycopdiella apressa (Chapm.) Cranfill	0	0	0	0	0	0	1	0	0	0	0	0	0	0		Central: Indiana, Maine and Newfoundland, east to Nova Scotia and Massachusetts, south to s. Florida and e. Texas, west to Arkansas and Illinois
Lycopodium complanatum L.	0	0	0	0	0	0	0	0	0	0	0	0	1	0		Northern: Nunavut and Greenland, east to Newfoundland and Nova Scotia, south to s. New York, Wisconsin and Wyoming, west to Oregon, British Columbia and Alaska
L. digitatum Dill. ex A. Braun	1	1	1	1	0	0	1	0	1	1	0	1	0	0		Central: Ontario to Newfoundland, east to Nova Scotia and North Carolina, south to Georgia and Mississippi, west to Arkansas and Minnesota
L. hickeyi W.H. Wagner, Beitel & Moran	0	0	0	1	0	0	0	0	0	0	0	0	0	0		Northern: Ontario to Nova Scotia, east to Massachusetts and Virginia, south to North Carolina and Tennessee, west to Wisconsin and Minnesota with disjuncts in Saskatchewan and Washington
L. obscurum L.	0	0	1	1	0	1	1	1	1	1	0	1	0	0		Northern: Ontario and Quebec, east to Nova Scotia and Massachusetts, south to c. Georgia and n. Alabama, west to Illinois and Minnesota with disjuncts in Alaska
L. tristachyum Pursh	1	0	0	0	0	1	1	0	0	0	0	0	0	0		Northern: Manitoba, Quebec and Newfoundland, east to Nova Scotia and Delaware, south to n. Georgia and Alabama, west to Missouri, Indiana and Minnesota
SELAGINELLACEAE																

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Selaginella apoda (L.) Spring	1	1	1	0	0	1	1	0	0	1	0	1	0	0		Central: Illinois, New York and Maine, east to Massachusetts and North Carolina, south to Florida and Louisiana, west to c. Texas and c. Missouri
S. rupestris (L.) Spring	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
PTERIDOPHYTA																
ASPLENIACEAE																
Asplenium bradleyi D. C. Eaton	1	0	0	0	0	0	0	0	1	0	0	0	0	0		Central: Illinois to s. New York, east to Maryland and North Carolina, south to c. Georgia, n.e. Alabama and Louisiana, west to Oklahoma and Missouri
A. montanum Willd.	1	1	1	1	1	1	1	1	0	1	1	1	0	0	Intraneous: Eastern N. America	Central: North to n. Michigan, east to Massachusetts, south to c. Alabama, west to e. Missouri
A. pinnatifidum Nutt.	1	0	0	1	0	0	1	1	0	1	1	1	0	0		Central: s. Wisconsin, e. Ohio and Connecticut, east to Virginia, south to Georgia and n.e. Mississippi, west to Oklahoma and Missouri
A. platyneuron (L.) Britton, Stearns & Poggenb. var. *platyneuron*	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern to Southern N. America	Central: Canada east to Massachusetts, south to Georgia, west to Arizona
A. resiliens Kunze	1	0	1	0	1	0	0	1	0	0	0	0	0	0	Intraneous: Southern N. America	Southern: North to Illinois and Pennsylvania, east to North Carolina, south to Florida and Texas, west to s.e. Nevada
A. rhizophyllum L.	1	1	1	1	1	1	1	1	1	0	1	0	1	0	Intraneous: Eastern N. America	Central: Canada, east to Maine, south to c. Alabama, west to s.e. Kansas
A. ruta-muraria L.	0	1	0	0	0	0	0	0	0	0	1	0	0	0		Central: Ontario and Quebec, east to New Brunswick, Vermont and Massachusetts, south to n. Georgia and c. Alabama, west to Kansas and Missouri
A. trichomanes L.	0	1	1	1	0	0	1	1	0	1	0	0	0	0		Central: Throughout N. America
A. x *trudellii* Wherry (pro sp.) [*montanum* x *pinnatifidum*]	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: s. Ohio east to New Jersey and North Carolina, south to n. Georgia and Alabama, west to Illinois
BLECHNACEAE																
Woodwardia areolata (L.) T. Moore	1	0	1	1	1	1	0	0	1	1	1	0	0	0	Intraneous: Eastern to Southeastern N. America	Central: Michigan, New York and Maine, east to Nova Scotia and Massachusetts, south to s. Florida and s. Louisiana, west to e. Texas and w. Missouri
***W. virginica* (L.) Sm.	0	0	0	0	0	1	0	0	1	0	0	0	0	0		Central: Ontario and Quebec, east to Nova Scotia, south to s. Florida, west to e. Texas and n.e. Illinois
DENNSTAEDTIACEAE																
Dennstaedtia punctilobula (Michx.) T. Moore	1	1	1	1	0	1	1	1	1	1	1	0	0	0		Northern: Ontario, east to Newfoundland and Nova Scotia, south to n. Georgia and n. Alabama, west to w. Arkansas, e. Missouri and s. Wisconsin
Pteridium aquilinum (L.) Kuhn	1	1	1	1	1	1	1	1	1	1	1	1	0	0	Intraneous: North America	Central: Throughout North America
DRYOPTERIDACEAE																
Athyrium filix-femina (L.) Roth	1	1	0	0	1	0	0	0	0	0	0	1	1	1	Intraneous: North America	Central: Throughout North America
A. filix-femina (L.) Roth. ssp. *asplenioides* (Michx.) Hultén	0	0	1	1	1	1	1	1	1	1	1	0	0	0	Intraneous: Eastern n. America	Central: North to New York, along east coast, south to n. Florida, west to e. Texas

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Cystopteris bulbifera (L.) Bernh.	0	1	1	0	0	1	0	1	0	0	1	0	0	0		Central: Ontario and Quebec, east to Newfoundland and Nova Scotia, south to n. Georgia and Texas, west to Arizona, Utah, Nebraska and South Dakota
C. fragilis (L.) Bernh. var. *tennesseensis* (Shaver) McGregor	0	0	0	0	1	0	0	1	0	0	0	0	0	0	Extraneous southeast: Midwestern-Eastern N. America	Central: Wisconsin, east to Pennsylvania and North Carolina, south to n.w. Georgia and n.e. Alabama, west to Oklahoma, Kansas and Minnesota
C. protrusa (Weath.) Blasdell	1	1	0	0	1	1	1	1	0	0	1	0	0	0	Intraneous: Eastern N. America	Central: Canada, east to New Hampshire and North Carolina, south to n. Florida and Louisiana, west to Oklahoma and Nebraska
C. tenuis (Michx.) Desv.	0	1	0	0	0	0	0	0	0	1	0	0	0	0		Central: Ontario and Quebec, east to Nova Scotia and North Carolina, south to Alabama and Louisiana, west to Arizona, Nevada and South Dakota
Deparia acrostichoides (Sw.) M. Kato	0	1	1	1	0	1	1	0	0	0	1	0	0	0		Central: Ontario and Quebec, east to Nova Scotia and Massachusetts, south to n. Georgia and s. Louisiana, west to w. Arkansas and s.w. Missouri
Diplazium pycnocarpon (Spreng.) Broun	0	1	1	0	1	1	0	1	0	0	1	1	0	1	Intraneous: Eastern N. America	Central: Canada, east to Massachusetts, south to n. Georgia and s. Louisiana, west to e. Kansas
Dryopteris campyloptera Clarkson	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
***Dryopteris carthusiana* (Vill.) H.P. Fuchs	0	1	0	0	0	0	0	1	0	0	0	0	0	1		Central: Nunavut, east to Labrador, south to Georgia and n. Alabama, west to w. Nebraska, w. Oregon and Yukon
D. goldiana (Hook. ex Goldie) A. Gray	0	1	1	0	0	1	0	1	0	0	0	0	0	1		Northern: Ontario and Quebec, east to New Brunswick, south to n. Georgia and n. Alabama, west to Arkansas and c. Minnesota
D. intermedia (Muhl. ex Willd.) A. Gray	1	1	1	1	0	1	1	1	1	1	0	1	0	0		Northern: Ontario and Quebec, east to Newfoundland and Nova Scotia, south to n. Georgia and n. Alabama, west to e. Missouri and e. Minnesota
D. marginalis (L.) A. Gray	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern N. America	Northern: British Columbia, Greenland, and Ontario, east to Newfoundland and Nova Scotia, south to n. Georgia and Mississippi, west to Oklahoma and Minnesota
Onoclea sensibilis L.	1	1	1	1	1	0	1	0	0	1	1	1	0	0	Intraneous: N. America	Central: Manitoba, Quebec and Newfoundland, east to Massachusetts and North Carolina, south to n. Florida and e. Texas, west to c. Colorado and e. North Dakota
Polystichum acrostichoides (Michx.) Schott	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern N. America	Central: Quebec, east to Nova Scotia, south to Florida and e. Texas, west to Kansas and Minnesota
Woodsia obtusa (Spreng.) Torr.	1	1	0	0	1	0	1	1	0	0	0	1	0	0	Intraneous: Ontario to Quebec, east to Maine, south to n. Florida, west to e. Texas and e. Nebraska	Central: Ontario, east to s. Maine, south to n. Florida, west to c. Texas, e. Nebraska and s. Minnesota
HYMENOPHYLLACEAE																
***Trichomanes boschianum* Sturm	0	0	0	1	0	0	0	0	0	0	1	0	0	0		Southern: s. Pennsylvania, east to West Virginia and e. North Carolina, south to c. Alabama, west to w. Arkansas
T. intricatum Farrar	0	0	1	0	0	0	0	0	0	0	0	0	0	0		Central: Ohio and New York, east to Massachusetts, south to Georgia, west to Alabama and Illinois

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***T. petersii* A. Gray	0	0	0	0	0	1	0	0	0	0	0	0	0	0		Southern: e. Tennessee, east to w. North Carolina, south to c. Florida, west to s. Louisiana and w. Arkansas
LYGODIACEAE																
Lygodium palmatum (Bernh.) Sw.	1	0	1	1	0	1	1	0	1	1	0	0	0	0		Central: Michigan, New York and New Hampshire, east to Massachusetts, south to Florida, west to Mississippi and Indiana
MARSILEACEAE																
***Pilularia americana* A. Braun	0	0	1	0	0	0	0	0	0	0	0	0	0	0		Central: Nebraska and Missouri, east to South Carolina, south to Georgia, Alabama and Texas, west to California, Oregon and Washington
OPHIOGLOSSACEAE																
Botrychium biternatum (Sav.) Underw.	1	0	0	1	0	0	0	0	0	0	0	1	0	0		Central: Illinois, Pennsylvania and Connecticut, east to North Carolina, south to s. Florida, west to e. Texas and Oklahoma
B. dissectum Spreng.	1	1	1	0	1	1	1	1	0	0	1	1	0	0	Intraneous: Eastern N. America	Central: Quebec to Nova Scotia, east to Massachusetts, south to s. Florida, west to e. Texas and e. Minnesota
B. virginianum (L.) Sw.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: N. America	Central: Throughout N. America
Ophioglossum engelmannii Prantl	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Southern N. America	Southern: Nebraska, east to Pennsylvania and North Carolina, south to c. Florida, west to Arizona and Kansas
O. vulgatum L.	0	0	0	0	1	0	0	0	0	0	1	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Michigan, Pennsylvania and Massachusetts, east to Maryland and North Carolina, south to c. Georgia and s. Louisiana, west to e. Texas and Kansas with disjuncts in Arizona
OSMUNDACEAE																
Osmunda cinnamomea L.	1	1	1	1	1	1	1	0	1	1	1	1	0	0	Intraneous: Eastern N. America	Central: Ontario to Labrador, east to Newfoundland, Nova Scotia and North Carolina, south to s. Florida, west to e. Texas and c. Minnesota
O. claytoniana L.	0	0	0	1	0	0	1	0	0	1	1	0	0	0		Northern: Manitoba, Quebec and Labrador, east to Newfoundland, south to n. Georgia and Mississippi, west to Arkansas and Minnesota
O. regalis L.	0	0	0	0	0	1	1	0	0	1	0	1	0	0		Central: Ontario to Newfoundland, east to Nova Scotia and Massachusetts, south to Florida and e. Texas, west to Kansas, Minnesota and Manitoba
O. regalis L. var. *spectabilis* (Willd.) A. Gray	1	1	1	1	1	0	0	0	1	0	1	0	0	0	Intraneous: Eastern N. America	Central: Ontario to Newfoundland, east to Nova Scotia and Massachusetts, south to Florida and e. Texas, west to Kansas, Minnesota and Manitoba
POLYPODIACEAE																
Pleopeltis polypodioides (L.) Andrews & Windham ssp. *michauxiana* (Weath.) Andrews & Windham	1	0	1	0	1	1	0	0	1	0	0	0	0	0	Intraneous: Southeastern N. America	Central: Illinois, New York and Ohio, east to Maryland, south to Florida and c. Texas, west to e. Kansas
P. polypodioides (L.) Andrews & Windham ssp. *polypoioides*	0	0	0	0	0	0	0	1	0	0	1	0	0	0		Central: Illinois, New York and Ohio, east to Maryland, south to Florida and c. Texas, west to e. Kansas

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Polypodium appalachianum Haufler & Windham	1	0	1	0	0	0	0	0	0	0	0	0	0	0		Northern: Ontario and Quebec, east to Newfoundland, south to Georgia, west to Alabama and Kentucky
P. virginianum L.	0	1	0	1	0	1	1	1	1	1	1	1	1	0		Northern: Greenland, east to Newfoundland, south to n. Georgia, west to Arkansas, South Dakota, Saskatchewan and Alaska
PTERIDACEAE																
Adiantum capillus-veneris L.	1	0	1	0	1	0	0	1	0	0	0	0	0	0	Intraneous: Southern N. America	Central: Colorado, Missouri and Ohio, east to Maryland, south to Florida and Texas, west to w. California with disjuncts in British Columbia and South Dakota
A. pedatum L.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern n. America	Central: Ontario to Nova Scotia, east to Massachusetts and North Carolina, south to Florida and Louisiana, west to Oklahoma and South Dakota
Cheilanthes alabamensis (Buckley) Kunze	1	0	0	0	1	0	0	1	0	0	0	0	0	0	Extraneous east: Southern N. America	Southern: Missouri, east to Virginia, south to e. Florida and s. Texas, west to s.e. Arizona and s.e. Kansas
C. lanosa (Michx.) D.C. Eaton	1	0	0	0	1	1	0	1	0	0	0	0	0	0	Intraneous: Eastern to Southeastern N. America	Central: Minnesota, east to New York and North Carolina, south to c. Florida, west to Texas and Kansas
C. tomentosa Link	1	0	0	0	0	0	0	0	0	0	0	0	0	0	.	Southern: s.e. Kansas, s.w. Missouri and Pennsylvania, east to c. North Carolina, south to Georgia, c. Alabama and s. Texas, west to s. Arizona
Pellaea atropurpurea (L.) Link	1	0	1	0	1	1	0	1	0	0	1	0	0	0	Intraneous: Eastern to Southern N. America	Central: Canada, east to Rhode Island and North Carolina, south to n. Florida and c. Texas, west to s.e. Nevada and n.e. Wyoming
P. glabella Mett. ex Kuhn ssp. *glabella*	0	0	0	0	0	0	0	1	0	0	0	0	0	0		Northern: Ontario and Quebec, east to Connecticut, south to e. Tennessee and n. Texas, west to Kansas, Nebraska and Minnesota
THELYPTERIDACEAE																
**Macrothelypteris torresiana* (Gaudich.) Ching	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
Phegopteris hexagonoptera (Michx.) Fée	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern N. America	Central: Canada, east to Massachusetts, south to n.w. Florida, west to e. Texas, e. Kansas and se. Minnesota
Thelypteris noveboracensis (L.) Nieuwl.	1	1	1	1	1	1	1	1	1	1	1	0	1	1	Intraneous: Eastern n. America	Northern: Ontario and Quebec, east to Newfoundland, south to s. Georgia and s.e. Louisiana, west to Oklahoma and Illinois
T. palustris Schott	0	0	0	0	0	0	0	1	0	0	0	0	0	0		Central: Manitoba and Quebec, east to Newfoundland and Nova Scotia, south to s. Florida, west to e. Texas, w. Nebraska and Saskatchewan
VITTARIACEAE																
Vittaria appalachiana Farrar & Mickel	1	0	1	1	0	0	0	0	0	0	0	0	0	0		Central: s. Indiana, north to New York, east to North Carolina, south to Georgia, west to Alabama and w. Kentucky with disjuncts in Louisiana
V. sp. (gametophyte)	0	0	0	0	0	1	1	0	0	1	0	0	0	0		
CONIFEROPHYTA																
CUPRESSACEAE																

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Juniperus virginiana L.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern N. America	Central: Ontario and Quebec, east to s. Maine, south to Florida, west to Texas, Colorado and North Dakota with disjuncts in Oregon
***Thuja occidentalis* L.	0	0	1	0	0	0	0	0	0	0	0	0	0	0		Northern: Quebec, east to Nova Scotia, south to South Carolina and e. Tennessee, west to Iowa and Manitoba
PINACEAE																
Picea abies (L.) Karst	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
Pinus echinata Mill.	1	0	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Southeastern N. America	Central: Ohio, east to New York and North Carolina, south to n. Florida, west to e. Texas, Missouri and s. Illinois
P. rigida Mill.	0	0	0	0	0	0	0	0	0	0	0	0	1	1		Northern: Ontario and Quebec, east to Nova Scotia, south to n. Georgia and e. Tennessee, west to Illinois and Minnesota
P. strobus L.	1	1	1	1	1	0	1	0	0	1	0	0	1	0	Intraneous: Eastern to Northeastern N. America	Northern: Quebec, east to Newfoundland, south to n. Georgia and c. Alabama, west to w. Arkansas and Manitoba
P. taeda L.	1	0	1	0	1	1	1	0	1	0	1	0	0	0	Intraneous: Southeastern N. America	Southern: Illinois, Kentucky and New Jersey, east to North Carolina, south to c. Florida and Louisiana, west to e. Texas and s. Missouri
P. virginiana Mill.	1	1	1	1	1	1	1	1	1	1	0	1	1	1	Intraneous: Eastern N. America	Central: Ontario and New York, east to Maryland, south to n. Georgia and Mississippi, west to Missouri with disjuncts in Alberta and British Columbia
Tsuga canadensis (L.) Carriére	1	1	1	1	1	1	1	1	1	1	0	1	1	1	Extraneous southwest: Northeastern N. America	Northern: Quebec to Nova Scotia and Maryland, south to n. Georgia and c. Alabama, west to se. Missouri and e. Minnesota
TAXODIACEAE																
Taxodium distichum (L.) Rich.	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Eastern-mid/southwestern N. America	Central: s. Illinois to s.e. New York, east to w. North Carolina, south to s. Florida, west to s.c. Texas, Oklahoma and w. Missouri
MAGNOLIOPHYTA - LILIOPSIDA																
AGAVACEAE																
Manfreda virginica (L.) Salisb. ex Rose	1	0	1	0	1	1	0	0	1	0	1	0	0	0	Intraneous: Southeastern N. America	Central: s. Illionois to s. Ohio, east to Maryland, south to c. Florida, west to e. Texas and s. Missouri
Yucca filamentosa L.	1	1	1	1	1	0	1	1	1	1	0	1	0	0	Intraneous: Eastern N. America	Central: Wisconsin and New York, east to Massachusetts and North Carolina, south to s. Florida, west to Texas and Nebraska
ALISMATACEAE																
**Alisma plantago-aquatica* L.	0	0	0	0	0	0	0	0	0	0	0	0	1	0		
A. subcordatum Raf.	1	0	0	0	0	1	0	0	0	0	1	0	0	0		Central: Manitoba to Quebec, east to New Brunswick, south to n. Georgia, s. Alabama and Texas, west to North Dakota, Colorado and California
Echinodorus cordifolius (L.) Griseb.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Iowa and Indiana, east to e. Virginia, south to c. Florida, west to s.c. Texas and Kansas

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Sagittaria australis (J.G. Sm.) Small	1	0	0	0	1	0	0	0	0	0	0	0	1	0	Intraneous: Eastern N. America	Central: Ohio and New York, east to New Jersey and North Carolina, south to n. Florida, west to Louisiana and Iowa
S. latifolia Willd.	0	1	1	0	1	1	0	0	0	0	0	0	1	0	Intraneous: Throughout N. America	Central: Throughout N. America
ARACEAE																
Acorus americanus (Raf.) Raf.	0	1	0	0	0	0	0	0	0	0	0	0	1	0		Northern: Northwest Territories to Quebec, east to Newfoundland, south to Virginia, Illinois and Nebraska, west to Washington, British Columbia and Alaska
Arisaema dracontium (L.) Schott	1	1	1	0	1	0	1	0	0	0	0	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Ontario and Quebec, east to Massachusetts, south to c. Florida, west to c. Texas, e. Nebraska and e. Minnesota
A. triphyllum (L.) Schott	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern N. America	Central: Manitoba to Quebec, east to Nova Scotia and Massachusetts, south to Florida, west to Texas and North Dakota
A. triphyllum (L.) Schott ssp. *quinatum* (Buckley) Huttleston	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Extraneous northwest: southeastern N. America	Southern: s.e. Kentucky, east to North Carolina, south to n. Florida, west to e. Texas and Arkansas
Orontium aquaticum L.	0	0	0	1	0	0	1	0	0	1	0	0	0	0		Central: Kentucky, Pennsylvania and New York, east to Massachusetts, south to s. Florida, west to e. Texas
Peltandra virginica (L.) Schott	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Ontario and Quebec, east to Maine, south to s. Florida, west to e. Texas, Oklahoma and Minnesota with disjuncts in California and Oregon
Symplocarpus foetidus (L.) Nutt.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
COMMELINACEAE																
**Commelina communis* L.	1	1	1	1	1	0	0	1	1	1	0	0	1	0	Introduced	
C. diffusa Burm. f.	0	0	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Missouri, Ohio, New York and Vermont, east to New Jersey, south to s. Florida, west to s.c. Texas and e. Kansas
C. erecta L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
C. virginica L.	1	1	0	0	0	0	0	0	0	0	0	0	0	0		Central: Illinois to Pennsylvanis, east to New Jersey, south to c. Florida, west to Texas and Kansas
**Murdannia keisak* (Hassk.) Hand.-Maz.	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Introduced	
Tradescantia ohiensis Raf.	0	1	0	0	0	0	0	0	0	1	0	0	0	0		Central: Ontario and s. Maine, east to e. Massachusetts, south to s. Florida, west to w. Texas and s.c. Nebraska
T. subaspera Ker Gawl.	1	1	0	1	1	1	1	1	1	1	1	0	0	0	Intraneous: Eastern N. America	Central: Illinois, Ohio and New York, east to Virginia and North Carolina, south to n. Florida and s. Louisiana, west to c. Missouri
T. subaspera Ker Gawl. var. *montana* (Shuttlw. ex Britton) E.S.Anderson & Woodson	0	0	1	0	0	0	0	0	0	0	0	0	0	0		Southern: West Virginia and New York, east to North Carolina, south to n. Florida, west to s. Louisiana and Illinois
T. virginiana L.	1	0	0	0	0	0	1	0	0	1	0	1	0	0		Central: Ontario and s. Maine, east to e. Massachusetts, south to n. Georgia and s. Mississippi, west to n.w. Louisiana and Minnesota with disjuncts in California

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CYPERACEAE																
Bulbostylis capillaris (L.) Kunth ex C.B. Clarke	1	0	0	0	0	0	0	0	0	0	1	1	0	0		Central: Ontario and Quebec, east to Nova Scotia, south to Florida and Texas, west to California, Nebraska and Minnesota
Carex abscondita Mack.	0	0	0	1	0	0	1	1	0	0	1	0	0	0		Southern: s.e. Missouri, Kentucky, Pennsylvania, s. New York and New Hampshire, east to Massachusetts, south to n. Florida and s. Louisiana, west to e. Texas and Oklahoma
C. aestivalis M.A. Curtis ex A. Gray	0	1	0	0	0	1	1	0	0	0	0	0	0	0		Central: West Virginia, New York, Vermont and New Hampshire, east to Massachusetts, south to n.e. Georgia and Alabama, west to w. Tennessee and s.e. Kentucky
C. alata Torr.	0	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Illinois, Ontario, New York and New Hampshire, east to Massachusetts and North Carolina, south to s. Florida, west to e. Texas and s. Missouri
C. albicans Willd. ex Spreng. var. *albicans*	0	0	0	0	1	0	0	1	0	0	0	0	0	0	Intraneous: Eastern N. America	Central: Ontario and Quebec, east to Nova Scotia, Massachusetts and North Carolina, south to Georgia and Louisiana, west to Oklahoma, Nebraska and Minnesota
C. albicans Willd. ex Spreng. var. *emmonsii* (Dewey ex Torr.) J. Rettig	1	0	0	0	1	1	0	1	0	0	0	0	0	0	Extraneous southwest: Northeastern N. America	Northern: Ontario and Quebec, east to Nova Scotia, south to s. South Carolina, west to w. Tennessee, s. Illinois and s.w. Wisconsin
C. albolutescens Schwein.	0	0	1	0	0	1	1	0	0	0	0	0	0	0		Central: Illinois, s.w. Michigan and s. New York, east to Massachusetts, south to n.w. Florida, west to e. Texas, Oklahoma and Missouri
C. albursina Sheldon	1	1	1	0	0	1	0	1	0	0	1	0	0	0		Northern: Ontario and Quebec, east to Massachusetts and North Carolina, south to n.w. Georgia and n. Alabama, west to Oklahoma, Missouri, Nebraska and Minnesota
C. amphibola Steud.	1	1	1	0	1	1	1	0	0	0	0	1	0	0	Intraneous: Eastern N. America	Central: Ontario and New Hampshire, east to Massachusetts and North Carolina, south to s. Georgia and s. Louisiana, west to e. Texas and Missouri
C. annectens (E.P. Bicknell) E.P. Bicknell	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Minnesota, Ontario and Quebec, east to New Brunswick and e. North Carolina, south to Florida and s. Louisiana, west to n.c. Texas, e. Kansas and Minnesota
C. atlantica L.H. Bailey ssp. *atlantica*	1	0	0	1	1	1	0	0	0	0	0	0	0	0	Intraneous: Eastern N. America	Central: Ontario to Nova Scotia, east to Massachusetts, south to Florida, west to e. Texas and Missouri
C. austrocaroliniana L.H. Bailey	1	0	0	0	1	1	1	1	1	0	1	0	0	0	Intraneous: Southern Appalachians	Southern: s.e. Kentucky, Tennessee, east to w. North Carolina, south to n. Georgia and Alabama
C. baileyi Britton	1	1	0	0	0	1	0	0	0	0	0	0	0	0		Northern: Kentucky, New York and Quebec, east to Maine and Massachusetts, south to s.w. North Carolina and s. Tennessee, west to Arkansas and Illinois
C. blanda Dewey	0	1	1	1	1	0	1	1	1	1	1	1	0	0	Intraneous: Eastern-midwestern N. America	Central: Manitoba and Quebec, east to Maine, south to c. Florida, west to New Mexico, Kansas, Wyoming and North Dakota

Flora	Prentice Cooper (Beck & Van Horn 2007) 25,452 Acres	New River Gorge (Suiter & Evans 1999) 25,123 acres	Fall Creek Falls (Flemming & Wofford 2004) 21,992 Acres	White Oak Creek Gorge (Allawos 1994) 13,361 Acres	Tennessee River Gorge (Blyveis & Shaw) 12,281 Acres	Savage Gulf (Wofford et al. 1979) 10,000 Acres	Obed (Schmalzer et al. 1985) 9,884 Acres	Fiery Gizzard (Clark 1966) ca. 8,960 Acres	NCCGSNA (Huskins & Shaw 2010) 7,073 Acres	Clear Fork/New River (Goodson & Bailey 2001) 4,685 Acres	Wolf Cove (Clements & Wofford 1991) 2,471 Acres	Pilot Knob (Weckman et al. 2003) 647 Acres	Lilley Cornett Woods (Sole et al. 1983) 544 acres	Big Everidge Hollow (McEwan et al. 2005) 129 Acres	Geographical Affinities to the TRG	Center of Distribution
C. bushii Mack.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
C. careyana Torr. ex Dewey	0	0	1	0	0	0	0	0	0	0	1	0	0	0		Northern: Ontario and New York, east to e. Virginia and North Carolina, south to Georgia and Alabama, west to Arkansas and Minnesota
C. caroliniana Schwein.	1	0	1	0	1	0	0	0	1	0	1	0	0	0	Intraneous: Southeastern N. America	Southern: Illinois and New York, east to Virginia and North Carolina, south to n. Florida, west to e. Texas and e. Kansas
C. cephalophora Muhl. ex Willd.	1	0	1	0	0	1	1	1	1	0	1	0	1	0		Central: Minnesota, Ontario and Quebec, east to Maine and e. Massachusetts, south to n.w. Florida and s. Louisiana, west to e. Texas and South Dakota with disjuncts in California
C. cherokeensis Schwein.	1	0	0	0	1	0	0	0	1	0	0	0	0	0	Intraneous: Southeastern N. America	Southern: s. Missouri, east to Virginia, south to n. Florida, west to e. Texas and Oklahoma
C. communis L.H. Bailey	0	0	1	1	0	1	1	0	1	0	0	0	1	1		Central: Ontario, Quebec and Labrador, east to Newfoundland and Nova Scotia, south to n. Georgia, n. Alabama and n. Mississippi, west to Oklahoma and Minnesota
C. complanata Torr. & Hook.	1	0	1	0	1	1	0	0	1	0	1	1	1	0	Intraneous: Southeastern N. America	Southern: Missouri, Kentucky and Pennsylvania, east to New Jersey, south to c. Florida, west to s.c. Texas and Oklahoma
C. conjuncta Boott	1	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern: s. Minnesota, Michigan and n. New York, east to New Jersey, Delaware and Virginia, south to s.e. Tennessee, Alabama and Arkansas, west to Kansas and South Dakota
C. crinita Lam. var. *crinita*	1	1	1	1	0	1	1	0	0	1	0	1	0	0		Northern: Manitoba to Quebec, east to Nova Scotia, south to Georgia and Tennessee, west to Missouri and Minnesota
C. crinita Lam. var. *brevicrinis* Fernald	0	0	0	0	1	0	0	0	1	0	0	0	0	0	Intraneous: Southeastern N. America	Central: Illinois, Ohio to New York, east to Massachusetts, south to Georgia and Louisiana, west to Texas, Oklahoma and Missouri
C. cumberlandensis Naczi, Kral & Bryson	1	0	1	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Eastern N. America	Central: Indiana to Pennsylvania, east to North Carolina, south to Georgia and Mississippi, west to Arkansas
C. debilis Michx.	1	1	1	1	0	0	0	0	1	0	1	0	0	0		Central: Minnesota, Ontario and Quebec, east to Newfoundland and Nova Scotia, south to c. Florida, west to e. Texas, Missouri and Minnesota
C. debilis Michx. var. *rudgei* L.H. Bailey	0	1	0	0	0	1	0	0	0	0	1	0	0	0		Northern: Ontario and Quebec, east to Newfoundland and Nova Scotia, south to Georgia and Tennessee, west to Missouri and Minnesota
C. digitalis Willd. var. *digitalis*	1	1	1	0	1	0	0	0	1	1	1	1	1	1	Intraneous: Eastern-midwestern N. America	Northern: Ontario and Quebec, east to Nova Scotia, south to Georgia, Alabama and Arkansas, west to Oklahoma, Missouri and Wisconsin
C. digitalis Willd. var. *macropoda* Fernald	0	0	1	0	0	0	0	0	0	0	0	0	0	0		Central: Illinois, Indiana, Virginia and Maryland, east to North Carolina, south to Georgia and Louisiana, west to Texas, Oklahoma and Missouri

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C. eburnea Boott	0	0	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Throughout N. America	Central: Alaska, Northwest Territories, Manitoba, Ontario, Quebec and Labrador, east to Newfoundland and Nova Scotia, south to Georgia, Alabama, Arkansas and Texas, west to Wyoming and Montana
C. festucacea Schkuhr ex Willd.	1	1	0	0	1	0	0	0	1	0	1	0	0	0	Intraneous: Eastern N. America	Central: Ontario and New York, east to Massachusetts and North Carolina, south to n. Florida, west to e. Texas, Kansas and s.w. Minnesota
C. flaccosperma Dewey	0	0	0	0	0	1	0	0	0	0	0	0	0	0		Southern: Missouri, Illinois, Kentucky and Maryland, east to e. North Carolina, south to n.w. Florida, s. Mississippi and s. Louisiana, west to s.c. Texas and Kansas
C. folliculata L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
C. frankii Kunth	1	1	1	0	1	0	0	0	1	0	0	1	0	0	Intraneous: Eastern-midwestern N. America	Central: Iowa, Michigan, Ontario and New York, east to e. Virginia, south to n. Florida and s. Louisiana, west to w. Texas, s. New Mexico, e. Kansas and s.e. Nebraska
C. gigantea Rudge	1	0	0	0	0	1	0	0	0	0	1	0	0	0		Southern: s.e. Missouri, s. Illinois, s. Indiana, Virginia and Maryland, east to e. North Carolina, south to s. Florida and s. Louisiana, west to e. Texas and Oklahoma
C. glaucescens Elliot	0	0	1	0	0	0	0	0	0	0	0	0	0	0		Southern: Arkansas, n.w. Tennessee, e. Virginia and Maryland, south to c. Florida and s.w. Louisiana, west to e. Texas
C. gracilescens Steud.	0	0	0	0	0	0	0	1	0	0	0	0	0	0		Central: Ontario, Vermont and New Hampshire, east to Massachusetts and e. Virginia, south to the panhandle of Florida, west to s. Louisiana, w. Missouri and e. Minnesota
C. gracillima Schwein.	0	1	0	1	0	0	0	0	0	0	0	0	0	0		Central: Manitoba, Quebec and Labrador, east to Newfoundland and Nova Scotia, south to e. Georgia and Alabama, west to Arkansas, Minnesota and North Dakota
C. granularis Muhl. ex Willd.	1	1	1	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Saskatchewan to Quebec, east to Nova Scotia, south to c. Florida, west to n.e. Texas, Wyoming and North Dakota
C. grayi Carey	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Minnesota, Ontario and Quebec, east to Vermont and Massachusetts, south to n.w. Florida, s. Alabama and Mississippi, west to s.e. Oklahoma and e. Kansas
C. grisea Wahlenb.	0	0	0	1	0	0	0	1	0	0	0	0	0	0		Central: Minnesota, Ontario and Quebec, east to New Brunswick, south to Virginia, s.e. Tennessee and c. Mississippi and Louisiana, west to n.e. Texas, w. Nebraska and s.e. South Dakota
C. gynandra Schwein.	0	0	0	0	0	0	0	0	0	0	1	0	0	0		Northern: Nunavut, Ontario, Quebec and Labrador, east to Newfoundland and Nova Scotia, south to Georgia and Alabama, west to Tennessee, c. Kentucky, Michigan and Minnesota

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***C. hitchcockiana* Dewey	0	0	0	0	0	1	0	0	0	0	0	0	0	0		Northern: Ontario and Quebec, east to Massachusetts and North Carolina, south to Tennessee, Alabama and Arkansas, west to Oklahoma, Nebraska and Minnesota
C. hirsutella Mack.	0	1	1	0	1	0	0	1	1	0	0	1	0	0	Intraneous: Eastern-midwestern N. America	Central: Wisconsin, Ontario and Quebec, east to Maine and Massachusetts, south to Georgia and Louisiana, west to Texas, Kansas and Iowa
C. intumescens Rudge	1	1	1	1	0	1	1	0	1	1	1	0	0	0		Central: Manitoba to Quebec and Labrador, east to Newfoundland and Nova Scotia, south to c. Florida and s. Louisiana, west to Texas, Oklahoma, Missouri, South Dakota and Wyoming
C. jamesii Scwein.	0	0	1	0	1	1	0	1	0	0	1	0	0	0	Extraneous southeast: Northeastern-midwestern N. America	Central: Ontario, east to New York, south to South Carolina, Alabama and Mississippi, west to Oklahoma, Nebraska and Minnesota
C. joorii L.H. Bailey	1	0	0	0	0	1	0	0	1	0	0	0	0	0		Southern: Missouri, Kentucky and Virginia, east to New Jersey and e. North Carolina, south to c. Florida and s. Louisiana, west to e. Texas and Oklahoma
C. kraliana Naczi & Bryson	1	0	1	0	0	0	0	0	1	0	0	0	0	0		Central: Indiana, Ohio and Maryland, east to Virginia and North Carolina, south to c. Florida, west to c. Texas and Arkansas
C. laxiculmis Schwein.	1	0	0	0	0	0	1	0	0	0	0	0	0	0		Central: Ontario and Quebec, east to Maine, south to Florida, Alabama and Arkansas, west to Oklahoma and Minnesota
C. laxiflora Lam.	0	0	1	1	0	1	1	1	1	0	0	0	1	1		Central: Ontario and Quebec, east to Nova Scotia, south to Florida and Louisiana, west to Oklahoma, Missouri and Minnesota
C. leavenworthii Dewey	1	0	1	0	0	0	0	0	0	0	0	0	0	0		Central: Iowa, Wisconsin, Ontario and New York, east to New Jersey, south to Florida and s. Louisiana, west to Texas and Nebraska with disjuncts in California
C. lucorum Willd. ex Link var. *austrolucorum* J. Rettig	0	0	1	0	0	0	0	0	1	0	0	0	0	0		Northern: Ontario, Quebec and New Brunswick, east to Nova Scotia, south to Georgia and s.e. Tennessee, west to Illinois and Minnesota
C. lucorum Willd. ex Link var. *lucorum*	0	0	0	0	0	1	0	1	0	0	0	0	0	0		Northern: Ontario, Quebec and New Brunswick, east to Nova Scotia, south to Maryland and e. Kentucky, west to Illinois and Minnesota
C. lupulina Muhl. ex Willd.	1	0	0	0	1	0	1	0	1	0	0	1	1	0	Intraneous: Eastern-midwestern N. America	Central: Minnesota, Ontario and Quebec, east to Nova Scotia, south to n.e. Florida and s. Louisiana, west to s.c. Texas and c. Nebraska
C. lurida Wahlenb.	1	1	1	1	1	1	1	0	1	1	1	0	1	0	Intraneous: Eastern-midwestern N. America	Central: Minnesota, Ontario, Quebec and Labrador, east to Nova Scotia, south to n. Florida and s. Louisiana, west to s.c. Texas, Oklahoma and Iowa
C. meadii Dewey	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Saskatchewan, Ontario and New York, east to New Jersey and North Carolina, south to Georgia and s. Louisiana, west to Texas and North Dakota with disjuncts in Arizona
C. muehlenbergii Schkuhr ex Willd.	0	0	0	1	0	0	1	1	0	1	0	1	0	0		Central: Minnesota, Ontario and Quebec, east to s. Maine, south to n.w. Florida and s. Louisiana, west to c. Texas and w. Nebraska

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C. muehlenbergii Schkuhr ex Willd. var. *enervis* Boott.	1	0	0	0	1	0	0	0	1	0	0	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Iowa, Michigan and Ontario, east to Maine and Massachusetts, south to Florida, s.w. Tennessee and s. Louisiana, west to c. Texas and w. Nebraska
C. nigromarginata Schwein.	1	0	0	0	1	0	0	0	1	0	1	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Wisconsin, Ontario and n. New York, east to Connecticut, south to s. Georgia and s. Louisiana, west to Texas, Oklahoma and Missouri
C. normalis Mack.	0	0	0	0	0	0	0	0	0	0	0	0	0	1		Central: Ontario and Quebec, east to Maine, south to s.w. Georgia and Alabama, west to Arkansas, Kansas and Minnesota
C. oligocarpa Schkuhr ex Willd.	0	1	1	0	0	0	0	1	0	0	1	1	0	0		Central: Ontario and Quebec, east to Massachusetts, south to c. Florida and n.e. Mississippi, west to e. Oklahoma, e. Nebraska and Minnesota
C. oxylepis Torr. & Hook. var. *oxylepis*	1	0	0	0	0	0	0	0	1	0	0	0	0	0		Southern: Missouri, Illinois and Kentucky, east to Virginia and e. North Carolina, south to n. Florida and s. Louisiana, west to Texas and Oklahoma
C. pedunculata Muhl. ex Willd.	0	0	0	0	1	1	0	0	0	0	0	0	0	0	Extraneous southwest: Northern-northeastern N. America	Northern: British Columbia to Quebec, east to Newfoundland and Nova Scotia, south to n.w. Georgia, n. Alabama and Iowa, west to South Dakota and North Dakota
C. pensylvanica Lam.	1	1	1	0	1	0	1	1	1	1	1	1	0	0	Intraneous: Northeastern-northcentral N. America	Northern: Manitoba to Quebec, east to Maine, south to n. Georgia, n. Alabama and n. Mississippi, west to w. Arkansas, e. South Dakota and North Dakota
C. picta Steud.	1	0	0	0	0	0	0	0	0	0	0	1	0	0		Southern: s. Indiana and e. Kentucky, south to n.w. Georgia, s.w. Alabama and s. Mississippi, west to Louisiana
C. planispicata Naczi	0	0	1	0	0	0	0	0	0	0	0	0	0	0		Central: Missouri, Illinois, Ohio and Pennsylvania, east to New Jersey, south to Georgia and Mississippi, west to Texas and Oklahoma
C. plantaginea Lam.	0	1	1	1	0	1	1	1	1	0	1	0	1	0		Central: Ontario and Quebec, east to Nova Scotia, south to Georgia and Alabama, west to Iowa and Minnesota
C. platyphylla Carey	0	1	0	0	1	0	0	0	0	0	0	1	0	1	Intraneous: Eastern N. America	Northern: Ontario and Quebec, east to New Brunswick, south to Georgia and Alabama, west to Missouri and Wisconsin
C. prasina Wahlenb.	0	1	0	0	0	0	0	0	0	0	1	0	1	1		Central: Ontario and Quebec, east to Maine, south to Georgia and Mississippi, west to Arkansas, Missouri and Michigan
C. projecta Mack.	0	0	0	1	0	0	0	0	0	1	0	0	0	0		Northern: Saskatchewan, Quebec and Labrador, east to Newfoundland and Nova Scotia, south to Georgia and Tennessee, west to Iowa and Minnesota with disjuncts in Washington
C. purpurifera Mack.	0	0	0	0	1	1	0	0	1	0	1	0	0	0	Intraneous: Southeastern N. America	Southern: Ohio and Kentucky, east to Virginia and North Carolina, south to n. Georgia and n. Alabama, west to n.c. Tennessee
C. radiata (Wahlenb.) Small	0	1	0	0	0	0	1	0	0	0	0	0	0	0		Central: Manitoba and Quebec, east to Newfoundland, south to Georgia, Alabama and Arkansas, west to Kansas, Nebraska, Minnesota and North Dakota
C. retroflexa Muhl. ex Willd.	1	0	1	0	0	1	0	1	1	1	1	0	0	0		Central: Iowa, Michigan, Ontario, New York and Maine, east to Massachusetts, south to c. Florida, west to Texas and Kansas

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C. rosea Schkuhr ex Willd.	1	1	1	1	1	1	1	1	1	0	1	1	1	0	Intraneous: Eastern-midwestern N. America	Central: Manitoba to Quebec, east to Nova Scotia, south to n.w. Florida, west to e. Texas, Wyoming and North Dakota
C. scoparia Schkuhr ex Willd.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Throughout N. America
C. seorsa Howe	1	1	0	0	0	0	0	0	0	0	0	0	0	0		Central: Ontario, New York and New Hampshire, east to Massachusetts, south to n.w. Florida, west to Mississippi, Arkansas, Indiana and Michigan
C. sparganioides Muhl. Ex Willd.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
C. squarrosa L.	1	0	0	0	0	0	0	0	0	0	0	0	1	0		Central: Minnesota, Ontario and New York, east to Connecticut, south to n. Georgia and c. Louisiana, west to Oklahoma and Nebraska
C. stipata Muhl. ex Willd.	1	1	0	0	0	0	0	0	0	0	0	0	0	0		Central: Throughout N. America
C. straminea Willd. ex Schkuhr	0	0	0	0	0	0	0	0	0	1	0	0	0	0		Northern: Wisconsin, Michigan and New York, east to Massachusetts, south to North Carolina and Kentucky, west to Missouri and Illinois
C. striatula Michx.	1	1	1	0	0	0	0	0	0	1	1	0	0	0		Central: Illinois, Michigan and New York, east to Connecticut, south to n. Florida, west to Texas and Oklahoma
C. stricta Lam.	0	1	0	0	0	0	0	1	0	0	0	0	0	0		Central: Manitoba to Quebec, east to Nova Scotia, south to n. Georgia, n. Alabama, c. Louisiana and Texas, west to Kansas, Wyoming and North Dakota
C. styloflexa Buckley	1	0	1	1	0	0	0	0	1	0	0	0	0	0		Central: Illinois and New York, east to Connecticut, south to c. Florida, west to e. Texas, s.c. Tennessee and Illinois
C. swanii (Fernald) Mack.	1	1	1	1	0	1	0	1	1	1	1	0	1	0		Central: Ontario and Quebec, east to Nova Scotia, south to Georgia, Tennessee and Mississippi, west to Oklahoma, Missouri and Michigan with disjuncts in British Columbia
C. texensis (Torr.) L.H. Bailey	0	0	1	0	0	0	0	0	0	0	0	0	0	0		Central: Nebraska, Illinois and New York, east to e. North Carolina, south to Georgia and s. Louisiana, west to e. Texas and Kansas with disjuncts in California
C. torta Boott ex Tuck.	0	1	0	1	0	0	1	0	0	0	0	0	0	0		Central: Minnesota, Ontario and Quebec, east to Nova Scotia, south to Georgia and Mississippi, west to Oklahoma, Missouri and Minnesota
C. tribuloides Wahlenb.	0	1	0	0	0	0	1	1	1	1	0	0	1	0		Central: Manitoba to Quebec, east to Nova Scotia, south to c. Florida, west to s.c. Texas, South Dakota and Minnesota with disjuncts in British Columbia
C. virescens Muhl. ex Willd.	1	0	1	1	1	1	1	0	1	1	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Ontario and Maine, east to Massachusetts, south to n. Georgia and n.e. Mississippi, west to Arkansas, Missouri, Illinois and Michigan
C. vulpinoidea Michx.	1	1	1	1	1	0	1	0	1	1	1	1	1	0	Intraneous: Throughout N. America	Central: Throughout N. America
Cymophyllus fraserianus (Ker Gawl.) Kartesz & Gandhi	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
Cyperus bipartitus Torr.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
C. croceus Vahl	0	0	0	0	0	0	0	1	0	0	0	0	0	0		Central: s.e. Missouri, Kentucky and s.e. Pennsylvania, east to New Jersey and e. North Carolina, south to s. Florida, west to c. Texas and Oklahoma

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**C. difformis L.*	0	0	0	0	1	0	0	0	0	0	0	0	0	0	Introduced	
C. echinatus (L.) Alph. Wood	1	0	0	0	1	0	1	1	0	0	0	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Missouri, Wisconsin and New York, east to Massachusetts, south to n. Florida, s. Louisiana and s. Texas, west to w. Texas, New Mexico and s.e. Kansas
C. erythrorhizos Muhl.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
C. esculentus L.	1	1	0	0	0	0	0	0	0	0	0	0	0	0		Central: Throughout N. America
C. flavescens L.	1	1	1	0	0	0	0	0	0	0	0	0	0	0		Central: n. Illinois, Michigan, Ontario and s. New York, east to Massachusetts and e. North Carolina, south to s. Florida, west to s.c. Texas and Kansas with disjuncts in South Dakota and California
C. lancastriensis Porter ex A. Gray	1	1	0	0	0	0	0	0	0	0	0	0	0	0		Central: s. Missouri, s. Illinois, Kentucky, s. Ohio and s.e. Pennsylvania, east to New Jersey and e. North Carolina, south to c. Georgia, s. Alabama, s. Mississippi and n. Louisiana, west to Texas and Oklahoma
C. lupulinus (Spreng.) Marcks ssp. *Lupulinus*	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
C. odoratus L.	1	1	0	0	0	0	0	0	0	0	0	0	0	0		Central: North Dakota, Ontario and Quebec, east to Massachusetts, south to s. Florida and s. Texas, west to Colorado, Arizona, California to Washington
C. pseudovegetus Steud.	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Southeastern-southwestern N. America	Central: c. Missouri, s. Illinois, s. and Kentucky, east to Massachusetts and e. Virginia, south to n. Florida and s. Louisiana, west to s.c. Texas and s. Kansas
C. refractus Engelm. ex Boeckler	1	1	0	0	0	0	1	0	0	1	0	0	1	0		Central: c. Missouri, Kentucky, Indiana and s.e. Pennsylvania, east to New Jersey, south to Florida, west to Texas
C. retrofractus (L.) Torr.	1	0	0	0	0	1	1	0	0	0	0	0	0	0		Central: c. Missouri, Kentucky, Indiana and s.e. Pennsylvania, east to New Jersey, south to n.w. Florida, west to e. Texas
C. setigerus Torr. & Hook.	0	0	0	0	0	1	0	0	0	0	0	0	0	0		Western: s. Kansas, east to n.c. Missouri, south to c. Texas, west to New Mexico
C. squarrosus L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
C. strigosus L.	1	1	1	1	1	1	1	1	1	1	0	1	1	0	Intraneous: N. America	Central: Throughout N. America
Dulichium arundinaceum (L.) Britton	1	1	1	0	0	0	1	0	1	0	1	0	0	0		Central: Manitoba to Quebec, east to Newfoundland and Nova Scotia, south to s. Florida, west to c. Texas and Oklahoma, Missouri, Nebraska, California, British Columbia and Alaska
Eleocharis acicularis (L.) Roem. & Schult.	0	1	1	0	0	0	0	0	0	0	0	0	0	0		Central: Throughout N. America
E. intermedia Schult.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
E. microcarpa Torr.	1	0	0	0	1	0	0	0	0	0	1	0	0	0	Extraneous northwest: Southeast-southwestern N. America	Central: n.e. Tennessee, Virginia and s. New York, east to Massachusetts, south to s. Florida, west to e. Texas and s. Arkansas with disjuncts in n.e. Indiana and Michigan
E. obtusa (Willd.) Schult.	1	1	1	1	1	1	1	1	0	0	1	0	1	0	Intraneous: Throughout N. America	Central: Throughout N. America

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E. ovata (Roth) Roem. & Schult.	0	0	0	0	0	0	0	0	0	0	0	1	0	0		Northern: Ontario and Quebec, east to Newfoundland and Nova Scotia, south to Maryland and Kentucky, west to Missouri and Minnesota with disjuncts in Oregon to British Columbia and Alberta
E. quadrangulata (Michx.) Roem. & Schult.	1	0	1	0	0	0	0	0	0	0	0	0	0	0		Central: Wisconsin, Ontario, New York and New Hampshire, east to Massachusetts and North Carolina, south to Florida, west to s.c. Texas and s.e. Kansas with disjuncts in California and Oregon
E. tenuis (Willd.) Schult.	0	1	0	0	0	0	0	0	0	0	0	1	1	0		Central: Minnesota, Wisconsin, Ohio, New York and Quebec, east to Nova Scotia, south to c. Georgia and s. Louisiana, west to s.c. Texas and South Dakota
Fimbristylis autumnalis (L.) Roem. & Schult.	0	1	0	0	1	0	1	1	0	0	0	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Ontario and Quebec, east to New Brunswick, south to s. Florida, west to c. Texas and s.e. South Dakota with disjuncts in California
Kyllinga gracillima Miq.	1	0	1	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Southeastern N. America	Central: Pennsylvania and New York, east to Connecticut, south to Georgia and Mississippi, west to Arkansas and Missouri
K. pumila Michx.	0	1	0	0	0	0	1	1	0	0	0	0	0	0		Central: e.c. Illinois, east to s.e. New York and New Jersey, south to s. Florida, west to e. Texas and e. Kansas
Rhynchospora capitellata (Michx.) Vahl	1	1	1	0	1	1	1	0	1	1	0	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Ontario and Quebec, east to Nova Scotia, south to Georgia and Louisiana, west to Texas, Kansas and Wisconsin with disjuncts in California and Oregon
***R. chalarocephala* Fernald & Gale	0	0	0	0	0	0	0	0	1	0	0	0	0	0		Southern: s.c. Tennessee and Virginia, north to s.e. New York, east to New Jersey and e. North Carolina, south to c. Florida and s. Louisiana, west to e. Texas
R. corniculata (Lam.) A. Gray	1	0	0	0	1	1	0	0	1	0	1	0	0	0	Intraneous: Southeastern-midwestern N. America	Central: s. Illinois and s. Indiana, east to Delaware and e. North Carolina, south to s. Florida, west to s.c. Texas and Oklahoma
R. globularis (Chapm.) Small	0	0	0	0	0	0	0	0	0	1	0	0	0	0		Southern: s.e. Arkansas, Tennessee and n. Virginia, east to Delaware, south to s. Florida, west to w. Texas with disjuncts in California
R. glomerata (L.) Vahl	0	0	0	0	0	0	0	0	0	0	1	0	0	0		Central: n. Illinois, n. Indiana, Virginia and New Jersey, east to Delaware, south to n. Florida and s. Louisiana, west to s.c. Texas and Kansas
R. recognita (Gale) Kral	1	0	0	0	0	0	1	0	0	0	0	0	0	0		Central: n.e. Illinois, s. Michigan and s. New York, east to New Jersey, south to Florida, west to e. Texas and c. Kansas with disjuncts in California
Schoenoplectus americanus (Purs.) Volkart ex Schinz & R. Keller	0	1	0	0	0	0	0	0	0	1	0	0	0	0		Central: Ontario and Quebec, east to Maine, south to c. Georgia and Mississippi, west to e. Missouri and Minnesota
S. pungens (Vahl) Palla	0	0	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Throughout N. America	Central: Throughout N. America
S. purshianus (Fernald) M.T. Strong	1	1	1	0	0	0	0	0	0	0	1	0	0	0		Central: Ontario and Quebec, east to Maine, south to c. Georgia and Mississippi, west to e. Missouri and Minnesota
S. tabernaemontani (C.C. Gmel.) Palla	1	1	1	0	1	0	0	0	0	0	0	0	0	0	Intraneous: N. America	Central: Throughout N. America

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Scirpus atrovirens Willd.	1	1	1	0	1	0	0	0	1	0	1	1	1	0	Intraneous: Throughouth N. America	Central: Washington, North Dakota, Manitoba, to Quebec, east to Newfoundland and Maine, south to Georgia and s.e. Louisiana, west to Texas, Nebraska and Arizona
S. cyperinus (L.) Kunth	1	1	1	1	1	1	1	0	1	1	1	1	1	0	Intraneous: Throughout N. America	Central: Alberta, Montana, Manitoba to Quebec, east to Newfoundland and Nova Scotia, south to s. Florida, west to n.c. Texas, Oklahoma, Iowa, Washington, Oregon and California
S. expansus Fernald	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
S. georgianus Harper	0	0	0	0	0	1	0	0	1	0	0	0	0	0		Central: Minnesota, Ontario and Maine, east to Nova Scotia, south to w.c. Georgia and n. Louisiana, west to s.c. Texas, Arkansas and c. Kansas
S. lineatus Michx.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Southern
S. pendulus Muhl.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Throughout N. America
S. polyphyllus Vahl	0	0	0	1	0	0	0	0	0	0	0	0	0	0		Central: n.e. Illinois, Ohio, n. New York and Maine, east to Massachusetts, south to n. Georgia and n. Mississippi, west to w. Arkansas and e. Missouri
Scleria ciliata Michx.	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Southeastern N. America	Southern: c. Missouri and Kentucky, east to Virginia, south to s. Florida, west to e. Texas and c. Kansas
S. oligantha Michx.	1	0	0	0	1	1	0	0	0	0	1	0	0	0	Intraneous: Southeastern N. America	Central: Illinois and Ohio, east to New Jersey, south to c. Florida and s. Louisiana, west to e. Texas, Oklahoma and s. Missouri
S. triglomerata Michx.	1	0	1	0	1	1	1	0	0	0	0	0	0	0	Intraneous: Eastern-Midwestern N. America	Central: Ontario and New York, east to Massachusetts, south to s. Florida, west to e. Texas, Nebraska and Minnesota
DIOSCOREACEAE																
**Dioscorea oppositifolia* L.	1	1	1	0	1	1	0	1	1	0	0	0	0	0	Introduced	
*D. quaternata*J.F. Gmel.	0	1	0	0	0	0	0	0	0	1	0	1	1	0		Central: Minnesota, Wisconsin, Ohio and Pennsylvania, east to New Jersey, south to n. Florida, west to e. Texas and Nebraska
D. villosa L.	1	0	1	1	1	1	1	1	1	1	1	1	0	1	Intraneous: Eastern-midwestern N. America	Central: Minnesota, Ontario, New Jersey and Vermont, east to Massachusetts, south to n. Florida, west to e. Texas and e. Nebraska
DIPSACACEAE	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Dipsacus fullonum L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
HYDROCHARITACEAE																
Elodea canadensis Michx.	1	1	0	0	0	0	0	0	0	0	0	0	0	0		Central: Throughout N. America
**Hydrilla verticillata* (L.f.) Royle	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
Vallisneria americana Michx.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Throughout N. America
IRIDACEAE																
**Belamcanda chinensis* (L.) DC.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		

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Iris cristata Aiton	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-southwestern N. America	Central: Illinois, Pennsylvania and Massachusetts, east to Maryland, south to c. Georgia, s. Alabama and c. Mississippi, west to Oklahoma and Missouri
**I. germanica* L.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
I. pseudacorus L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
I. verna L.	0	0	0	0	0	0	1	0	0	0	0	0	0	0		Central: Kentucky, Ohio and New York, east to Maryland, south to n.w. Florida and s.w. Mississippi, west to Arkansas and Missouri
I. verna L. var. *smalliana* Fern. ex M. E. Edwards	1	0	1	0	0	0	0	0	0	0	0	0	0	0		Central: Kentucky, Ohio and New York, east to Virginia, south to Georgia and Mississippi, west to Arkansas and Missouri
Sisyrinchium albidum Raf.	1	0	1	0	0	1	0	0	0	0	0	0	1	0		Central: Wisconsin, Ontario, Pennsylvania and Maine, east to North Carolina, south to Florida, west to Texas and Missouri
S. angustifolium Mill.	1	1	1	1	1	1	1	1	1	1	0	1	0	1	Intraneous: Eastern-midwestern N. America	Central: Minnesota, Ontario, Quebec and Labrador, east to Nova Scotia and Massachusetts, south to s. Florida, west to w. Texas and c. Kansas
S. atlanticum E.P. Bicknell	0	0	1	0	0	0	0	1	0	0	1	0	0	0		Central: Wisconsin, Michigan, New York and Maine, east to Nova Scotia, south to Florida, west to e. Texas and s. Missouri
S. montanum Greene	0	0	0	0	0	0	0	0	0	1	0	0	0	0		Central: Alaska, Northwest Territories, Manitoba, Ontario and Quebec, north to Greenland, east to Newfoundland and Nova Scotia, south to North Carolina, Ohio, Illinois, Kansas and Texas, west to New Mexico and Idaho
S. mucronatum Michx.	1	1	0	0	0	0	0	1	0	1	0	0	0	0		Central: Saskatchewan, Ontario and Quebec, east to Maine, south to n. Georgia and s. Mississippi, west to w. Louisiana, Illinois and North Dakota
JUNCACEAE	13								7							
Juncus acuminatus Michx.	1	1	1	0	1	0	0	0	1	0	0	1	1	0	Intraneous: Throughout N. America	Central: Throughout N. America
J. biflorus Elliot	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Illinois, Michigan and New York, east to Massachusetts, south to Florida, west to Texas, Oklahoma and Missouri
J. brachycarpus Engelm.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Illinois, Michigan, Minnesota, Ontario and New York, east to Massachusetts, south to Georgia, s. Alabama and s. Louisiana, west to e. Texas and s.e. Kansas
J. brachycephalus (Engelm.) Buchenau	0	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: North Dakota, Ontario and Quebec, east to Nova Scotia, south to North Carolina, Georgia, Alabama and Illinois with disjuncts in Oklahoma and Colorado
J. canadensis J. Gay ex Laharpe	0	0	0	0	0	1	0	0	0	0	0	0	1	0		Central: Manitoba to Quebec, east to Newfoundland and Nova Scotia, south to c. Florida, west to Louisiana, Missouri, Nebraska and South Dakota with disjuncts in Oregon to British Columbia
J. coriaceus Mack.	1	0	1	1	1	1	0	0	0	0	1	0	1	0	Intraneous: Southeastern-southwestern N. America	Southern: s. Kentucky, New Jersey and Maryland, east to e. Virginia, south to c. Florida and s. Louisiana, west to s.c. Texas and Oklahoma

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J. debilis A. Gray	1	0	0	0	0	1	1	0	1	0	1	0	0	0		Central: Illinois, Kentucky and Virginia, north to New York, east to Massachusetts, south to n. Florida and s. Louisiana, west to e. Texas and e. Missouri
J. diffusissimus Buckley	0	1	1	0	0	0	0	0	0	0	0	0	0	0		Central: Missouri to Pennsylvania, east to Connecticut, south to Florida, west to Texas and Kansas with disjuncts in California and Washington
J. dudleyi Wiegand	0	0	0	0	0	0	0	0	0	0	0	1	0	0		Central: Throughout N. America
J. effusus L.	1	1	1	1	1	1	1	0	1	1	1	1	1	0	Intraneous: Throughout N. America	Central: Throughout N. America
J. elliottii Chapm.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Southern: Kentucky and Virginia, east to New Jersey, south to Florida, west to Texas and Arkansas
J. interior Wiegand	0	0	1	0	0	0	1	0	0	0	0	0	0	0		Central: Saskatchewan to Ontario, east to Ohio, Virginia and North Carolina, south to Mississippi and Texas, west to Arizona, Montana and British Columbia
J. marginatus Rostk.	1	1	1	0	1	1	1	1	1	0	0	1	1	0	Intraneous: Throughout N. America	Central: South Dakota, Ontario and Maine, east to Nova Scotia, south to s. Florida, west to Oregon, California, Colorado and South Dakota with disjuncts in British Columbia
J. nodatus Coville	0	0	1	0	0	0	0	0	0	0	0	0	0	0		Central: Missouri, Wisconsin and Indiana, east to Kentucky and Tennessee, south to Florida and Louisiana, west to Texas and Kansas with disjuncts in California
J. repens Michx.	1	0	0	0	0	1	1	0	0	0	1	0	0	0		Southern: Arkansas, Tennessee, Virginia and Maryland, east to Delaware, south to s. Florida, west to e. Texas and Oklahoma
J. secundus P. Beauv. ex Poir.	0	0	1	0	0	0	0	0	0	0	0	0	0	0		Central: Ontario, Illinois, Ohio, New York and Maine, east to Nova Scotia, south to w.c. Georgia, Alabama, Tennessee and Louisiana, west to Oklahoma and Missouri
J. subcaudatus (Engelm.) Coville & S.F. Blake	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
J. tenuis Willd.	1	1	1	1	1	1	1	1	1	1	0	1	1	0	Intraneous: Throughout N. America	Central: Throughout N. America
Luzula acuminata Raf.	1	1	0	1	0	1	1	0	1	1	0	0	1	0		Central: Alberta to Quebec, east to Newfoundland and Nova Scotia, south to n. Florida, west to Louisiana, Iowa and South Dakota
L. bulbosa (Alph. Wood) Smyth & Smyth	1	0	1	0	0	1	0	0	0	0	1	0	0	0		Central: Iowa, Ohio and New York, east to Massachusetts, south to Florida, west to s.c. Texas and s.e. Kansas
**L. campestris* (L.) DC.	0	0	0	0	0	0	0	0	0	0	0	0	1	0		
L. echinata (Small) F. J. Herm.	1	0	1	0	1	0	1	1	0	1	1	1	0	1	Intraneous: Southeastern N. America	Central: Illinois and New York, east to Massachusetts and North Carolina, south to n. Florida, west to e. Texas and Iowa
L. multiflora (Ehrh.) Lej.	0	0	1	1	1	0	1	0	1	0	0	1	0	0	Extraneous southeast: North America	Central: Alaska and Quebec, east to Newfoundland and Massachusetts, south to South Carolina, Missouri, South Dakota and New Mexico, west to California and British Columbia
LEMNACEAE																

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Lemna minor L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
Spirodela polyrrhiza (L.) Schleid.	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Throughout N. America	Central: Throughout N. America
LILIACEAE																
Aletris farinosa L.	0	0	1	0	1	1	1	0	0	0	0	0	0	0	Intraneous: Eastern-Midwestern N. America	Central: Ontario, New York and Maine, east to Massachusetts and North Carolina, south to n. Florida, west to Texas, Illinois and Minnesota
***Allium burdickii* (Hanes) A.G. Jones	0	0	1	0	0	0	0	0	0	0	0	0	0	0		Northern: Ontario and Quebec, east to Maine, south to North Carolina and Tennessee, west to Missouri, Nebraska and North Dakota
A. canadense L.	1	1	0	1	1	1	0	1	0	0	1	0	1	0	Intraneous: Eastern-Midwestern N. America	Central: North Dakota, Ontario and Quebec, east to Maine, south to c. Florida, west to w. Texas, w. Nebraska and South Dakota
A. cernuum Roth	0	1	1	0	0	0	0	0	0	0	1	0	0	0		Central: British Columbia, Saskatchewan, South Dakota, Ontario and New York, east to Maryland, south to Georgia, Mississippi, Arkansas, Nebraska and Texas, west to Arizona, Utah, Oregon and Washington
**A. fistulosum* L.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
**A. sativum* L.	0	0	0	0	0	0	1	0	0	0	0	0	0	0		
**A. vineale* L.	1	1	1	0	1	0	0	0	1	1	0	1	1	0	Introduced	
Amianthium muscitoxicum (Walter) A. Gray	1	0	0	0	0	0	0	0	0	0	1	0	0	0		Central: Missouri, Kentucky, West Virginia and New York, east to New Jersey and e. North Carolina, south to n.w. Florida, west to e. Louisiana and Oklahoma
**Asparagus officinalis* L.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
Chamaelirium luteum (L.) A. Gray	1	0	1	1	1	1	1	1	0	1	1	0	0	0	Intraneous: Eastern N. America	Central: Ontario and New York, east to Massachusetts, south to n. Florida, west to n. Louisiana, Arkansas and Illinois
Clintonia unbellulata (Michx.) Morong	0	1	0	0	0	0	0	0	0	1	0	0	0	0		Central: Ohio and New York, east to New Jersey, south to n. Georgia, west to e. Tennessee and e. Kentucky
Erythronium americanum Ker Gawl.	1	1	1	1	1	1	1	1	1	1	1	0	1	1	Intraneous: Eastern-midwestern N. America	Central: Ontario and Quebec, east to Newfoundland and Nova Scotia, south to Georgia and c. Alabama, west to Louisiana and e. Minnesota
**Hemerocallis fulva* (L.) L.	1	1	1	1	1	0	0	0	1	1	0	1	1	0	Introduced	
Hosta ventricosa (Salisb.) Stearn	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
Hymenocallis caroliniana (L.) Herbert	0	0	0	0	0	0	0	1	0	0	0	0	0	0		Central: Missouri, Illinois, Indiana and Kentucky, east to North Carolina, south to Georgia and Louisiana, west to Texas and Oklahoma
Hypoxis hirsuta (L.) Coville	1	0	1	1	1	1	1	1	1	1	1	1	1	0	Intraneous: Throughout N. America	Central: Saskatchewan, Ontario to Maine, east to Massachusetts, south to Georgia, Louisiana and Texas, west to New Mexico, Colorado and North Dakota
***Lilium canadense* L.	0	0	0	0	0	0	0	0	0	0	0	1	0	0		Central: Ontario and Quebec, east to Nova Scotia, south to Georgia and Alabama, west to Indiana, Tennessee, Arkansas, Kansas and Nebraska
L. lancifolium Thunb.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern

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***L. michiganenese* Farw.*	0	0	0	0	0	1	0	0	0	0	0	0	0	0		Central: Minnesota, Ontario and New York, east to Pennsylvania and e. Tennessee, south to Georgia, Mississippi and Arkansas, west to Oklahoma and South Dakota
Maianthemum canadense Desf.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Northern: Yukon, Northwest Territories, Ontario, Quebec and Labrador, east to Newfoundland and Nova Scotia, south to n. Georgia, e. Tennessee, e. Kentucky, n. Illinois and Nebraska, west to Wyoming and Montana
M. racemosum (L.) Link ssp. *racemosum*	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Throughout N. America	Central: Throughout N. America
Medeola virginiana L.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern N. America	Central: Ontario to Quebec, east to Nova Scotia, south to n. Florida, west to Louisiana, Missouri and Minnesota
**Narcissus poeticus* L.	0	0	1	0	0	0	0	0	0	0	0	1	0	0		
**N. pseudonarcissus* L.	1	0	0	1	1	0	0	0	0	0	0	1	1	0	Introduced	
**N.* x *medioluteus* Mill. (pro sp.) [*poeticus* x *tazetta*]	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
Nothoscordum bivalve (L.) Britton	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Southeastern-southwestern N. America	Central: Missouri, Illinois and Ohio, east to Virginia, south to s. Florida, west to w. Texas and Nebraska
**Ornithogalum umbellatum* L.	1	1	0	0	0	0	0	0	0	0	0	1	0	0		
Polygonatum biflorum (Walter) Elliot	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Throughout N. America	Central: Saskatchewan to Quebec, east to Maine, south to c. Florida, west to Texas, New Mexico, Kansas, Wyoming and Montana
P. biflorum (Walter) Elliot var. *commutatum* (Schult. & Schult. f.) Morong	0	1	0	0	0	0	0	0	0	0	0	1	0	0		Central: Saskatchewan to Quebec, east to Maine, south to c. Florida, west to Texas, New Mexico, Kansas, Wyoming and Montana
P. pubescens (Willd.) Pursh	1	1	1	0	0	1	1	0	0	1	1	0	0	0		Northern: Ontario and Quebec, east to Nova Scotia, south to n. Georgia, west to Tennessee, Illinois, Iowa and Minnesota
Prosartes lanuginosa (Michx.) D. Don	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern N. America	Central: Ohio, Ontario and New York, east to Maryland, south to n. Georgia and c. Alabama, west to Arkansas, w. Tennessee and w. Kentucky
P. maculata (Buckley) A. Gray	1	0	1	0	0	1	0	1	1	0	0	0	1	1		Central: Michigan, Ohio and West Virginia, east to North Carolina, south to n. Georgia and n.e. Alabama, west to e. Tennessee and e. Kentucky
Stenanthium gramineum (Ker Gawl.) Morong	1	0	0	0	0	0	1	1	0	1	0	0	0	0		Central: Missouri, Michigan and Pennsylvania, east to Maryland, south to n.w. Florida, west to e. Texas and Oklahoma
Streptopus lanceolatus (Aiton) Reveal var. *roseus (*Michx.) Reveal	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
Trillium catesbaei Elliot	0	0	0	0	0	0	0	0	0	0	1	0	0	0		Southern: s.e. Tennessee, east to c. North Carolina, south to s. Georgia and s. Alabama
T. cuneatum Raf.	1	0	1	1	1	1	1	1	1	1	1	0	0	0	Intraneous: Southeastern N. America	Central: Illinois, Kentucky, Virginia and Pennsylvania, east to Maryland, south to s. Georgia, west to s. Mississippi and w. Tennessee
T. erectum L.	0	1	0	0	0	1	0	1	1	0	0	0	1	1		Central: Ontario and Quebec, east to Nova Scotia, south to n. Georgia and n. Alabama, west to e. Tennessee, e. Kentucky and n. Illinois

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T. flexipes Raf.	0	0	0	0	0	0	0	0	0	0	1	0	0	0		Central: Minnesota, Ontario and New York, east to Maryland, south to North Carolina, Georgia and Mississippi, west to Arkansas and South Dakota
T. grandiflorum (Michx.) Salisb.	0	1	1	0	0	1	0	1	0	0	0	0	1	1		Central: Ontario, Quebec and Maine, east to Nova Scotia, south to Georgia, west to Alabama, Illinois and Minnesota
T. luteum (Muhl.) Harbison	1	0	0	1	0	0	0	0	0	1	0	0	0	0		Central: Ontario and Michigan; Kentucky, Virginia and Maryland, south to c. Georgia and Alabama
T. recurvatum Beck	0	0	1	0	0	1	0	0	0	0	0	0	0	0		Central: Iowa, Wisconsin, Michigan and Pennsylvania, east to Kentucky and North Carolina, south to Alabama and Louisiana, west to Texas and Oklahoma
T. sulcatum Patrick	1	0	1	1	0	0	1	0	1	1	0	0	0	0		Southern: c. Kentucky, West Virginia and Virginia, east to North Carolina, south to n.w. Georgia and n.e. Alabama, west to s.c. Tennessee
Uvularia grandiflora Sm.	1	0	1	0	1	1	0	1	0	0	1	0	0	0	Intraneous: Eastern-Midwestern N. America	Central: Manitoba to Quebec, east to Massachusetts, south to n.w. Georgia and c. Mississippi, west to Oklahoma, Kansas, Iowa, South Dakota and North Dakota
U. perfoliata L.	1	1	1	1	1	1	1	0	1	1	0	1	1	1	Intraneous: Southern to Southeastern N. America	Central: Ontario, New York and Maine, east to Massachusetts, south to n.w. Florida and e. Texas, west to Oklahoma, Kentucky and Indiana
U. sessilifolia L.	1	0	1	0	0	1	1	1	0	0	0	0	0	0		Central: Manitoba to Quebec, east to Nova Scotia, south to n.w. Florida and s. Mississippi, west to Louisiana, Oklahoma, Missouri, South Dakota and North Dakota
Veratrum parviflorum Michx.	0	1	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Appalachian Plateau; Eastern N. America	Southern: s.e. Kentucky, West Virginia and Virginia, east to North Carolina, south to n. Georgia and n.e. Alabama, west to e. Tennessee
V. viride Aiton	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Alaska and Northwest territories, east to Wyoming, south to California; Quebec and Labrador, east to Maine, south to North Carolina, Georgia and Alabama, west to Tennessee and Ohio
V. woodii J.W. Robbins ex Alph. Wood	0	0	0	0	0	1	0	0	0	0	0	0	0	0		Central: Iowa to Ohio, east to Kentucky, North Carolina and Georgia, south to Florida and Mississippi, west to Arkansas, Oklahoma and Missouri
V. sp.	0	0	0	0	0	0	0	0	0	0	1	0	0	0		
***Zigadenus leimanthoides* A. Gray	0	0	0	0	0	1	0	0	0	0	0	0	0	0		Central: New York, New Jersey, Virginia to Kentucky, east to North Carolina, south to Florida and Louisiana, west to Texas
NAJADACEAE																
Najas gracillima (A. Braun ex Engelm.) Magnus	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
N. guadalupensis (Spreng.) Magnus	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Throughout N. America
**N. minor* All.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
ORCHIDACEAE																
Aplectrum hyemale (Muhl. ex Willd.) Torr.	0	1	1	0	0	1	1	1	0	0	0	1	1	1		Central: Ontario and Quebec, east to Maine, south to Georgia and Mississippi, west to Oklahoma, Kansas and Minnesota with disjuncts in Arizona

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Corallorhiza odontorhiza (Willd.) Poir.	0	0	1	1	0	1	1	1	0	1	0	0	1	0		Central: Minnesota, Ontario and Quebec, east to Maine, south to Florida, west to Texas and South Dakota
C. wisteriana Conrad	0	0	0	0	1	0	0	1	0	0	0	0	1	0	Intraneous: Throughouth N. America	Central: Idaho, Montana, South Dakota, Missouri, Illinois and Pennsylvania, north to New Hampshire, east to New Jersey, south to s. Florida and s. Texas, west to Arizona, Utah and Oregon
***Cypripedium acuale* Aiton	1	0	1	1	0	1	1	1	0	1	0	1	1	1		Central: Northwest Territories, Ontario and Quebec, east to Newfoundland and Nova Scotia, south to Georgia and Alabama, west to Illinois and Minnesota
*C. parviflorum*Salisb. var. *parviflorum*	0	0	1	0	0	0	0	0	0	0	0	1	0	0		Northern: Illinois, New York and Vermont, east to Maine, south to North Carolina, Georgia, Alabama and Arkansas, west to Oklahoma and Kansas with disjuncts in Washington
C. parviflorum Salisb. var. *pubescens* (Willd.) Knight	1	0	1	0	0	1	1	1	0	0	1	0	0	0		Central: Throughout N. America
Galearis spectabilis (L.) Raf.	0	0	1	1	0	1	1	1	0	0	0	0	1	0		Northern: Minnesota, Ontario and Quebec, east to New Brunswick, south to n.w. South Carolina, n. Georgia, n. Alabama, n. Mississippi and Arkansas, west to Oklahoma and Nebraska
Goodyera pubescens (Willd.) R. Br.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Ontario and Quebec, east to Nova Scotia, south to Florida, west to Mississippi, Oklahoma and Minnesota
Hexalectris spicata (Walter) Barnhart	0	0	0	0	0	1	0	0	0	0	0	1	0	0		Central: Missouri, Illinois and Ohio, east to Maryland and North Carolina, south to Florida and Texas, west to Arizona and Kansas
Isotria verticillata Raf.	1	0	0	0	0	1	0	0	0	0	1	0	0	0		Central: Illinois, Michigan, Ontario and Maine, east to Massachusetts, south to Florida, west to Texas, Oklahoma and Missouri
Liparis liliifolia (L.) Rich. ex Ker Gawl.	0	0	0	0	0	0	0	0	0	0	0	1	1	0		Central: Minnesota, Ontario, New York and New Hampshire, east to Massachusetts, south to Georgia, Alabama and Arkansas, west to Oklahoma and Minnesota
Malaxis unifolia Michx.	1	0	0	0	0	1	1	1	0	0	1	1	0	0		Central: Manitoba to Labrador, east to Newfoundland and Nova Scotia, south to Florida, west to Texas, Kansas and Minnesota
Platanthera ciliaris (L.) Lindl.	1	1	1	0	0	1	0	0	1	0	0	0	0	0		Central: Illinois, Michigan, Ontario, New York, Vermont and New Hampshire, east to Massachusetts, south to Florida, west to Texas, Oklahoma and Missouri
P. clavellata (Michx.) Luer	1	1	1	1	0	1	0	0	0	0	0	0	0	0		Central: North Dakota, Ontario and Quebec, east to Newfoundland and Nova Scotia, south to Florida, west to Texas, Oklahoma, Missouri and Iowa
P. cristata (Michx.) Lindl.	0	0	0	0	0	1	0	0	0	0	0	0	0	0		Central: Kentucky, Virginia, New York and New Hampshire, east to Massachusetts, south to Florida, west to Texas and Arkansas
P. flava (L.) Lindl. var. *flava*	0	0	0	0	0	0	0	0	0	0	0	0	1	0		Central: Minnesota, Ontario and Quebec, east to Nova Scotia, south to Florida, west to Texas, Oklahoma and Iowa

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***P. flava* (L.) Lindl. var. *herbiola* (R. Br.) Luer	0	0	0	0	0	0	0	0	0	1	0	0	0	0		Northern: Ontario and Quebec, east to Nova Scotia, south to North Carolina, Georgia and Tennessee, west to Missouri and Minnesota
***P. integrilabia* (Correll) Luer	1	0	0	0	0	1	0	0	0	0	0	0	0	0		Southern: s. Kentucky and Virginia, east to North Carolina, south to Georgia, Mississippi and Louisiana, west to Texas
P. lacera (Michx.) G. Don	0	0	0	0	0	0	0	0	0	0	1	0	0	0		Central: Manitoba and Quebec, east to Newfoundland and Nova Scotia, south to Georgia and Louisiana, west to Texas, Kansas and Minnesota
Spiranthes cernua (L.) Rich.	0	0	0	0	0	0	1	0	0	1	1	0	1	0		Central: Minnesota, Ontario and Quebec, east to Nova Scotia, south to Georgia and Louisiana, west to Texas and Nebraska
S. lacera (Raf.) Raf. var. *lacera*	0	0	0	0	0	0	0	0	0	0	0	0	1	0		Northern: Alberta to Quebec, east to Nova Scotia and Massachusetts, south to Virginia, Kentucky and Missouri, west to Iowa and Minnesota
S. lacera (Raf.) Raf. var. *gracilis* (Bigelow) Luer	1	1	1	0	0	0	0	0	0	0	0	0	0	0		Central: Iowa, Wisconsin, Ontario and Quebec, east to Nova Scotia, south to Florida, west to Texas and Nebraska
S. ovalis Lindl.	0	1	0	0	0	0	0	0	0	0	1	0	0	0		Central: Iowa, Wisconsin, Ontario and Pennsylvania, east to North Carolina, south to Florida, west to Texas and Kansas
S. tuberosa Raf.	0	1	1	0	0	0	0	0	0	0	0	0	0	0		Central: Missouri, Illinois, Michigan and New York, east to Massachusetts, south to Florida, west to Texas and Kansas
S. vernalis Engelm. & A. Gray	0	0	0	0	0	0	0	0	0	0	0	0	1	0		Central: Wisconsin, Michigan, New York and New Hampshire, east to Massachusetts, south to Florida, west to Texas and South Dakota
Tipularia discolor (Pursh) Nutt.	1	1	1	1	1	1	1	1	0	1	1	1	1	1	Intraneous: Eastern N. America	Southern: Michigan and New York, east to Massachusetts, south to Florida, west to Texas and Missouri
Triphora trianthophora (Sw.) Rydb.	0	0	1	0	0	1	0	1	0	0	1	0	1	0		Central: Wisconsin, Ontario, New York and Maine, east to Massachusetts, south to Florida, west to Texas and Nebraska
POACEAE																
**Agrostis gigantea* Roth	0	1	1	0	0	0	0	0	0	1	0	0	0	0		
A. hyemalis (Walter) Britton, Sterns & Poggenb.	0	1	0	1	0	0	0	1	1	0	0	0	0	0		Central: Minnesota, Ontario, New York and Maine, east to Massachusetts, south to Florida, west to Texas and South Dakota
A. perennans (Walter) Tuck.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-Midwestern N. America	Central: North Dakota, Ontario and Quebec, east to Newfoundland and Nova Scotia, south to Florida, west to Texas and Nebraska with disjuncts in Washington south to California
A. scabra Willd.	1	0	0	0	0	0	0	0	0	0	0	0	1	0		Central: Throughout N. America
**A. stolonifera* L.	0	1	1	0	0	0	1	0	0	0	0	0	1	0		
Andropogon gerardii Vitman	0	1	1	1	0	1	1	0	0	1	1	1	0	0		Central: Throughout N. America
A. glomeratus (Walter) Britton, Sterns & Poggenb.	1	0	0	0	0	0	0	0	0	0	1	0	0	0		Central: Oklahoma, Arkansas, Missouri, Kentucky, Ohio and New York, east to Massachusetts, south to Florida, west to Texas, Arizona, Utah and California

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A. gyrans Ashe var. *gyrans*	0	0	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Eastern to southeastern N. America	Central: Illinois to Pennsylvania, east to New Jersey, south to Florida, west to e. Texas and Missouri
A. ternarius Michx.	1	0	0	0	0	0	1	0	0	0	0	0	0	0		Central: Missouri, Illinois, Indiana, Kentucky, Virginia and New Jersey, east to North Carolina, south to Florida, west to Texas and Kansas
A. virginicus L.	1	1	1	0	1	1	1	1	1	1	0	1	1	0	Intraneous: Eastern to mid-western N. America	Central: Ontario and New York, east to e. Massachusetts, south to s. Florida and s. Texas, west to c. Texas, c. Kansas and Iowa with disjuncts in n. California
**Anthoxanthum odoratum* L.	1	1	0	1	0	0	1	1	1	1	0	0	0	0		
Aristida dichotoma Michx. var. *dichotoma*	1	0	1	0	1	1	1	1	0	0	0	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Ontario, east to Maine, south to Florida, west to Texas and Iowa with disjuncts in n. California
A. lanosa Muhl. Ex Elliott	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Southern
A. oligantha Michx.	0	0	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Throughout N. America	Central: Throughout N. America
A. purpurascens Poir.	1	0	0	0	0	0	0	1	0	0	0	0	0	0		Central: Missouri, Wisconsin, Ontario and New York, east to Massachusetts, south to n. Florida, west to Texas and Nebraska
**Arthraxon hispidus* (Thunb.) Makino	1	1	0	0	1	0	0	0	0	1	0	0	0	0	Introduced	
Arundinaria appalachiana Triplett, Weakley & L.G. Clark	0	0	0	0	0	0	0	0	1	0	0	0	0	0		Southern: s.e. Tennessee, east to w. North Carolina and w. South Carolina, south to n. Georgia and n. Alabama
A. gigantea (Walter) Muhl. ssp. *gigantea*	1	0	1	1	1	1	1	1	1	1	1	0	1	0	Intraneous: Eastern-midwestern N. America	Central: Missouri, Illinois, Ohio, Maryland and New Jersey, east to North Carolina, south to Florida, west to Texas and Kansas
A. gigantea (Walter) Muhl. ssp. *tecta* (Walter) McClure	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Arkansas, Tennessee, Virginia and New York, east to New Jersey and North Carolina, south to Florida, west to Louisiana and Oklahoma
**Avena sativa* L.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
Brachyelytrum erectum (Schreb. ex Spreng.) P. Beauv.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Minnesota, Ontario and Quebec, east to Newfoundland and Nova Scotia, south to n. Florida, west to Texas and Nebraska
**Bromus arvensis* L.	0	0	1	1	0	0	0	0	0	0	0	0	0	0		
**B. inermis* Leyss.	1	1	0	0	0	0	0	0	0	0	0	1	1	0		
B. kalmii A. Gray	0	1	0	0	0	1	0	1	0	0	1	0	0	0		Northern: Manitoba to Quebec, east to Maine, south to Virginia, Indiana and Illinois, west to South Dakota and North Dakota
B. latiglumis (Shear.) Hitchc.	0	1	0	0	0	0	0	0	0	0	0	0	1	0		Northern: British Columbia, Ontario and Quebec, east to New Brunswick, south to North Carolina, Tennessee and Kansas, west to Nebraska and Montana
B. pubescens Muhl. ex Willd.	1	1	1	0	1	0	1	0	0	0	0	1	0	1	Intraneous: Eastern-midwestern N. America	Central: Manitoba to Quebec, east to Maine, south to n. Florida, west to c. Texas and Wyoming
**B. racemosus* L.	1	0	1	0	1	0	1	0	1	1	0	1	0	0	Introduced	
**B. secalinis* L.	0	0	0	0	0	1	0	0	0	0	0	0	0	0		

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**B. sterilis* L.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
**B. tectorum* L.	1	1	0	0	0	0	1	0	0	0	0	0	0	0		
Calamagrostis coarctata (Torr.) Eaton	1	0	1	0	0	1	1	0	0	0	1	0	0	0		Central: Ohio, New York and Maine, east to Massachusetts, south to Georgia and Alabama, west to Tennessee and Kentucky with disjuncts in Louisiana
***Calamovilfa arcuata* K.E. Rogers	0	0	0	1	0	0	1	0	0	1	0	0	0	0		Southern: Oklahoma, Arkansas, Tennessee and Alabama
Chasmanthium latifolium (Michx.) Yates	1	1	1	1	1	1	1	1	1	1	1	1	0	0	Intraneous: Eastern-midwestern-southwestern N. America	Central: Kansas, Wisconsin, Michigan and Pennsylvania, east to New Jersey, south to Florida and Texas, west to Arizona
C. laxum (L.) Yates	1	0	0	1	0	1	1	1	1	1	0	0	0	0		Central: Missouri, Kentucky, Virginia and New York, east to New Jersey, south to Florida, west to Texas and Oklahoma
C. sessiliflorum (Poir.) Yates	1	0	1	0	1	0	1	1	1	0	1	0	0	0	Intraneous: Southeastern N. America	Southern: s.e. Missouri and Tennessee, east to s.e. Virginia, south to s. Florida, west to Texas and Oklahoma
Cinna arundinacea L.	1	1	0	1	1	1	1	0	1	1	0	1	1	0	Intraneous: Eastern-midwestern N. America	Central: Montana, Ontario and Quebec, east to New Brunswick, south to Georgia and Louisiana, west to Texas and Nebraska
C. latifolia (Trevis. ex Goepp.) Griseb.	0	0	0	0	0	0	0	0	0	0	0	0	1	0		Central: Alaska, Northwest Territories, Ontario to Labrador, east to Newfoundland and Nova Scotia, south to South Carolina, Tennessee, Minnesota, South Dakota, New Mexico and Arizona, west to California and Washington
**Cynodon dactylon* (L.) Pers.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
**Dactylis glomerata* L.	1	1	1	1	0	1	1	1	1	1	0	1	1	0		
Danthonia compressa Austin	1	0	1	0	0	1	1	1	1	0	0	0	0	0		Central: Ontario and Quebec, east to Nova Scotia, south to c. Georgia and Alabama, west to Arkansas, Kentucky and Michigan with disjuncts in Alaska
D. sericea Nutt.	1	0	1	0	0	1	1	0	1	0	1	0	0	0		Central: Kentucky, Virginia, Pennsylvania and New Hampshire, east to Massachusetts, south to Florida, west to Texas and Arkansas
D. spicata (L.) P. Beauv. ex Roem. & Schult.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Throughout N. America	Central: Throughout N. America
Deschampsia flexuosa (L.) Trin.	1	0	0	1	0	1	1	0	0	0	0	0	0	0		Northern: North Dakota, Ontario, Quebec, Labrador and Greenland, east to Newfoundland and Nova Scotia, south to n. Georgia and n. Alabama, west to Oklahoma, Kentucky, Ohio and Minnesota with disjuncts in British Columbia and Alaska
Diarrhena americana P. Beauv.	1	0	1	0	0	1	1	1	0	0	1	0	1	1		Central: Illinois, Michigan and Ohio, east to Maryland and North Carolina, south to Georgia, Alabama and Arkansas, west to Oklahoma and Missouri
Dichanthelium acuminatum (Sw.) Gould & C.A. Clark var. *acuminatum*	0	0	0	0	0	0	0	0	0	0	1	0	1	0		Central: Throughout N. America
D. acuminatum (Sw.) Gould & C.A. Clark var. *fasciculatum* (Torr.) Freckmann	0	1	0	0	0	0	1	0	0	0	0	1	0	0		Central: Throughout N. America
D. boscii (Poir.) Gould & C.A. Clark	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern N. America	Southern: Illinois to s.e. New York, east to North Carolina, south to n. Florida, west to e. Texas and e. Kansas

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D. clandestinum (L.) Gould	1	1	1	1	1	1	1	1	0	1	0	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Iowa, Michigan, Ontario, Quebec and Maine, east to Nova Scotia, south to Florida, west to Texas and Kansas
D. commutatum (Schult.) Gould	1	1	1	1	1	0	1	1	1	1	1	1	1	1	Intraneous: Eastern N. America	Central: Missouri, Michigan, New York and Maine, east to Massachusetts, south to Florida, west to Texas and Oklahoma
D. depauperatum (Muhl.) Gould	1	0	1	0	0	0	1	0	1	0	0	0	0	0		Central: Manitoba to Quebec, east to Nova Scotia, south to Georgia and Louisiana, west to Texas, Colorado, Wyoming and Minnesota
D. dichotomum (L.) Gould var. *dichotomum*	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Ontario, Vermont and New Brunswick, east to Massachusetts, south to n.w. Florida, west to Texas, Oklahoma and Minnesota
D. dichotomum (L.) Gould var. *ensifolium* (Baldw. ex Elliot) Gould & C.A. Clark	0	0	1	0	0	0	0	0	0	0	0	0	0	0		Southern: Tennessee, Virginia and s. New Jersey, east to North Carolina, south to s. Florida, west to e. Texas and Arkansas
D. dichotomum (L.) Gould var. *tenue* (Muhl.) Gould & C.A. Clark	0	0	0	0	0	0	1	0	0	0	0	0	0	0		Central: Kentucky, Virginia and New Jersey, south to s. Florida, west to Texas and Arkansas
D. latifolium (L.) Gould & C.A. Clark	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
D. laxiflorum (lam.) Gould	1	1	1	1	1	1	1	1	1	1	1	0	0	0	Intraneous: Eastern N. America	Central: Illinois to Pennsylvania, east to Rhode Island, south to Florida, west to Texas, Oklahoma and Missouri
D. linearifolium (Scribn. ex Nash) Gould	1	0	0	0	0	0	0	0	0	0	0	1	0	0		Central: Saskatchewan to Quebec, east to Nova Scotia, south to Florida and Texas, west to New Mexico, Wyoming and North Dakota
D. longiligulatum (Nash) Freckmann	0	0	0	0	0	1	0	0	0	0	0	0	0	0		Central: Iowa, Michigan and New York, east to Massachusetts, south to Florida, west to Texas and Kansas with disjuncts in North Dakota and California
D. scoparium (Lam.) Gould	1	0	0	0	1	0	1	0	1	0	0	1	0	0	Intraneous: Southeastern-southwestern N. America	Central: Missouri, Illinois, Michigan, Kentucky, north to New York, east to Massachusetts, south to n. Florida, west to Texas and Kansas
D. sphaerocarpon (Elliot) Gould var. *isophyllum* (Scribn.) Gould & C.A. Clark	1	1	1	0	0	1	1	1	1	0	1	1	0	0		Central: Illinois, Michigan, New York and Vermont, east to Massachusetts, south to Georgia and Louisiana, west to Texas, Oklahoma and Missouri
D. sphaerocarpon (Elliot) Gould var. *sphaerocarpon*	1	0	0	1	1	1	1	0	1	1	1	1	1	0	Intraneous: Eastern-midwestern N. America	Central: Ontario, east to Maine, south to n. Florida, west to Texas and Kansas
D. villosissimum (Nash) Freckmann var. *praecocius* (Hitchc. & Chase) Freckmann	0	0	0	0	0	0	0	0	0	0	0	0	1	0		Central: North Dakota, Wisconsin and Michigan, east to Ohio and Kentucky, south to Arkansas and Texas, west to Nebraska and South Dakota
D. villosissimum (Nash) Freckmann var. *villosissimum*	1	1	1	0	0	0	1	0	0	0	0	0	0	0		Central: North Dakota, Ontario and Quebec, east to Maine, south to Florida, west to Texas, Kansas and Iowa with disjuncts in California and Oregon
Digitaria ciliaris (Retz.) Koeler	0	0	0	0	0	0	0	0	1	0	0	1	0	0		Central: Nebraska, Iowa, Ohio and New York, east to Massachusetts, south to Florida and Texas, west to Kansas, Utah and California
D. filiformis (L.) Koeler	0	0	0	0	0	0	1	1	0	0	0	0	0	0		Central: Iowa, Michigan, New York and New Hampshire, east to Massachusetts, south to Florida, west to Texas and Kansas
**D. ischaemum* (Schreb.) Schreb. ex Muhl.	1	0	1	1	1	1	1	1	1	0	1	0	0	0	Introduced	

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D. sanguinalis (L.) Scop.	1	1	0	0	1	0	0	1	0	0	1	0	0	0	Intraneous: Throughout N. America	Central: Throughout N. America
**D. violascens* Link	0	0	0	0	0	1	0	0	0	0	0	0	0	0		
**Echinochloa colona* (L.) Link	0	0	1	0	0	0	0	0	0	0	0	0	0	0		
**E. crus-galli* (L.) P. Beauv.	1	1	1	1	1	0	0	0	0	0	0	1	1	0	Introduced	
E. muricata (P. Beauv.) Fernald var. *muricata*	1	0	0	0	0	1	1	0	0	1	0	1	0	0		Central: Minnesota, Ontario and Quebec, east to Nova Scotia, south to Florida and Texas, west to New Mexico and Nebraska with disjuncts in California to Washington, east to Idaho
**Eleusine indica* (L.) Gaertn.	1	1	1	0	1	1	1	1	0	1	0	1	0	0	Introduced	
Elymus canadensis L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
E. hystrix L. var. *hystrix*	1	1	1	1	0	1	1	1	0	1	1	1	0	1		Central: Manitoba to Quebec, east to Nova Scotia, south to Georgia, Alabama, Arkansas and Oklahoma, west to New Mexico, Nebraska and North Dakota
E. riparius Wiegand	0	1	0	0	0	0	0	0	0	1	0	0	1	1		Central: Ontario and Quebec, east to Maine, south to Florida and Mississippi, west to Arkansas and Minnesota
E. trachycaulus Link (Gould) ex Shinners ssp. *trachycaulus*	0	0	0	0	0	0	0	0	0	0	0	0	1	0		Central: Greenland, east to Newfoundland, south to North Carolina, Ohio, Illinois, Missouri, Kansas, Texas and Arizona, west to California and Alaska
E. villosus Muhl. ex Willd.	1	1	0	0	0	0	0	1	0	1	0	0	0	0		Central: North Dakota, Ontario and Quebec, east to Massachusetts, south to Georgia, Mississippi and Arkansas, west to Texas, Nebraska and Wyoming
E. virginicus L.	1	1	1	1	1	1	1	1	1	1	1	1	1	0	Intraneous: Throughout N. America	Central: Throughout N. America
Eragrostis capillaris (L.) Nees	0	1	0	0	0	0	1	0	1	0	0	0	0	0		Central: Iowa, Wisconsin, Ontario and Quebec, east to Maine, south to Florida, west to Texas and Nebraska with disjuncts in California
**E. cilianensis* (All.) Vign. ex Janchen	1	1	0	0	0	0	0	0	0	0	0	0	0	0		
E. frankii C.A. Mey. ex Steud.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central: Minnesota, Ontario and Quebec, east to New Brunswick, south to Florida and Texas, west to New Mexico and Nebraska
E. hirsuta (Michx.) Ness	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Illinois, Kentucky, Ohio, Maryland and Massachusetts, south to Florida, west to Texas, Oklahoma and Missouri
E. hypnoides (Lam.) B.S.P.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
E. pectinacea (Michx.) Nees ex Steud.	1	1	0	0	0	0	0	0	0	0	0	0	0	0		Central: Throughout N. America
E. pilosa (L.) Beauv.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
E. spectabilis (Pursh) Steud.	1	1	0	0	1	1	1	0	0	0	1	0	0	0	Intraneous: Throughout N. America	Central: Manitoba to Quebec, east to Maine, south to Florida, west to Arizona, Wyoming and North Dakota
Festuca pratensis Huds.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central

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F. subverticillata (Pers.) Alexeev	1	0	1	1	0	1	1	1	0	0	0	0	1	1		Central: Manitoba to Quebec, east to Nova Scotia, south to Florida, west to Texas and North Dakota
***Glyceria acutiflora* Torr.	1	0	0	0	0	0	0	0	1	0	0	0	0	0		Northern: Michigan, New York and Maine, east to Massachusetts, south to n. Georgia and n. Alabama, west to Missouri and Indiana
G. melicaria (Michx.) F.T. Hubbard	0	1	0	1	0	0	0	0	0	0	0	0	0	0		Central: Ontario and Quebec, east to Nova Scotia, south to Georgia and Mississippi, west to Tennessee and Ohio
G. striata (Lam.) Hitchc.	1	1	0	1	0	0	1	0	1	1	0	1	1	0		Central: Throughout N. America
**Holcus lanatus* L.	1	1	1	0	0	1	1	0	1	1	0	0	1	0		
Hordeum pusillum Nutt.	1	0	0	0	0	0	0	0	1	0	0	0	0	0		Central: Throughout N. America
**H. vulgare* L.	1	0	1	0	0	0	0	0	0	0	0	0	0	0		
Leersia oryzoides (L.) Sw.	0	1	1	1	1	0	0	0	0	1	1	0	0	0	Intraneous: Throughout N. America	Central: Throughout N. America
L. virginica Willd.	1	1	1	1	1	1	1	1	1	0	1	1	1	0	Intraneous: Eastern-midwestern N. America	Central: Ontario and Quebec, east to Maine, south to c. Florida, west to c. Texas, s.w. Wyoming and North Dakota
**Lolium perenne* L. ssp. *multiflorum* (Lam.) Husnot	1	0	1	0	1	1	1	0	1	0	0	0	0	0	Introduced	
**L. perenne* L. ssp. *perenne*	0	1	0	0	0	0	0	0	0	0	1	0	0	0		
Melica mutica Walter	1	1	1	1	1	1	1	1	1	1	1	0	0	0	Intraneous: Southeastern N. America	Southern: Illinois to New Jersey, east to North Carolina, south to n. Florida, west to c. Texas, Kentucky and Iowa
**Microstegium vimineum* (Trin.) A. Camus	1	1	1	1	1	1	1	1	1	1	1	1	1	0	Introduced	
**Miscanthus sinensis* Andersson	0	1	0	0	0	0	0	0	0	0	0	0	1	0		
Muhlenbergia capillaris (Lam.) Trin.	0	0	0	0	0	0	0	0	0	0	0	1	0	0		Central: Missouri, Illinois and New York, east to Massachusetts, south to Florida, west to Texas and Kansas
M. frondosa (Poir.) Fernald	0	1	0	0	0	0	0	0	0	0	0	1	0	0		Central: North Dakota, Ontario and Quebec, east to New Brunswick, south to North Carolina, Georgia, Mississippi and Louisiana, west to Texas and South Dakota
**M. mexicana* (L.) Trin.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		
M. schreberi J. F. Gmel.	1	1	0	1	0	1	0	0	1	0	0	0	0	0		Central: Minnesota, Ontario and Maine, east to Massachusetts, south to Florida and Texas, west to California, Utah and South Dakota
M. sobolifera (Muhl. ex Willd.) Trin.	1	0	0	0	0	0	0	0	0	0	1	1	1	0		Central: Minnesota, Ontario, New York and Maine, east to Massachusetts, south to North Carolina, Georgia and Mississippi, west to Texas and Nebraska
M. sylvatica (Torr.) Torr. ex A. Gray	0	1	0	1	0	1	0	1	0	0	0	1	0	0		Central: Minnesota, Ontario and Quebec, east to Maine, south to Georgia and Mississippi, west to Texas and South Dakota with disjuncts in Arizona
M. tenuiflora (Willd.) Britton, Stearns & Poggenb.	0	1	0	0	0	0	1	0	1	0	1	0	1	0		Central: Wisconsin, Ontario and Quebec, east to Massachusetts, south to Georgia and Mississippi, west to Oklahoma, Missouri and Nebraska
M. tenuifolia (Kunth) Trin.	0	0	0	1	0	0	0	0	0	0	0	0	0	0		Western: Arizona, New Mexico and Texas

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Panicum amarum Ell.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
P. anceps Michx.	1	1	1	1	0	1	1	0	1	1	1	1	1	0		Central: Iowa and New York, east to Delaware, south to Florida, west to Texas and Kansas
P. capillare L.	0	1	0	0	1	0	0	0	0	0	0	1	0	0	Intraneous: Throughout N. America	Central: Throughout N. America
P. dichotomiflorum Michx. var. *dichotomoflorum*	1	1	0	0	1	0	1	0	0	1	0	1	1	0	Intraneous: Eastern-midwestern N. America	Central: Minnesota, Ontario, New York and New Brunswick, east to Massachusetts, south to Florida, west to Texas and Oklahoma
P. flexile (Gattinger) Scribn.	1	0	1	0	1	0	1	0	0	0	0	0	0	0	Intraneous: Eastern N. America	Central: Quebec, east to Massachusetts and North Carolina, south to n. Florida and e. Texas, west to Kansas, Utah and North Dakota
P. gattingeri Nash	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
**P. miliaceum* L.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
P. philadelphicum Bernh. ex Trin.	0	0	0	0	0	1	1	0	0	0	0	0	0	0		Central: Minnesota, Ontario and Quebec, east to Nova Scotia, south to Georgia, Alabama and Arkansas, west to Texas, Oklahoma and Kansas
P. rigidulum Bosc ex Nees var *elongatum* (Pursh) LeLong	0	1	1	0	0	0	0	0	0	0	0	0	0	0		Central: Illinois to New York, east to Rhode Island, south to Georgia and Louisiana, west to Texas and Missouri
P. rigidulum Bosc ex Nees var. *pubescens* (Vasey) Lelong	1	0	0	0	1	1	0	0	0	0	0	0	0	0	Intraneous: Eastern N. America	Central: Michigan, New York and Nova Scotia, east to Massachusetts, south to s. Florida, west to e. Texas and s. Illinois
P. rigidulum Bosc ex Nees var. *rigidulum*	1	1	0	0	0	0	0	1	0	0	0	1	1	0		Central: Missouri, Wisconsin, Ontario, New York, east to Maine, south to Florida, west to Texas and Kansas with disjuncts in California, Oregon and British Columbia
P. verrucosum Muhl.	1	0	0	0	0	0	1	1	1	0	0	0	0	0		Central: Missouri, Michigan and New York, east to Massachusetts, south to Florida, west to Texas and Oklahoma
P. virgatum L.	1	1	0	0	1	0	1	1	1	0	0	0	1	0	Intraneous: Throughout N. America	Central: Throughout N. America
**Paspalum dilatatum* Poir.	1	0	1	0	1	0	0	0	1	0	0	0	0	0	Introduced	
P. laeve Michx.	1	0	1	0	1	1	0	0	1	0	0	1	0	0	Intraneous: Eastern-midwestern N. America	Central: Missouri, Michigan and New York, east to Massachusetts, south to Florida, west to Texas and Kansas
P. pubiflorum Rupr. ex Fourn.	1	0	0	0	0	0	0	0	0	0	1	0	0	0		Central: Missouri, Illinois and Pennsylvania, east to North Carolina, south to Florida, west to Texas and Colorado
P. setaceum Michx.	1	0	1	0	0	0	1	0	0	0	0	0	0	0		Central: South Dakota, Ontario, New York and New Hampshire, east to Massachusetts, south to Florida and Texas, west to Arizona, Colorado and Montana
**Pennisetum glaucum* (L.) R. Br.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
Phalaris arundinacea L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
P. canariensis L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central

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**Phleum pratense* L.	1	1	1	1	0	0	1	0	0	0	0	1	1	0		
Phragmites australis (Cav.) Trin. ex Steud.	0	0	1	0	0	0	0	0	0	0	0	0	0	0		Central: Throughout N. America
Phyllostachys aureosulcata McClure	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Southern
Piptochaetium avenaceum (L.) Parodi	1	0	1	1	1	1	1	1	1	0	1	0	0	0	Intraneous: Eastern N. America	Central: Ontario and New York, east to Massachusetts, south to Florida, west to e. Texas, Missouri and Michigan
Poa alsodes A. Gray	0	1	0	0	0	0	1	0	1	0	0	0	0	0		Northern: Ontario and Quebec, east to Nova Scotia, south to South Carolina and Tennessee, west to Illinois and Minnesota
**P. annua* L.	1	0	1	0	0	0	1	0	1	0	0	1	1	0		
P. autumnalis Muhl. ex Elliot	1	0	1	0	0	0	0	0	1	1	0	1	0	0		Central: Nunavut and Quebec; Illinois, Michigan, Kentucky, Virginia and Pennsylvania, east to Delaware, south to Florida, west to Texas and Oklahoma
P. chapmaniana Scribn.	0	0	1	0	0	0	0	0	0	0	0	0	0	0		Central: Nebraska to Ohio and New York, east to Massachusetts, south to Florida, west to Texas and Kansas
**P. compressa* L.	1	1	1	0	0	1	1	0	1	0	0	1	0	0		
P. cuspidata Nutt.	1	0	1	1	1	0	1	1	0	1	1	1	1	1	Extraneous west: Southeastern N. America/ Appalachian Plateau	Southern: e. Ohio and s. New York, east to North Carolina, south to Florida, west to Louisiana and Indiana
**P. pratensis* L.	1	0	1	0	0	1	1	1	0	0	0	0	1	1		
***P. saltuensis* Fernald & Wiegand	0	0	1	0	0	1	0	0	0	0	0	0	0	0		Northern: Ontario and Quebec, east to Newfoundland, south to North Carolina and Tennessee, west to Illinois, Iowa and Minnesota
P. sylvestris A. Gray	1	0	1	1	1	0	0	1	1	0	0	0	1	1	Intraneous: Eastern N. America	Central: Canada, east to New York and North Carolina, south to n. Florida, west to e. Texas and e. South Dakota
Saccharum alopecuroides (L.) Nutt.	1	0	1	1	1	1	1	1	0	1	1	0	0	0	Intraneous: Southern N. America	Southern: Ohio, east to New Jersey, south to n. Florida, west to e. Texas and Missouri
S. brevibarbe (Michx.) Pers. var. *contortum* (Elliot) R. Webster	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Southern: Arkansas, Tennessee, Virginia, east to Delaware, south to Florida, west to Texas and Oklahoma
S. giganteum (Walter) Pers.	0	0	0	0	0	0	0	0	1	0	0	0	0	0		Central: Missouri, Illinois, Kentucky, Virginia and New York, east to New Jersey, south to Florida, west to Texas and Oklahoma
**Schedonorus phoenix* (Scop.) Holub	0	0	1	1	0	0	1	0	1	0	0	1	0	0		
**S. pratensis* (Huds.) P. Beauv.	1	0	1	0	0	1	0	0	1	0	1	0	1	0		
Schizachyrium scoparium(Michx.) Nash var. *scoparium*	1	1	1	1	0	1	1	1	1	1	1	1	1	0		Central: Throughout N. America
**Secale cereale* L.	1	0	0	0	0	0	0	0	1	0	0	0	0	0		
**Setaria faberi* Herrm.	1	1	1	0	1	1	1	0	0	0	0	1	0	0	Introduced	
S. parviflora (Poir.) Kerguélen	1	0	1	0	1	1	0	0	0	0	1	0	0	0	Intraneous: Southern N. America	Southern: Kansas, Iowa to New York and Massachusetts, east to Maryland and North Carolina, south to Florida, Texas and s. Arizona, west to California and Washington

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**S. pumila* (Poir.) Roem. & Schult. ssp. *pumila*	1	1	0	0	1	0	0	0	0	1	0	1	1	0	Introduced	
**S. viridis* (L.) P. Beauv. var. *viridis*	0	0	1	0	0	0	1	0	1	0	0	1	0	0		
Sorghastrum elliottii (C. Mohr) Nash	0	0	0	0	0	0	1	0	0	0	0	0	0	0		Southern: Arkansas, Tennessee, Virginia, east to Maryland, south to Florida, west to Texas and Oklahoma with disjuncts in Indiana
S. nutans (L.) Nash	1	1	0	0	0	1	1	0	0	1	1	1	1	0		Central: Throughout N. America
**Sorghum bicolor* (L.) Moench	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
**S. halepense* (L.) Pers.	1	1	1	0	1	0	1	0	1	0	0	0	0	0	Introduced	
Sphenopholis intermedia (Rydb.) Rydb.	1	0	0	0	1	0	0	0	1	0	0	0	0	0	Intraneous: Throughout N. America	Central: Throughout N. America
S. nitida (Biehler) Scribn.	1	0	1	1	1	1	1	1	0	1	0	0	1	0	Intraneous: Eastern N. America	Central: Canada and Vermont, east to Maryland, south to n. Florida, west to e. Texas and s. Missouri
Sporobolus clandestinus (Biehler) Hitchc.	0	0	0	0	0	0	1	0	0	0	0	0	0	0		Central: Iowa, Wisconsin, Indiana, West Virginia and New York, east to Massachusetts, south to Florida, west to Texas and Kansas
**S. indicus* (L.) R. Br.	0	0	1	0	0	0	0	0	0	0	0	0	0	0		
***S. junceus* (P. Beauv.) Kunth	0	0	0	0	0	0	1	0	0	0	0	0	0	0		Southern: Arkansas, Tennessee and Virginia, south to Florida, west to Texas and Arizona
S. neglectus Nash	0	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Throughout N. America
S. vaginiflorus (Torr. ex A. Gray) Alph. Wood	0	0	1	0	0	1	0	0	0	0	0	0	0	0		Central: North Dakota, Ontario and Quebec, east to Nova Scotia, south to Florida and Texas, west to California, Kansas and South Dakota with disjuncts in Idaho and British Columbia
Tridens flavus (L.) Hitchc. var. *flavus*	1	1	1	1	1	1	1	1	1	1	1	1	1	0	Intraneous: Eastern-midwestern-southwestern N. America	Central: Minnesota, Ontario, New York and New Hampshire, east to Massachusetts, south to Florida and Texas, west to New Mexico and Nebraska with disjuncts in California
Tripsacum dactyloides (L.) L.	1	1	0	0	0	0	0	0	0	0	0	0	0	0		Central: Iowa, Michigan and New York, east to Massachusetts, south to Florida, west to Texas and Nebraska
**Triticum aestivum* L.	1	0	0	0	0	0	1	0	0	0	0	0	0	0		
**Vulpia bromoides* (L.) Gray	1	0	0	0	0	0	0	0	1	0	0	0	0	0		
**V. myuros* (L.) C.C. Gmel	1	0	1	0	0	0	0	0	0	0	0	0	0	0		
V. octoflora (Walter) Rydb. var. *glauca* (Nutt.) Fernald	0	0	1	0	0	0	0	0	0	0	0	0	0	0		Central: Throughout N. America
V. octoflora (Walter) Rydb. var. *octoflora*	1	0	0	1	0	0	1	0	0	0	0	0	0	0		Central: Throughout N. America
Zizaniopsis miliacea (Michx.) Döll & Asch.	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Southeastern N. America	Southern: Illinois, Kentucky and Maryland, east to e. North Carolina, south to s. Florida, west to Texas and Missouri
**Zea mays* L.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
PONTEDERIACEAE																

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Pontederia cordata L.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Minnesota, Ontario and Quebec, east to Nova Scotia, south to s. Florida, west to Texas, Kansas and Iowa with disjuncts in Oregon
POTAMOGETONACEAE																
**Potamogeton crispus* L.	1	1	0	0	0	0	0	0	0	0	0	0	0	0		
P. diversifolius Raf.	0	1	1	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Throughout N. America	Central: Throughout N. America
***P. epihydrus* Raf.	0	0	1	0	0	0	0	0	0	0	0	0	0	0		Central: Alaska, British Columbia, Montana, Saskatchewan to Labrador, east to Nova Scotia, south to Florida, west to Louisiana, Iowa, South Dakota, south to Colorado and California, north to Oregon
P. foliosus Raf.	1	1	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Throughout N. America	Central: Throughout N. America
P. nodosus Poir.	1	1	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Throughout N. America	Central: Throughout N. America
Stuckenia pectinata (L.) Borner	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
SMILACACEAE																
Smilax biltmoreana (Small) J.B.S. Norton ex Pennell	0	0	0	0	0	0	0	1	0	0	0	1	0	0		Southern: Kentucky, east to North Carolina, south to n. Florida, west to Alabama and c. Tennessee
S. bona-nox L.	1	0	1	1	1	1	1	1	1	1	1	1	0	0	Intraneous: Eastern-midwestern N. America	Central: Missouri, Illinois, Indiana, Kentucky, Virginia and Maryland, east to e. North Carolina, south to Florida, west to Texas and Kansas
S. glauca Walter	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Wyoming, Missouri and New York, east to Massachusetts, south to Florida, west to Texas and Kansas
S. herbacea L.	1	1	1	1	0	0	1	0	0	1	0	0	0	0		Central: Ontario and Quebec, east to New Brunswick, south to Georgia and Louisiana, west to Oklahoma, Kansas and Minnesota
S. hugeri (Small) J.B.S. Norton ex Pennell	1	0	1	0	0	1	1	0	1	0	1	0	0	0		Southern: Kentucky,east to North Carolina, south to Florida, west to w. Tennessee
S. pulverulenta Michx.	0	0	0	0	0	0	0	1	0	0	0	0	0	0		Central: Minnesota, Illinois, Michigan and New York, east to New Jersey, south to Georgia and Mississippi, west to Arkansas and Kansas
S. rotundifolia L.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: South Dakota, Ontario, New York and Maine, east to Nova Scotia, south to Florida, west to Texas and Kansas
S. tamnoides L.	0	1	1	0	0	1	1	1	0	0	0	1	1	1		Central: Minnesota, Ontario, New York and New Hampshire, east to North Carolina, south to Tennessee, west to Texas and South Dakota
SPARGANIACEAE																
Sparganium americanum Nutt.	1	1	1	0	0	0	0	0	0	0	1	0	0	0		Central: Manitoba to Quebec, east to Newfoundland, south to Florida, west to Texas, Kansas and Iowa
TYPHACEAE																

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Typha angustifolia L.	0	0	0	0	1	0	0	0	0	0	0	0	0	0	Extraneous southeast: Northern to throughout N. America	Central: Throughout N. America
T. latifolia L.	1	1	1	0	0	1	1	0	1	1	0	1	0	0		Central: Throughout N. America
XYRIDACEAE																
Xyris difformis Chapm.	0	0	1	0	0	0	1	0	0	0	0	0	0	0		Central: Ontario to Maine, east to Nova Scotia, south to Florida, west to Texas, Oklahoma, Kentucky, Indiana and Michigan
X. torta Sm.	1	0	1	0	0	1	0	0	1	1	0	0	0	0		Central: Minnesota, Michigan, New York and New Hampshire, east to Massachusetts, south to Georgia and Louisiana, west to Texas, Oklahoma, Missouri and Nebraska
ZANNICHELLIACEAE																
Zannichellia palustris L.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Throughout N. America
MAGNOLIOPHYTA - MAGNOLIOPSIDA																
ACANTHACEAE																
Justicia americana (L.) Vahl	1	1	0	1	1	0	1	0	0	1	0	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Ontario and Quebec, east to New Jersey, south to Florida, west to Texas, Kansas and Iowa
Ruellia caroliniensis (J.F. Gmel.) Steud.	1	1	1	1	1	1	1	1	1	1	1	1	1	0	Intraneous: Eastern-midwestern-southwestern N. America	Central: Illinois to Pennsylvania, east to New Jersey, south to Florida, west to Texas, Oklahoma, Mississippi and Tennessee
R. humilis Nutt.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Minnesota, Michigan and Pennsylvania, east to Maryland, west to Texas and Nebraska
R. strepens L.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Iowa, Michigan and Pennsylvania, east to Maryland, west to Texas and Nebraska
ACERACEAE																
Acer campestre L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
***Acer leucoderme* Small	1	0	1	0	0	0	0	1	0	0	0	0	0	0		Southern: Arkansas and Tennessee, east to North Carolina, south to n.w. Florida, west to Texas and Oklahoma
A. negundo L.	1	1	1	1	1	1	1	1	1	0	0	0	1	0	Intraneous: Throughout N. America	Central: Throughout N. America
A. nigrum Michx. f.	0	0	1	0	0	0	0	1	0	0	1	0	0	1		Central: Ontario and Quebec, east to Massachusetts, south to North Carolina, Georgia, Alabama and Arkansas, west to Kansas, Iowa and South Dakota
A. pensylvanicum L.	1	1	1	1	0	1	1	1	1	0	0	0	1	1		Northern: Ontario and Quebec, east to Nova Scotia, south to n. Georgia and s.c. Tennessee, west to Kentucky, Ohio, Michigan and Minnesota
A. rubrum L.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Minnesota, Ontario and Quebec, east to Newfoundland, south to Florida, west to Texas, Oklahoma and Iowa

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A. saccharinum L.	1	1	0	0	1	0	0	0	1	0	0	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Saskatchewan, North Dakota, Ontario and Quebec, east to New Brunswick, south to Florida and Louisiana, west to Oklahoma, New Mexico and South Dakota with disjuncts in California and Washington
A. saccharum Marsh. var. *saccharum*	1	1	1	1	1	1	1	1	1	1	0	1	1	1	Intraneous: Eastern-midwestern N. America	Central: North Dakota, Ontario and Quebec, east to Nova Scotia, south to North Carolina, Georgia and Louisiana, west to Oklahoma, Kansas, Iowa and South Dakota
A. spicatum Lam.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
AMARANTHACEAE																
**Alternanthera philoxeroides* (Mart.) Griseb.	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Introduced	
Amaranthus hybridus L.	1	1	1	0	0	0	0	0	0	0	0	0	0	0		Central: Throughout N. America
A. spinosus L.	0	0	0	0	0	0	0	0	0	1	0	0	0	0		Central: Manitoba, Ontario and New York, east to Maine, south to Florida, west to Texas, Nebraska and Minnesota with disjuncts in California
ANACARDIACEAE																
***Cotinus obovatus* Raf.	0	0	0	0	1	0	0	0	0	0	0	0	0	0	Extraneous east: Southeastern-southwestern N. America	Southern: s. Missouri and s. Kentucky, east to s.e. Tennessee, south to n. Georgia, n. Alabama and Arkansas, west to s.c. Texas and Oklahoma
Rhus aromatica Aiton	1	1	1	0	1	0	0	1	0	0	1	1	0	0	Intraneous: Eastern-midwestern N. America	Central: Minnesota, Ontario and Quebec, east to Massachusetts, south to Florida, west to Texas and South Dakota
R. copallinum L.	1	1	1	1	1	1	1	1	1	1	1	1	1	0	Intraneous-Eastern-midwestern N. America	Central: Iowa, Wisconsin, Ontario, New York and Maine, east to Massachusetts, south to Florida, west to Texas and Nebraska
R. glabra L.	1	1	1	1	1	1	0	1	1	1	0	1	1	0	Intraneous: Throughout N. America	Central: Throughout N. America
R. typhina L.	0	1	1	0	0	0	1	1	0	0	0	0	0	0		Central: Ontario and Quebec, east to Nova Scotia, south to Georgia, Mississippi and Missouri, west to Kansas, Iowa and South Dakota with disjuncts in Utah
Toxicodendron pubescens Mill.	0	0	0	0	0	0	0	0	1	0	0	0	0	0		Central: Missouri, Illinois, Tennessee, West Virginia and New Jersey, east to North Carolina, south to n. Florida, west to Texas and Kansas
T. radicans (L.) Kuntze	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Minnesota, Ontario and Quebec, east to Nova Scotia, south to s. Florida, west to Texas and South Dakota with disjuncts in Arizona
ANNONACEAE																
Asimina triloba (L.) Dunal	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Iowa, Wisconsin, Ontario and New York, east to e. North Carolina, south to n.e. Florida, west to e. Texas and s.e. Nebraska
APIACEAE																
Angelica venenosa (Greenway) Fernald	1	0	1	1	0	1	1	0	1	1	0	0	0	0		Central: Minnesota, Ontario and New York, east to Massachusetts, south to Florida and Louisiana, west to Oklahoma and Missouri

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Chaerophyllum procumbens (L.) Crantz	0	1	1	0	0	0	0	0	0	0	0	0	0	0		Central: Wisconsin, Ontario and New York, east to New Jersey, south to Florida and Mississippi, west to Oklahoma and Nebraska
C. tainturieri Hook.	1	0	1	0	1	1	0	1	1	0	0	0	0	0	Intraneous: Eastern-midwestern-southwestern N. America	Central: Nebraska, Missouri, Illinois and Ohio, east to Delaware, south to Florida and Texas, west to Arizona and Kansas
Cicuta maculata L.	1	1	0	0	1	1	0	0	0	1	0	0	1	0	Intraneous: Throughout N. America	Central: Throughout N. America
Conium maculata L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
Cryptotaenia canadensis (L.) DC.	1	1	1	1	1	1	1	1	0	1	1	1	0	1	Intraneous: Eastern-midwestern N. America	Central: Manitoba and Quebec, east to New Brunswick, south to Florida, west to Texas and North Dakota
**Cyclospermum leptophyllum* (Pers.) Sprague ex Britton & P. Wilson	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
**Daucus carota* L.	1	1	1	1	1	1	1	1	1	1	1	1	1	0	Introduced	
D. pusillus Michx.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Kansas, Illinois and Tennessee, east to Virginia, south to Florida and Texas, west to California, north to British Columbia, east to Idaho
Erigenia bulbosa (Michx.) Nutt.	1	0	1	1	0	1	0	1	0	0	1	0	1	0		Central: Wisconsin, Ontario and New York, east to Maryland, south to North Carolina, Georgia and Mississippi, west to Oklahoma, Kansas and Illinois
Eryngium prostratum Nutt. ex DC.	1	0	1	0	0	0	0	0	0	0	0	0	0	0		Central: Missouri, Illinois, Kentucky and Virginia, east to Delaware, south to Florida, west to Texas and Kansas
E. yuccifolium Michx.	1	0	1	0	1	1	0	0	1	0	1	0	0	0	Intraneous: Southeastern-midwestern N. America	Central: s. Minnesota, Wisconsin, s. Michigan and n. Ohio, east to e. Virginia and Connecticut, south to s. Florida, s. Louisiana and s.e. Texas, west to e. Kansas and Nebraska
***Hydrocotyle americana* L.	0	0	1	0	0	0	0	0	0	0	0	0	0	0		Northern: Ontario and Quebec, east to Newfoundland, south to South Carolina, Tennessee and Arkansas, west to Indiana and Minnesota
H. verticillata Thunb.	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Extraneous north: Southeastern-southwestern N. America	Southern: Oklahoma, Missouri, Tennessee, Virginia and New York, east to Massachusetts, south to Florida and Texas, west to California and Oregon
Ligusticum canadense (L.) Britton	1	0	1	0	0	1	1	1	1	1	1	0	0	0		Central: Indiana to Pennsylvania, east to Maryland, south to Georgia and Mississippi, west to Arkansas and Missouri
Osmorhiza claytonii (Michx.) C.B. Clarke	1	1	1	1	1	1	1	1	0	0	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Manitoba to Quebec, east to Nova Scotia, south to Georgia, Alabama and Arkansas, west to Kansas and North Dakota
O. longistylis (Torr.) DC.	1	1	0	0	1	0	0	0	0	0	0	0	0	1	Intraneous: Throughout N. America	Central: Throughout N. America
Oxypolis rigidior (L.) Raf.	1	0	1	1	0	1	0	0	0	1	1	0	0	0		Central: Minnesota, Ontario and Quebec, east to New Jersey, south to Florida, west to Texas, Oklahoma and Iowa
Ptilimnium capillaceum (Michx.) Raf.	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Southeastern N. America	Southern: e. Pennsylvania and s. New York, east to Massachusetts, south to s. Florida, west to s.c. Texas and s.e. Kansas with disjuncts in South Dakota

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Sanicula canadensis L.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Minnesota, Ontario and Quebec, east to Massachusetts, south to Florida and Texas, west to Kansas and Wyoming
S. marilandica L.	0	1	1	0	0	0	1	0	0	0	0	0	0	0		Central: British Columbia to Quebec, east to Newfoundland, south to Florida, Louisiana, Kansas and New Mexico, west to Idaho and Washington
S. odorata (Raf.) K.M. Pryer & L.R. Phillippe	0	1	1	0	0	1	1	1	0	1	1	1	0	0		Central: North Dakota, Ontario and Quebec, east to Nova Scotia, south to Florida, west to Texas and North Dakota
S. smallii E.P. Bicknell	1	0	1	1	1	1	1	0	1	1	1	1	0	0	Intraneous: Eastern-midwestern N. America	Central: Missouri, Illinois and Ohio, east to North Carolina, south to Florida, west to Texas
S. trifoliata E.P. Bicknell	1	1	1	1	0	1	0	0	0	0	1	0	0	1		Central: Ontario and Quebec, east to New Brunswick, south to Georgia and Alabama, west to Iowa and Minnesota
Sium suave Walt.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
Taenidia integerrima (L.) Drude	1	0	1	0	0	1	0	0	0	0	1	1	1	1		Central: Minnesota, Ontario and Quebec, east to Connecticut, south to Georgia and Louisiana, west to Texas, Kansas, Iowa and South Dakota
Thaspium barbinode (Michx.) Nutt.	1	1	1	0	0	1	0	1	1	1	1	1	1	1		Central: Minnesota, Ontario and New York, east to Nova Scotia, south to Florida, west to Texas and Kansas
T. trifoliatum (L.) A. Gray var. *aureum* (L.) Britton	1	0	1	1	1	0	0	0	1	1	0	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Minnesota, Ontario and New York, east to North Carolina, south to Florida, west to Texas and Kansas
T. trifoliatum (L.) A. Gray var. *trifoliatum*	1	0	0	0	0	0	1	0	0	0	1	1	1	1		Central: Illinois, Kentucky, Ohio and Pennsylvania, east to New Jersey, south to Florida, west to Louisiana, Arkansas and Kansas
**Torilis arvensis* (Huds.) Link	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Introduced	
**T. japonica* (Houtt.) CC.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		
Trepocarpus aethusae Nutt. ex DC.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Southern: Missouri and Kentucky, east to South Carolina, south to Florida, west to Texas and Oklahoma
Zizia aptera (A. Gray) Fernald	0	1	1	0	1	1	1	1	1	1	0	1	0	0	Intraneous: Throughout N. America	Central: Throughout N. America
Z. aurea (L.) W.D.J. Koch	1	1	0	0	0	0	0	0	0	0	0	0	0	0		Central: Manitoba to Quebec, east to Nova Scotia, south to Florida, west to Texas, Nebraska and Montana
Z. trifoliata (Michx.) Fern.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Southern
APOCYNACEAE																
Amsonia tabernaemontana Walter var. *tabernaemontana*	1	0	1	0	1	0	1	0	1	0	0	0	0	0	Intraneous: Southeastern N. America	Southern: Illinois, Kentucky and New York, east to Massachusetts and North Carolina, south to n.w. Florida, west to e. Texas and Kansas
Apocynum androsaemifolium L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
A. cannabinum L.	1	1	1	1	0	0	0	0	0	1	1	1	1	0		Central: Throughout N. America
**Vinca major* L.	0	0	0	0	1	0	0	0	1	0	0	0	0	0	Introduced	

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**V. minor* L.	1	0	1	1	1	0	0	0	0	0	0	0	0	0	Introduced	
AQUIFOLIACEAE																
Ilex ambigua (Michx.) Torr.	1	0	1	0	0	1	0	0	1	0	0	0	0	0		Southern: Arkansas, Kentucky and Virginia, east to North Carolina, south to Florida, west to Texas and Oklahoma
I. decidua Walter	1	0	1	0	1	1	0	1	1	0	1	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Missouri, Illinois, Indiana, Kentucky and Virginia, east to Maryland, south to Florida, west to Texas and Kansas
I. longipes Chap. ex Trel.	1	0	0	0	1	0	0	0	0	0	1	0	0	0	Extraneous north: Southeastern N. America	Southern: n.w. Tennessee to Virginia, east to c. North Carolina, south to the panhandle of Florida, west to e. Texas and s.w. Arkansas
I. montana Torr. & A. Gray ex A. Gray	1	1	1	0	0	0	1	1	1	0	1	0	0	0		Central: e. Kentucky to New York, east to Massachusetts, south to Georgia and n. Alabama
I. opaca Aiton	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Illinois to New York, east to Maine, south to Florida, west to Texas, Oklahoma and Missouri
I. verticillata (L.) A. Gray	1	1	1	1	1	0	1	0	0	1	0	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Ontario and Quebec, east to Newfoundland, south to Florida, west to Texas and Minnesota
ARALIACEAE																
Aralia nudicaulis L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
A. racemosa L.	1	1	1	1	0	1	1	1	0	0	1	1	0	0		Central: Manitoba to Quebec, east to Nova Scotia, south to Georgia, Mississippi and Texas, west to Arizona, Utah and South Dakota
A. spinosa L.	1	1	1	0	0	1	1	1	1	1	1	1	0	0		Central: Illinois to New York, east to Maine, south to Florida, west to Texas, Oklahoma and Missouri
**Hedera helix* L.	1	1	0	0	0	0	0	0	1	0	0	0	0	0		
***Panax quinquefolius* L.	1	1	1	1	1	1	1	1	1	0	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Minnesota, Ontario and Quebec, east to Maine, south to Georgia and Louisiana, west to Oklahoma and South Dakota
P. trifolius L.	0	0	1	1	0	0	0	0	0	0	0	0	0	0		Northern: Ontario and Quebec, east to Nova Scotia, south to North Carolina, Georgia and Tennessee, west to Indiana and Minnesota
ARISTOLOCHIACEAE																
Aristolochia macrophylla Lam.	0	1	1	1	0	1	1	1	1	1	1	0	1	1		Central: Michigan, Ontario and New York, east to Maine, south to Georgia and Alabama, west to Tennessee, Kentucky and Pennsylvania
A. serpentaria L.	1	0	1	1	1	1	1	1	0	0	1	1	0	0	Intraneous: Eastern-midwestern N. America	Central: Iowa, Michigan and New York, east to Connecticut, south to Florida, west to Texas and Kansas
A. tomentosa Sims	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Missouri, Wisconsin, Ohio, New York and Vermont, east to Massachusetts, south to Florida, west to Texas and Kansas
Asarum canadense L.	0	1	1	1	0	1	1	1	0	1	1	0	1	1		Central: Manitoba to Quebec, east to New Brunswick, south to Georgia and Louisiana, west to Oklahoma, Kansas, Iowa, South Dakota and North Dakota

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Hexastylis arifolia (Michx.) Small var. *arifolia*	0	0	0	1	0	1	1	1	0	1	0	0	0	0		Southern: Tennessee and Virginia, east to North Carolina, south to n. Florida, west to Louisiana
H. arifolia (Michx.) Small var. *ruthii* (Ashe) Blomquist	1	0	1	0	1	0	0	0	1	0	0	0	0	0	Intraneous: Southeastern N. America	Southern: Kentucky and Virginia, east to North Carolina, south to Georgia and Alabama, west to c. Tennessee
*H. contracta*Bloomquist	0	0	1	1	0	0	1	0	0	1	0	0	0	0		Southern: s.e. Kentucky, w. North Carolina and e. Tennessee
H. shuttleworthii (Britten & Baker f.) Small	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Southeastern N. America	Southern: Tennessee and Virginia, east to North Carolina, south to Georgia and Mississippi
H. virginica (L.) Small	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Southern
ASCLEPIADACEAE																
Asclepias amplexicaulis Sm.	1	0	1	0	0	1	0	0	1	0	1	0	0	0		Central: Minnesota, Michigan, New York and New Hampshire, east to Massachusetts, south to Florida, west to Texas and Nebraska
A. exaltata L.	1	0	0	1	0	0	1	0	1	0	0	0	0	0		Northern: Minnesota, Ontario and Quebec, east to Maine, south to n. Georgia, n. Alabama and Mississippi, west to Illinois and Iowa
A. incarnata L. ssp. *Incarnata*	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
A. purpurascens L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
A. quadrifolia Jacq.	1	1	1	0	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Minnesota, Ontario, New York and New Hampshire, east to Massachusetts, south to Georgia and Mississippi, west to Oklahoma, Kansas and Iowa
A. syriaca L.	0	1	1	0	0	0	0	0	0	0	0	1	1	0		Central: Saskatchewan to Quebec, east to Nova Scotia, south to Georgia and Louisiana, west to Texas, South Dakota, Montana and Oregon
A. tuberosa L.	1	1	1	0	1	1	1	1	1	0	0	0	0	0	Intraneous: Eastern-midwestern-southwestern N. America	Central: South Dakota, Ontario and Quebec, east to Maine, south to Florida and Texas, west to California and Utah
A. variegata L.	1	0	1	0	1	1	1	1	1	1	1	1	0	0	Intraneous: Eastern to Southeastern N. America	Central: Ontario and New York, east to Connecticut and North Carolina, south to n. Florida, west to e. Texas s. Missouri and s. Illinois
A. verticillata L.	0	0	0	0	1	0	1	0	0	0	1	1	0	0	Intraneous: Throughout N. America	Central: Throughout N. America
A. viridiflora Raf.	0	0	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Throughout N. America	Central: Throughout N. America
Cynanchum laeve (Michx.) Pers.	1	0	0	0	1	0	0	0	0	0	0	1	0	0	Intraneous: Eastern-midwestern N. America	Central: Iowa, Ohio, Ontario and New York, east to North Carolina, south to Florida, west to Texas and Nebraska with disjuncts in Idaho
Matelea carolinensis (Jacq.) Woodson	1	0	0	0	1	1	0	1	0	0	1	0	0	0	Intraneous: Eastern-southeastern N. America	Central: Arkansas, Kentucky, Virginia and Maryland, east to Delaware, south to Georgia and Louisiana, west to Texas
M. gonocarpos (Walter) Shinners	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Missouri, Illinois, Indiana, Kentucky, Virginia and Maryland, east to North Carolina, south to Florida, west to Texas and Kansas

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M. obliqua Jacq. Woodson	0	0	0	0	0	0	1	0	0	0	0	0	0	0		Central: Illinois to Pennsylvania, east to North Carolina, south to Georgia and Mississippi, west to Missouri
ASTERACEAE																
Achillea millefolium L.	1	1	1	1	1	0	1	0	0	1	1	1	1	0	Intraneous: Throughout N. America	Central: Throughout N. America
Ageratina altissima (L.) King & H. Rob. var. *altissima*	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-Midwestern N. America	Central: Northwest Territories, Ontario and Quebec, east to Nova Scotia, south to n. Florida, west to Texas and North Dakota
A. aromatica (L.) Spach. var. *aromatica*	1	0	0	0	1	1	0	0	0	0	0	0	0	0	Intraneous: Eastern N. America	Central: Ohio to New York, east to Massachusetts, south to n. Florida, west to c. Louisiana, w. Mississippi and w. Kentucky
***A. luciae-brauniae* (Fernald) King & H. Rob.	0	0	0	0	0	0	0	0	0	1	0	0	0	0		Southern: s.e. Kentucky and n.c. to n.e. Tennessee
Ambrosia artemisiifolia L.	1	0	1	1	1	1	1	1	1	1	1	1	1	0	Intraneous: Throughout N. America	Central: Throughout N. America
A. artemisiifolia L. var. *elatior* (L.)	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
A. trifida L.	1	1	1	1	0	1	0	1	1	1	0	1	1	0		Central: Throughout N. America
Antennaria neglecta Greene	0	1	0	0	0	0	0	0	0	0	0	0	1	0		Northern: British Columbia and Northwest Territories, east to Quebec, Nova Scotia and Massachusetts, south to North Carolina, Arkansas and Oklahoma, west to Colorado and Montana
A. plantaginifolia (L.) Richardson	1	1	1	0	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-Midwestern N. America	Central: Minnesota, Wisconsin, Ohio, New York and Maine, east to Massachusetts, south to n. Florida, west to Louisiana and Iowa
A. solitaria Rydb.	1	0	1	1	1	1	1	0	1	1	0	1	1	1	Intraneous: Eastern-Midwestern N. America	Central: Illinois to Pennsylvania, east to New Jersey, south to Georgia and s. Mississippi, west to e. Louisiana and Arkansas
**Anthemis arvensis* L.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
A. cotula L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
**Arctium minus* Bernh.	1	1	1	0	0	0	0	1	0	0	1	0	0	0		
Arnoglossum atriplicifolium (L.) H. Rob.	1	1	1	1	1	1	1	1	1	1	0	1	1	0	Intraneous: Eastern-Midwestern N. America	Central: Minnesota, Michigan and New York, east to Massachusetts, south to n.w. Florida and c. Louisiana, west to Oklahoma and Nebraska
A. reniforme (Hook.) H. Rob.	0	0	0	0	0	0	0	1	0	0	1	0	0	0		Central: Minnesota, Wisconsin, Ohio and Pennsylvania, east to New Jersey, south to North Carolina, Georgia, s. Alabama and n.e. Mississippi, west to Oklahoma and Iowa
**Artemisia annua* L.	1	1	0	0	0	0	0	0	0	0	0	0	0	0		
**A. vulgaris* L.	0	1	1	0	0	0	0	0	0	0	0	0	0	0		
Bidens aristosa (Michx.) Britt.	1	1	0	1	1	1	1	0	1	1	1	1	1	0	Intraneous: Eastern-Midwestern N. America	Central: Minnesota, Ontario, New York and Maine, east to Massachusetts, south to Georgia, Louisiana and e. Texas, west to Colorado and Nebraska

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B. bipinnata L.	1	1	1	1	0	1	0	1	0	1	1	1	0	0		Central: Nebraska, Illinois, New York, Ontario and New Brunswick, east to Massachusetts, south to s. Florida, s. Louisiana and s.e. Texas, west to California, Arizona and Colorado
B. cernua L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
B. discoidea(Torr. & A. Gray) Britton	0	0	0	0	0	0	0	0	0	0	1	0	0	0		Central: Minnesota, Ontario and Quebec, east to Nova Scotia, south to n. Florida, west to Texas and Oklahoma
B. frondosa L.	1	1	1	1	1	1	1	0	1	1	0	1	1	0	Intraneous: Throughout N. America	Central: Throughout N. America
*B. laevis (*L.) B.S.P.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
B. tripartita L.	0	1	0	0	0	0	0	1	0	0	0	0	0	0		Central: Throughout N. America
B. vulgata Greene	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Throughout N. America
Brickellia eupatorioides (L.) Shinners var. *eupatorioides*	1	1	0	0	0	0	1	0	0	0	0	0	0	0		Central: Throughout N. America
**Carduus nutans* L.	1	0	0	0	0	0	0	0	0	0	0	1	0	0		
Centaurea stoebe L. ssp. *Micranthos* (Gugler) Hayek	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
Chondrilla juncea L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
***Chrysogonum virginianum* L. var. *australe* (Alexander ex Small) H.E. Ahles	0	0	0	0	0	0	0	0	0	1	0	0	0	0		Central: Kentucky, Ohio and New York, east to Maryland, south to n.w. Florida, west to Louisiana and Tennessee
Chrysopsis mariana (L.) Elliot	1	0	1	1	1	1	1	1	1	1	1	1	0	0	Intraneous: Eastern-southwestern N. America	Central: Kentucky, Ohio and New York, east to Rhode Island, south to s. Florida, west to Louisiana, Texas and Tennessee
**Cichorium intybus* L.	1	1	1	0	1	0	0	0	0	1	0	1	0	0	Introduced	
Cirsium altissimum (L.) Hill	0	0	0	0	0	1	1	1	0	0	1	0	0	0		Central: North Dakota, Michigan and New York, east to Massachusetts, south to Florida, west to Texas and Nebraska
C. carolinianum (Walter) Fernald & B.G. Schub.	1	0	1	1	0	0	0	0	0	1	1	0	0	0		Central: Missouri, Illinois and Ohio, east to Virginia and North Carolina, south to Georgia and Louisiana, west to Texas and Oklahoma
C. discolor (Muhl. ex Willd.) Spreng.	0	0	1	0	1	0	1	1	1	0	1	1	0	0	Intraneous: Eastern-midwestern-northwestern N. America	Central: Saskatchewan to Quebec, east to Maine, south to Georgia and Mississippi, west to Louisiana, Iowa South Dakota and North Dakota
C. muticum Michx.	0	0	0	1	0	1	0	0	0	0	0	0	0	0		Central: Saskatchewan to Quebec, east to Maine, south to Florida, west to Texas and Oklahoma
**C. vulgare* (Savi) Ten.	1	1	1	0	1	0	0	0	0	0	0	1	1	0	Introduced	
Conoclinium coelestinum (L.) DC.	1	1	1	1	1	0	1	0	0	1	1	1	0	0	Intraneous: Eastern-Midwestern N. America	Central: Illinois, Michigan, Ontario and New York, east to New Jersey, south to Florida, west to Texas and Nebraska
Conyza canadensis (L.) Cronquist var. *canadensis*	1	1	1	1	1	1	1	1	1	1	1	1	1	0	Intraneous: Throughout N. America	Central: Throughout N. America

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C. canadensis (L.) Cronquist var. *pusilla* (Nutt.) Cronquist	0	0	1	0	0	0	0	0	0	0	0	0	0	0		Central: Missouri, Indiana and New York, east to Massachusetts, south to Florida, west to Texas and Oklahoma with disjuncts in Arizona
Coreopsis auriculata L.	1	1	0	0	0	1	0	0	0	1	0	0	0	0		Southern: Kentucky and West Virginia, east to North Carolina, south to Florida and Mississippi, west to Louisiana
C. grandiflora Hogg ex Sweet	0	0	0	0	0	0	0	0	1	0	0	0	0	0		Central: Iowa, Wisconsin, Ontario and Quebec, east to Maine, south to Florida and Texas, west to New Mexico and Kansas with disjuncts in California
C. lanceolata L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
C. major Walter	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern N. America	Central: Indiana to New York, east to Massachusetts, south to Florida, west to Mississippi and w. Tennessee
C. pubescens Elliot	0	1	0	0	0	0	1	0	0	1	0	0	0	0		Central: Missouri, Illinois, Kentucky and West Virginia, east to North Carolina, south to Florida, west to Texas and Kansas with disjuncts in Massachusetts and Connecticut
**C. pubescens* Ell. Var. *robusta* A. Gray ex Eames	0	1	0	0	0	0	0	0	0	0	0	0	0	0		
C. tinctoria Nutt.	1	0	0	0	0	0	0	0	1	0	0	0	0	0		Central: Throughout N. America
C. tripteris L.	1	1	1	1	1	0	1	1	1	1	0	1	0	0	Intraneous: Eastern-Midwestern N. America	Central: Iowa, Wisconsin, Ontario and Quebec, east to Massachusetts, south to Florida, west to Texas and Kansas
**Crepis capillaris* (L.) Wallr.	0	0	1	0	0	0	0	0	0	0	0	0	0	0		
**C. pulchra* L.	1	0	1	0	0	0	0	0	0	0	0	0	0	0		
Croptilon divaricatum (Nutt.) Raf.	0	0	0	0	0	0	0	0	0	0	0	0	1	0		Southern: Arkansas, Alabama andGeorgia, east to Virginia, south to Florida, west to Texas and Kansas
Doellingeria infirma (Michx.) Greene	1	0	1	0	0	1	1	1	0	1	1	1	1	1		Central: Ohio and New York, east to Massachusetts, south to Florida, west to Alabama, Tennessee and Kentucky
D. umbellata (Mill.) Nees var. *umbellata*	0	0	1	1	0	1	1	1	0	1	1	0	0	0		Central: Alberta to Quebec, east to Newfoundland, south to Georgia and Mississippi, west to Missouri, Nebraska and North Dakota
Echinacea purpurea (L.) Moench	0	0	0	0	0	1	0	0	1	0	0	0	0	0		Central: Wisconsin, Ontario and New York, east to Connecticut, south to Florida, west to Texas, Colorado and Iowa
Eclipta prostrata (L.) L.	1	1	1	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Throughout N. America	Central: South Dakota, Ontario and New York, east to Massachusetts, south to Florida, west to California, Kansas and Nebraska
Elephantopus carolinianus Raeusch.	1	1	1	1	1	1	1	1	0	1	1	1	1	1	Intraneous: Eastern-Midwestern N. America	Central: Missouri, Illinois and Pennsylvania, east to New Jersey, south to Florida, west to Texas and Kansas
E. tomentosus L.	1	0	1	1	1	1	1	1	1	1	1	0	0	0	Intraneous: Southeastern-southwestern N. America	Southern: Arkansas, s. Kentucky and Maryland, east to North Carolina, south to Florida, west to Texas and Oklahoma
Erechtites hieraciifolia (L.) Raf. ex DC.	1	1	1	0	1	1	1	1	1	1	1	1	0	0	Intraneous: Eastern-midwestern-western N. America	Central: Ontario and Quebec, east to Nova Scotia, south to Florida, west to Texas and South Dakota with disjuncts in Washington south to California

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Erigeron annuus (L.) Pers.	1	1	1	1	1	1	1	1	1	1	1	1	1	0	Intraneous: N. America	Central: Throughout N. America
E. philadelphicus L.	1	1	1	0	1	0	0	0	1	1	0	1	1	0	Intraneous: Throughout N. America	Central: Throughout N. America
E. pulchellus Michx.	1	1	1	1	0	1	1	1	1	1	1	0	1	1		Central: Minnesota, Ontario and Quebec, east to Maine, south to Florida, west to Texas, Kansas and Iowa
E. strigosus Muhl. ex Willd. var. *strigosus*	1	1	1	1	1	1	1	1	1	1	1	1	0	0	Intraneous: Throughout N. America	Central: Throughout N. America
Eupatoriadelphus fistulosus (Barratt) King & H. Rob	1	1	1	1	0	0	1	0	1	1	0	1	1	0		Central: Illinois, Michigan, New York and Quebec, east to Maine, south to Florida, west to Texas, Oklahoma and Missouri
Eupatorium album L. var. *album*	1	0	1	0	1	1	0	0	1	1	1	0	0	0	Intraneous: Eastern-southeastern N. America	Central: Indiana to New York, east to Connecticut, south to Florida, west to Texas, Arkansas and Kentucky
E. capillifolium (Lam.) Small	1	0	1	0	1	0	0	0	1	0	1	0	0	0	Intraneous: Eastern-Midwestern N. America	Central: Missouri, Kentucky and Pennsylvania, east to Massachusetts, south to Florida, west to Texas and Oklahoma
E. hyssopifolium L. var. *hyssopifolium*	1	0	1	0	1	1	0	0	1	0	1	0	0	0	Intraneous: Eastern-southeastern N. America	Central: Illinois, Kentucky and Maryland, north to New York, east to Rhode Island, south to Florida, west to Texas and Arkansas
E. hyssopifolium L. var. *laciniatum* A. Gray	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Indiana to New York, east to Connecticut, south to Florida, west to Louisiana and Arkansas
E. mohrii Greene	0	0	0	0	0	0	0	1	0	0	0	0	0	0		Southern: Mississippi to Georgia, north to Virginia, east to e. North Carolina, south to s. Florida, west to e. Texas
E. perfoliatum L.	1	1	1	0	1	1	0	0	1	0	0	0	0	0	Intraneous: Eastern-Midwestern N. America	Central: Manitoba to Quebec, east to Nova Scotia, south to Florida, west to Texas and North Dakota
E. pilosum Walter	1	0	0	0	0	0	1	0	0	0	1	1	0	0		Central: Kentucky, West Virginia and New York, east to Massachusetts, south to Florida, west to Louisiana and Mississippi
E. purpureum L.	1	1	1	1	1	1	1	1	1	1	0	0	1	1	Intraneous: Eastern-Midwestern N. America	Central: Minnesota, Ontario, New York and Maine, east to Massachusetts, south to Florida and Louisiana, west to Oklahoma and Nebraska
E. rotundifolium L. var. *ovatum* (Bigelow) Torr.	1	0	1	1	1	0	0	1	1	0	0	0	0	0	Intraneous: Eastern to Southeastern N. America	Southern: New York and Maine, east to Massachusetts and North Carolina, south to Florida, west to Louisiana, Arkansas and Ohio
E. rotundifolium L. var. *rotundifolium*	0	0	0	0	1	1	1	0	0	0	0	1	0	0	Intraneous: Eastern-southeastern N. America	Central: Arkansas, Indiana to New York, east to Rhode Island, south to Florida, west to Texas and Oklahoma
E. serotinum Michx.	1	1	1	1	1	1	1	1	0	1	1	1	1	0	Intraneous: Eastern-Midwestern N. America	Central: Minnesota, Ontario and New York, east to Massachusetts, south to Florida, west to Texas and Nebraska
E. sessilifolium L.	1	0	1	1	1	0	0	1	1	0	0	1	0	0	Intraneous: Eastern-Midwestern N. America	Central: Minnesota and Michigan, east to New Hampshire and Massachusetts, south to Georgia and Mississippi, west to Arkansas, Kansas and Iowa

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E. sessilifolium L. var. *vaseyi* (Porter) Fernald & Grisc.	0	0	0	0	0	0	0	1	0	0	0	0	0	0		Central: Kentucky to Pennsylvania, east to New Jersey, south to Georgia and Alabama, west to e. Tennessee
Eurybia divaricata (L.) G.L. Nesom	1	1	1	1	1	1	1	1	1	1	0	0	0	1	Intraneous: Eastern N. America	Central: Ontario and Quebec, east to Maine, south to c. Georgia and Mississippi, west to Tennessee, Kentucky and Ohio
E. macrophylla (L.) Cass.	0	1	0	1	0	0	0	0	0	0	1	1	0	0		Northern: Manitoba and Quebec, east to Nova Scotia, south to n. Georgia and Tennessee, west to Missouri and Minnesota
***E. saxicastellii* (J.J.N. Campbell & M. Medley) G.L. Nesom	0	0	0	0	0	0	0	0	0	1	0	0	0	0		Southern: s.e. Kentucky and n.e. Tennessee
E. schreberi (Nees) Nees	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
E. surculosa (Michx.) G.L. Nesom	1	0	0	0	0	1	1	0	0	1	0	1	0	0		Central: Ohio, Kentucky and Virginia, east to North Carolina and South Carolina, south to Georgia and Alabama, west to s.c. Tennessee
Euthamia caroliniana (L.) Greene ex Porter & Britton	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
E. graminifolia (L.) Nutt. var. *graminifolia*	0	1	0	0	0	1	0	0	1	0	0	1	0	0		Central: British Columbia and Northwest Territories to Quebec,east to Newfoundland, south to North Carolina, Alabama, Louisiana, Missouri, South Dakota and New Mexico, west to Idaho and Washington
Eutrochium purpureum (L.) E.E. Lamont var. *purpureum*	0	0	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Southeastern N. America	Southern: s.e. Minnesota to New Hampshire, east to Delaware and Virginia, south to panhandle of Florida and n. Louisiana, west to e. Nebraska
Fleischmannia incarnata (Walter) King & H. Rob.	1	0	1	0	1	1	0	0	0	0	0	0	0	0	Intraneous: Southeastern N. America	Southern: Illinois and Ohio, east to Virginia, south to n. Florida, west to Arizona, Texas and Missouri
**Galinsoga quadriradiata* Cav.	1	1	0	0	1	0	0	1	0	1	0	0	1	0	Introduced	
Gamochaeta purpurea (L.) Cabrera	1	1	1	1	0	1	0	1	1	0	1	1	0	0		Central: Kansas, Iowa, Wisconsin, Ontario and New York, east to Maine, south to Florida and Texas, west to California, Washington and Montana
Helenium amarum (Raf.) H. Rock	1	0	0	0	1	0	0	0	1	0	1	0	0	0	Intraneous: Eastern-Midwestern N. America	Central: Nebraska, Wisconsin, Michigan and Pennsylvania, east to Massachusetts, south to Florida, west to Texas and Oklahoma with disjuncts in California
H. autumnale L.	1	1	1	0	0	1	1	0	1	1	0	0	0	0	Intraneous: Throughout N. America	Central: Throughout N. America
***H. brevifolium* (Nutt.) Alph. Wood	0	0	0	0	0	0	1	0	0	0	0	0	0	0		Central: Tennessee and Virginia, east to North Carolina, south to n.w. Florida, west to Louisiana and Mississippi
H. flexuosum Raf.	0	0	1	0	1	0	1	1	1	1	1	1	0	0	Intraneous: Eastern-midwestern N. America	Central: Ontario and Quebec, east to Nova Scotia, south to s. Florida, west to s.e. Texas, s.e. Kansas and e. Minnesota
Helianthus angustifolius L.	1	0	1	0	0	0	1	0	0	1	0	0	0	0		Central: Illinois to New York, east to New Jersey, south to Florida, west to Texas and Oklahoma
H. annuus L.	1	1	0	0	0	0	0	0	0	0	0	0	0	0		Central: Throughout N. America
H. atrorubens L.	0	0	1	0	0	1	1	0	0	1	0	0	0	0		Central: Illinois, Kentucky and Virginia, east to e. North Carolina, south to n.w. Florida, west to Louisiana and Mississippi

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H. decapetalus L.	1	1	1	1	0	1	0	1	0	0	1	0	1	0		Central: Wisconsin, Ontario and Quebec, east to New Brunswick, south to Georgia and Louisiana, west to Oklahoma and Kansas
H. divaricatus L.	1	0	0	1	1	0	1	0	0	0	0	1	0	0	Intraneous: Eastern-Midwestern N. America	Central: Wisconsin, Ontario and Quebec, east to Maine, south to n.w. Florida and Louisiana, west to Oklahoma and Iowa
***H. eggertii* Small	0	0	0	0	0	0	1	0	0	0	1	0	0	0		Southern: c. Kentucky, c. Tennessee and Alabama
H. giganteus L.	0	1	0	0	0	0	0	0	0	1	0	0	0	0		Central: Manitoba to Quebec, east to Newfoundland, south to Georgia and Mississippi, west to Illinois, Iowa and Minnesota with disjuncts in Alberta
H. hirsutus Raf.	1	0	1	0	1	1	0	1	1	1	1	0	0	0	Intraneous: Eastern-midwestern N. America	Central: n. Minnesota, Ontario and New York, east to Connecticut, south to n. Florida and s. Louisiana, west to c. Texas and s.e. Nebraska
H. microcephalus Torr. & A. Gray	1	1	1	1	1	1	1	1	1	1	0	1	1	1	Intraneous: Eastern-Midwestern N. America	Central: Minnesota, Michigan and Pennsylvania, east to Connecticut, south to Florida, west to Louisiana and Missouri
***H. occidentalis* Riddell	0	1	0	0	0	0	0	0	1	0	0	0	0	0		Central: Minnesota, Michigan and Pennsylvania, east to New Jersey, south to Florida, Tennessee and Louisiana, west to Texas and Kansas
***H. occidentalis* Riddell ssp. *occidentalis*	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
H. strumosus L.	1	1	1	1	0	0	0	0	1	1	0	1	0	0		Central: North Dakota, Ontario and Quebec, east to New Brunswick, south to Florida, west to Texas, Kansas and Iowa
H. tuberosus L.	0	1	0	0	1	0	1	0	1	0	0	0	0	0	Intraneous: Throughout N. America	Central: Throughout N. America
Heliopsis helianthoides (L.) Sweet	0	0	1	1	1	1	1	1	0	1	0	0	0	0	Intraneous: Eastern-Midwestern N. America	Central: Saskatchewan to Quebec, east to Newfoundland, south to Florida and Texas, west to New Mexico, Colorado and North Dakota with disjuncts in Washington
Heterotheca camporum (Greene) Shinners var. *camporum*	0	0	1	1	0	0	1	0	0	0	0	0	0	0		Central: Iowa and Illinois, east to Ohio, south to Arkansas with disjuncts in New Jersey.
**Hieracium caespitosum* Dumort.	0	1	0	0	0	0	0	0	1	0	0	0	0	0		
H. gronovii L.	1	0	1	1	1	1	1	0	1	1	1	1	1	0	Intraneous: Eastern N. America	Central: Ontario, New York and Maine, east to Massachusetts and North Carolina, south to c. Florida and e. Texas, west to e. Kansas and Illinois
H. paniculatum L.	1	0	0	0	0	1	1	1	0	1	0	0	1	1		Central: Ontario and Quebec, east to Nova Scotia, south to Georgia and Mississippi, west to Tennessee, Indiana and Michigan
***H. scabrum* Michx.	0	0	0	1	0	0	1	0	0	0	1	0	0	0		Northern: Ontario and Quebec, east to Nova Scotia, south to n. Georgia, Tennessee and Arkansas, west to Oklahoma, Iowa and Minnesota
H. venosum L.	1	1	1	1	0	1	1	1	1	1	1	1	1	1		Central: Ontario, east to Maine, south to Florida, west to Louisiana, Missouri and Indiana with disjuncts in British Columbia
**Hypochaeris radicata* L.	1	1	1	0	0	0	0	0	0	0	0	0	0	0		

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Ionactis linariifolius (L.) Greene	1	1	0	1	0	1	1	0	0	1	1	0	0	0		Central: Minnesota, Wisconsin, Ohio and Quebec, east to New Brunswick, south to Florida, west to Texas and Kansas
Iva annua L.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: North Dakota, Wisconsin and Michigan, east to Pennsylvania and Maine, south to Florida and Texas, west to New Mexico and Colorado
Krigia biflora (Walter) S.F. Blake	1	0	1	1	1	1	1	0	1	1	1	1	1	1	Intraneous: Eastern and Southwestern N. America	Central: Manitoba and Ontario, east to Massachusetts and North Carolina, south to Georgia and Mississippi, west to Arizona, Colorado and Minnesota
K. caespitosa (Raf.) K.L. Chambers	0	0	1	0	0	0	0	0	0	0	1	0	0	0		Central: Illinois, Indiana, West Virginia and New York, east to North Carolina, south to Florida, west to Texas and Nebraska
K. dandelion (L.) Nutt.	1	0	0	0	0	0	0	0	1	0	0	0	0	0		Central: Iowa and Ohio, east to New Jersey, south to Florida, west to Texas and Kansas
K. virginica (L.) Willd.	1	0	1	1	1	0	1	0	1	0	1	0	0	0	Intraneous: Eastern-Midwestern N. America	Central: Quebec and Maine, east to Massachusetts and North Carolina, south to c. Florida, west to e. Texas, Kansas and Wisconsin with disjuncts in British Columbia
Lactuca biennis (Moench) Fernald	0	1	0	0	0	0	0	0	0	0	0	1	0	0		Central: Alaska, Saskatchewan, Ontario and Labrador, east to Newfoundland, south to North Carolina, Tennessee, Iowa, South Dakota, New Mexico, Utah and California, west to British Columbia
L. canadensis L.	1	0	1	1	1	1	0	0	0	0	0	1	1	0	Intraneous: Throughout N. America	Central: Throughout N. America
L. floridana (L.) Gaertn.	1	1	1	0	1	1	1	1	0	1	0	1	1	1	Intraneous: Eastern-Midwestern N. America	Central: Manitoba, Ontario and New York, east to Massachusetts, south to Florida, west to Texas and South Dakota
L. floridana (L.) Gaertn. var. *villosa* (Jacq.) Cronquist	0	0	0	0	0	0	0	1	0	0	0	0	0	0		Central: Iowa, Michigan, Ontario and New York, east to North Carolina, south to Florida, west to Louisiana, Kansas and Nebraska
**L. saligna* L.	1	1	1	0	1	0	0	0	0	0	1	0	0	0	Introduced	
**L. serriola* L.	0	1	0	0	0	0	0	0	0	0	0	0	1	0		
**Lapsana communis* L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		
**Leucanthemum vulgare* Lam.	1	1	1	1	1	1	1	1	1	1	1	1	1	0	Introduced	
Liatris aspera Michx.	0	0	1	0	1	1	0	0	0	0	1	0	0	0	Intraneous: Eastern-Midwestern N. America	Central: Minnesota, Ontario and New York, east to North Carolina, south to Florida, west to Texas and North Dakota
L. microcephala (Small) K. Schum.	0	0	1	1	0	1	1	1	1	1	1	0	0	0		Southern: Kentucky, east to North Carolina, south to Georgia and Alabama, west to Tennessee
L. scariosa (L.) Willd.	0	0	1	0	0	0	0	0	0	0	1	0	0	0		Central: Wisconsin, Michigan and New York, east to Maine, south to Georgia and Alabama, west to Arkansas and Missouri
L. spicata (L.) Willd.	0	1	1	0	0	1	1	0	0	0	1	1	0	0		Central: Ontario and Quebec, east to Massachusetts, south to Florida, west to Louisiana, Missouri and Wisconsin

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L. squarrosa (L.) Michx.	1	0	1	0	1	0	0	0	0	1	0	0	0	0	Intraneous: Southern-midwestern N. America	Southern: s. South Dakota to s.e. Michigan, east to Delaware, south to n. Florida, west to n.w. Texas and e. Colorado
L. squarrulosa Michx.	1	0	0	0	0	0	1	0	0	0	1	1	0	0		Central: Illinois to Ohio, east to North Carolina, south to Florida, west to Texas and Oklahoma
***Marshallia grandifolia* Beadle & F.E. Boynt.	0	0	0	0	0	0	1	0	0	1	0	0	0	0		Central: Kentucky and Pennsylvania, east to Maryland and North Carolina, south to Tennessee
***M. trinervia* (Walter) Trel.	0	0	0	0	0	1	0	0	0	0	0	0	0	0		Southern: Tennessee, east to North Carolina, south to Georgia and Mississippi, west to Louisiana
Mikania scandens (L.) Willd.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Illinois, Michigan, Ontario and New York, east to Maine, south to Florida, west to Texas, Oklahoma and Missouri
Oligoneuron album (Nutt.) G.L. Nesom	0	0	0	0	0	0	0	0	1	0	0	0	0	0		Northern: Saskatchewan and Quebec, east to New Brunswick, south to Georgia, Tennessee and Arkansas, west to Oklahoma, Wyoming and Montana
O. rigidum (L.) Small var. *rigidum*	0	0	0	0	0	0	0	0	0	0	1	0	0	0		Central: Minnesota, Ontario and New York, east to Massachusetts, south to South Carolina, Tennessee and Louisiana, west to Texas and Nebraska
Packera anonyma (Alph. Wood) W.A. Weber & A. Löve	1	1	1	1	1	1	1	1	1	1	1	1	1	0	Intraneous: Eastern-midwestern N. America	Central: Indiana to New York, east to New Jersey, south to n.w. Florida, west to Louisiana and Arkansas
P. aurea (L.) A. Löve & D. Löve	0	1	0	1	0	1	1	1	0	1	1	1	0	0		Central: Manitoba to Labrador, east to Newfoundland, south to Florida, west to Texas, Oklahoma and Minnesota
P. glabella (Poir.) C. Jeffrey	1	0	0	0	1	0	0	1	0	0	1	0	0	0	Intraneous: Eastern-Midwestern N. America	Central: Iowa, Ohio and Ontario, east to Maryland, south to Florida, west to Texas and South Dakota
P. obovata (Muhl. ex Willd.) W.A. Weber & A. Löve	1	1	1	0	1	1	1	1	1	0	0	1	1	1	Intraneous: Eastern-southwestern N. America	Central: Ontario and Quebec, east to Massachusetts, south to n. Florida and s. Texas, west to s.e. New Mexico and Kansas
P. paupercula (Michx.) A. Löve & D. Löve	0	0	0	0	1	0	1	0	0	0	0	0	0	0	Extraneous Southeast in TN: Northern to Northeastern N. America	Northern: Alaska to Nunavut, east to Nova Scotia, south to Florida, Mississippi, South Dakota and New Mexico, west to Idaho and British Columbia
Parthenium integrifolium L.	1	0	0	0	0	1	1	0	1	1	1	0	0	0		Central: Minnesota, Michigan and New York, east to Massachusetts, south to Georgia and Louisiana, west to Texas and Kansas
Pityopsis graminifolia (Michx.) Nutt. var. *graminifolia*	1	0	1	1	1	1	1	1	1	1	1	0	1	0	Extraneous northwest: Southeastern N. America	Southern: North Carolina, south to Florida, west to Louisiana, north to Mississippi and Georgia
P. graminifolia (Michx.) Nutt. var. *latifolia* (Fernald) Semple & F.D. Bowers	0	0	0	0	1	0	0	0	1	0	0	0	0	0	Extraneous northwest: Southeastern N. America	Southern: Ohio, east to Maryland, south to Florida, west to Texas and Arkansas
Pluchea camphorata (L.) DC.	1	0	1	0	0	0	0	0	0	0	1	0	0	0		Central: Wisconsin, Ohio and Pennsylvania, east to New Jersey, south to Florida, west to Texas and Kansas

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Polymnia canadensis L.	0	1	1	0	1	1	0	1	0	0	0	0	0	0	Intraneous: Eastern-Midwestern N. America	Central: Minnesota, Ontario and New York, east to Connecticut, south to North Carolina, Georgia, Alabama and Arkansas, west to Oklahoma and Kansas
P. laevigata Beadle	1	0	1	0	0	0	1	0	0	0	1	0	0	0		Southern: Missouri and Kentucky, south to Alabama and Florida
***P. johnbeckii* D. Estes	0	0	0	0	1	0	0	0	0	0	0	0	0	0	Strict Endemic: Marion County, Tennessee	Southern: Tennessee
Prenanthes altissima L.	1	0	1	1	0	1	1	1	0	1	0	1	1	1		Central: Illinois, Michigan, Ontario and Labrador, east to Nova Scotia, south to Georgia and Louisiana, west to Texas, Oklahoma and Missouri
P. serpentaria Pursh	1	1	1	0	1	1	1	0	0	0	1	1	0	0	Intraneous: Eastern N. America	Central: Ohio to New York and New Hampshire, east to Massachusetts, south to Florida, west to Mississippi and Kentucky
P. trifoliolata (Cass.) Fernald	1	1	0	0	0	0	0	0	0	1	0	0	1	0		Central: Ontario to Labrador, east to Newfoundland, south to Georgia and Alabama, west to Tennessee and Michigan
Pseudognaphalium helleri* (Britton) Anderb. ssp. *helleri	0	0	0	0	0	1	0	0	0	0	0	0	0	0		Southern: Arkansas, Virginia and Maryland, east to North Carolina, south to Florida, west to Texas and Oklahoma
Pseudognaphalium obtusifolium (L.) Hillard & B.L. Burtt ssp. *obtusifolium*	1	1	1	1	1	1	1	1	1	1	1	1	0	0	Intraneous: Eastern-Midwestern N. America	Central: Minnesota, Ontario and Quebec, east to Nova Scotia, south to Florida, west to Texas and Nebraska
Pyrrhopappus carolinianus (Walter) DC.	1	1	1	0	0	1	1	0	0	0	1	1	0	0		Central: Iowa, Indiana and Pennsylvania, east to Delaware, south to Florida, west to Texas and Nebraska
Ratibida pinnata (Vent.) Barnhart	1	0	0	0	1	0	0	0	0	0	1	0	0	0	Intraneous: Eastern and mid-western N. America	Central: Ontario and Vermont, east to Massachusetts and Virginia, south to n. Florida and s. Louisiana, west to e. Oklahoma and e. South Dakota
Rudbeckia fulgida Aiton var. *fulgida*	1	0	0	0	1	0	1	1	1	0	1	0	0	0	Intraneous: Eastern N. America	Central:Illinois, east to Pennsylvania and New York, south to Florida, west to Alabama and Missouri
R. fulgida Aiton var. *speciosa* (Wenderoth) Perdue	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
R. fulgida Aiton var. *umbrosa* (C.L. Boynt. & Beadle) Cronquist	0	0	1	1	0	1	0	0	1	1	0	0	0	0		Central: Indiana, Ohio and Virginia, east to North Carolina, south to Georgia to Mississippi, west to Arkansas and Missouri
R. hirta L. var. *hirta*	0	1	1	1	0	1	1	0	1	1	1	1	1	0		Central: Michigan and Ontario, east to Maine, south to Georgia and Mississippi, west to Arkansas and Illinois
R. hirta L. var. *pulcherrima* Farw.	1	0	1	0	1	0	0	0	1	0	0	0	0	0	Intraneous: Throughout N. America	Central: Throughout N. America
R. laciniata L. var. *digitata* (Mill.) Fiori	0	0	0	0	0	0	0	0	0	1	0	0	0	0		Southern: Kentucky and Virginia, east to New Jersey, south to Florida, west to Alabama and Tennessee
R. laciniata L. var. *laciniata*	0	1	1	1	0	1	1	0	0	0	0	0	1	0		Central: Throughout N. America
R. triloba L.	0	1	1	0	0	0	0	0	0	0	1	0	0	0		Central: Minnesota, Ontario and Quebec, east to Massachusetts, south to Florida, west to Texas, Utah and Nebraska

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Sericocarpus asteroides (L.) Britton, Sterns & Poggenb.	1	0	1	0	0	1	1	0	1	1	0	1	1	1		Central: Michigan and New York, east to Maine, south to Florida, west to Mississippi and Kentucky
S. linifolius (L.) Britton, Sterns & Poggenb.	1	0	1	0	1	1	1	0	1	0	1	0	0	0	Intraneous: Eastern N. America	Central: Indiana, New York and New Hampshire, east to Massachusetts, south to Georgia and Louisiana, west to Tennessee and Kentucky
Silphium astericus L. var. *astericus*	1	0	1	0	0	0	0	0	1	0	0	0	0	0		Central: Missouri, Indiana and Virginia, east to Maryland, south to Georgia and Louisiana, west to Texas and Oklahoma
S. astericus L. var. *laevicaule* DC.	0	0	0	0	0	0	0	0	1	0	0	0	0	0		Southern: North Carolina, south to Georgia, west to Mississippi
S. perfoliatum L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
S. perfoliatum L. var. *connatum* (L.) Cronquist	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Eastern
S. radula Nutt.	0	0	0	0	0	0	0	0	0	0	1	0	0	0		Southern: Missouri and Arkansas, east to South Carolina, south to Louisiana, west to Texas and Oklahoma
S. trifoliatum L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
S. trifoliatum L. var. *latifolium* A. Gray	0	0	1	0	1	0	0	0	1	1	0	0	0	0	Intraneous: Eastern N. America	Central: Indiana and Ohio, east to North Carolina, south to Georgia, west to Louisiana and Tennessee
S. trifoliatum L. var *trifoliatum*	1	0	1	1	1	1	1	1	1	1	0	0	0	0	Intraneous: Eastern N. America	Central: Indiana to New York, east to Maryland, south to Georgia and Alabama, west to Tennessee
Smallanthus uvedalius (L.) Mack. ex Small	1	1	1	1	1	1	1	1	1	1	1	1	1	0	Intraneous: Eastern-Midwestern N. America	Central: Illinois, Michigan and New York, east to New Jersey, south to Florida, west to Texas and Kansas
Solidago altissima L.	1	1	1	0	0	1	1	1	1	0	0	0	0	0		Central: Throughout N. America
S. arguta Aiton var. *arguta*	0	0	0	0	0	1	0	0	1	1	1	0	0	0		Northern: Ontario, east to Maine, south to North Carolina, Tennessee and Arkansas, west to Missouri and Illinois
S. arguta Aiton var. *boottii* (Hook.) Palmer & Steyerm.	0	0	1	0	0	1	1	0	0	0	0	0	0	0		Central: Missouri, Illinois and Tennessee, east to South Carolina, south to Georgia and Louisiana, west to Texas and Kansas
S. arguta Aiton var. *caroliniana* A. Gray	0	0	1	0	0	1	1	0	0	1	0	0	0	0		Central: Kentucky, east to Maryland, south to Florida, west to Louisiana and Missouri
S. bicolor L.	0	1	0	1	0	0	1	0	0	1	0	0	1	1		Central: Manitoba and Quebec, east to Nova Scotia, south to Georgia and Louisiana, west to Missouri and Wisconsin
S. caesia L.	1	1	1	1	1	1	1	1	1	1	0	1	1	1	Intraneous: Eastern N. America	Central: Ontario and Quebec, east to New Brunswick, south to n.w. Florida, west to e. Texas, Missouri and Wisconsin
S. canadensis L.	0	1	0	1	0	0	0	0	0	1	1	1	1	0		Central: Throughout N. America
S. curtisii Torr. & A. Gray	1	0	1	1	0	1	1	0	1	1	1	0	0	1		Central: Kentucky and Pennsylvania, east to Maryland, south to Georgia and Mississippi, west to Tennessee
S. erecta Pursh	1	0	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Appalachian Plateau; Eastern N. America	Central: Ohio and New York, east to Connecticut and North Carolina, south to Georgia, west to Mississippi and Indiana

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S. flaccidifolia Small	0	0	0	0	0	0	1	0	1	1	0	0	0	1		Southern: s. Kentucky and s.w. Virginia, east to North Carolina, south to Florida, west to Mississippi and Tennessee
S. flexicaulis L.	1	1	1	1	1	1	1	1	0	1	1	0	1	1	Intraneous: Eastern-midwestern N. America	Central: Ontario and Quebec, east to Nova Scotia, south to Georgia and Louisiana, west to Kansas and North Dakota
S. gigantea Aiton	1	1	1	1	1	1	0	0	0	1	0	0	1	0	Intraneous: Throughout N. America	Central: Throughout N. America
S. gracillima Torr. & A. Gray	0	1	0	0	0	0	0	0	0	1	0	0	0	0		Southern: s. Kentucky and West Virginia, east to North Carolina, south to Florida, west to Alabama and Tennessee
S. hispida Muhl. ex Willd.	0	0	1	0	0	1	0	0	0	0	0	1	1	0		Central: Saskatchewan, east to Newfoundland, south to Georgia and Louisiana, west to Oklahoma, Iowa and South Dakota
S. juncea Aiton	1	0	0	0	0	0	0	0	0	0	1	0	0	0		Central: Manitoba and Quebec, east to Nova Scotia, south to Florida, west to Louisiana, Missouri and Minnesota
S. nemoralis Aiton	1	1	1	0	0	1	1	0	0	0	1	1	1	0		Central: Throughout N. America
S. odora Aiton	1	0	1	1	0	1	1	1	1	1	1	1	0	0		Central: Missouri, Ohio and Vermont, east to Massachusetts, south to Florida, west to Texas and Oklahoma
S. patula Muhl. ex Willd.	0	0	0	0	0	0	0	0	0	1	0	0	0	0		Central: Iowa, Ontario and New Hampshire, east to Massachusetts, south to Florida, west to Texas and Oklahoma
S. roanensis Porter	1	0	1	0	0	1	0	1	0	0	0	0	0	0		Central: Kentucky and Pennsylvania, east to New Jersey, south to Georgia and Alabama, west to Tennessee
S. rugosa Mill.	0	0	0	0	0	0	0	1	0	1	1	1	0	0		Central: Wisconsin, Ontario and Labrador, east to Newfoundland, south to Florida, west to Texas, Oklahoma and Missouri
S. rugosa Ait. var. *aspera* (Aiton) Cronquist	1	1	1	1	1	1	1	0	1	0	0	0	0	0	Intraneous: Eastern-Midwestern N. America	Central: Illinois, Ontario and New York, east to Maine, south to Florida, west to Texas and Oklahoma
S. simplex Kunth ssp. *randii* (Porter) Ringius var. *racemosa* (Greene) Ringius	0	0	0	1	0	0	0	0	0	1	0	0	0	0		Northern: Pennsylvania, north to Quebec, east to Nova Scotia, south to Virginia and Tennessee, west to Kentucky
S. speciosa Nutt. var. *speciosa*	1	1	1	0	0	0	0	0	0	0	1	0	0	0		Central: Wisconsin, Pennsylvania and New Hampshire, east to Massachusetts, south to Georgia and Louisiana, west to Oklahoma and Kansas
S. sphacelata Raf.	1	0	0	1	1	0	0	0	0	0	0	0	1	1	Intraneous: Eastern N. America	Central: Illinois and Ohio, east to North Carolina, south to Georgia and Mississippi
S. ulmifolia Muhl. Ex Willd.	0	1	0	1	1	1	1	0	1	1	1	1	0	0	Intraneous: Eastern-Midwestern N. America	Central: Minnesota, Ontario and Maine, east to Nova Scotia, south to Florida, west to Texas and Nebraska
**Sonchus asper* (L.) Hill	1	1	1	0	0	0	0	1	1	0	0	0	0	0		
**S. oleraceus* L.	0	0	0	0	0	0	0	0	1	0	0	0	0	0		
Symphyotrichum concolor (L.) G.L. Nesom	1	0	0	0	0	0	1	0	0	0	1	0	0	0		Central: Kentucky, Virginia and New York, east to Massachusetts, south to Florida, west to Louisiana

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S. cordifolium (L.) G.L. Nesom	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-Midwestern N. America	Central: Manitoba to Quebec, east to Nova Scotia, south to Florida and Mississippi, west to Arkansas, Kansas and South Dakota with disjuncts in British Columbia
S. divaricatum (Nutt.) G.L. Nesom	0	0	0	0	1	0	0	0	1	0	0	0	1	0	Extraneous southeast: Southcentral N. America	Southern: Missouri, east to Virginia, south to s.w. Alabama and Texas, west to New Mexico and Nebraska
S. dumosum (L.) G.L. Nesom var. *dumosum*	1	0	1	1	1	1	1	1	1	1	1	1	1	0	Intraneous: Eastern-southwestern N. America	Southern: Missouri, east to Virginia, south to s.w. Alabama and Texas, west to New Mexico and Nebraska
S. laeve (L.) A. Löve & D. Löve var. *concinnum* (Willd.) G.L. Nesom	1	0	0	0	0	0	1	0	0	0	0	0	0	0		Central: Illinois, Kentucky and New York, east to Maryland, south to Florida, west to Mississippi and Tennessee
S. laeve (L.) A. Löve & D. Löve var. *laeve*	1	1	0	0	1	1	0	0	0	0	0	1	0	0	Intraneous: Eastern-Midwestern N. America	Central: Manitoba and Quebec, east to New Brunswick, south to Georgia and Louisiana, west to Oklahoma and Nebraska
S. lanceolatum (Willd.) G.L. Nesom ssp. *lanceolatum* var. *lanceolatum*	0	1	1	0	0	1	0	0	0	0	0	0	0	1		Central: Throughout N. America
S. lateriflorum (L.) A. Löve & D. Löve var. *lateriflorum*	1	1	1	1	0	1	1	1	0	1	0	1	1	1		Central: Manitoba and Quebec, east to Nova Scotia, south to Florida, west to Texas and South Dakota with disjuncts in British Columbia
S. lowrieanum (Porter) G.L. Nesom	0	0	0	0	0	0	0	0	0	0	0	0	1	0		Northern: Ohio and New York, east to Massachusetts, south to n. Georgia and Alabama, west to Tennessee and Kentucky
S. novae-angliae (L.) G.L. Nesom	0	1	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Throughout N. America	Central: Throughout N. America
S. novi-belgii L. var. *novi-belgii*	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
S. ontarionis (Wiegand) G.L. Nesom	0	0	1	1	1	0	0	0	0	1	0	0	0	0	Intraneous: Eastern-Midwestern N. America	Central: Minnesota, Ontario and Quebec, east to New York, south to Georgia and Louisiana, west to Texas and South Dakota
S. patens (Aiton) G.L. Nesom var. *patens*	1	1	1	1	1	1	1	1	1	1	1	0	1	1	Intraneous: Eastern N. America	Southern: Minnesota to Maine, east to North Carolina, south to n. Florida, west to e. Texas and Kansas
S. phlogifolium(Muhl. ex Willd.) G.L. Nesom	1	0	1	0	0	0	0	0	1	0	1	0	0	0		Central: Indiana and New York, east to Massachusetts, south to Georgia and Mississippi, west to Illinois
S. pilosum (Willd.) G.L. Nesom var. *pilosum*	1	1	1	1	1	0	1	1	1	1	0	1	1	0	Intraneous: Eastern-Midwestern N. America	Central: Minnesota, Ontario and Quebec, east to Massachusetts, south to Florida, west to Texas and South Dakota with disjuncts in British Columbia
S. prenanthoides (Muhl. ex Willd.) G.L. Nesom	0	1	0	1	0	0	0	0	0	1	0	0	1	0		Northern: Ontario and New York, east to Massachusetts, south to North Carolina and Tennessee, west to Iowa
S. racemosum (Elliot) G.L. Nesom	0	1	0	0	0	0	0	0	0	0	0	1	0	0		Central: Wisconsin and Ontario, east to New Brunswick, south to Florida, west to Texas, Oklahoma and Missouri
S. shortii(Lindl.) G.L. Nesom	1	0	0	0	1	1	0	0	0	0	0	0	1	0	Intraneous: Eastern-Midwestern N. America	Central: Minnesota, Ontario and Pennsylvania, east to Maryland, south to Florida, west to Arkansas and Iowa
S. undulatum (L.) G.L. Nesom	0	0	1	0	1	0	1	1	1	1	1	1	1	1	Intraneous: Eastern N. America	Central: Ontario, Maine and Nova Scotia, east to Massachusetts and North Carolina, south to Florida, west to Louisiana and Illinois

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S. urophyllum (Lindl.) G.L. Nesom	1	0	1	0	0	0	0	0	0	0	0	0	0	0		Central: Minnesota and Ontario, east to Maine, south to Florida, west to Mississippi, Oklahoma and Nebraska
**Taraxacum officinale* F.H. Wigg.	1	1	1	1	1	1	1	0	1	1	1	1	1	0	Introduced	
**Tragopogon dubius* Scop.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
**Tussilago farfara* L.	0	1	0	0	0	0	0	0	0	0	0	1	1	0		
Verbesina alternifolia (L.) Britton ex Kearney	0	1	1	1	0	1	1	1	1	1	1	0	1	0		Central: Iowa, Ontario and New York, east to Rhode Island, south to Florida, west to Texas and Nebraska
V. occidentalis (L.) Walter	1	1	1	1	1	0	1	0	0	1	0	0	0	0	Intraneous: Southeastern N. America	Southern: Illinois, s. Ohio and Pennsylvania, east to e. Virginia, south to n. Florida, west to Texas, Oklahoma and Missouri
V. virginica L.	1	0	1	0	1	0	0	1	0	0	1	0	0	0	Intraneous: Southeastern-midwestern N. America	Southern: s.e. Iowa, c. Ohio and Pennsylvania, east to e. Virginia, south to s. Florida, west to w. Texas and s.e. Kansas
Vernonia flaccidifolia Small	1	0	0	0	1	0	0	0	1	0	1	0	0	0	Strict Endemic: Southern Cumberland Plateau	Southern: s. Tennessee, n.w. Georgia and Alabama
V. gigantea (Walter) Trel. ssp. *gigantea*	1	1	1	1	1	1	1	1	1	1	1	1	1	0	Intraneous: Eastern N. America	Central: Canada and New York, east to Maryland, south to Florida, west to Texas and Iowa
V. noveboracensis (L.) Michx.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
Xanthium strumarium L.	1	0	1	1	0	0	1	0	0	1	0	0	0	0		Central: Throughout N. America
X. strumarium L. var. *canadense* (Mill.) Torr. & Gray	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
**Youngia japonica* (L.) DC.	1	0	0	0	0	0	0	0	1	0	0	0	0	0		
BALSAMINACEAE																
Impatiens capensis Meerb.	1	1	1	1	1	1	1	1	0	1	0	1	1	1	Intraneous: Throughouth N. America	Central: Throughout N. America
I. pallida Nutt.	0	1	1	0	0	1	1	1	0	0	1	0	1	1		Central: Ontario and Quebec, east to Newfoundland, south to Georgia and Alabama, west to Oklahoma and North Dakota
BERBERIDACEAE																
***Berberis canadensis* Mill.	0	1	1	0	0	0	1	0	0	1	0	0	0	0		Central: Illinois, east to Pennsylvania and Maryland, south to Georgia and Alabama, west to Missouri
Caulophyllum thalictroides (L.) Michx.	1	1	1	1	1	1	1	1	1	0	1	0	1	1	Extraneous south: Northeastern N. America	Northern: Ontario and Quebec, east to Massachusetts, south to North Carolina and Tennessee, west to Kentucky, Ohio and Michigan
Jeffersonia diphylla (L.) Pers.	0	1	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Northeastern N. America	Northern: Minnesota, Ontario and New York, east to New Jersey, south to n. Georgia and n. Alabama, west to Tennessee, Illinois and Iowa
**Nandina domestica* Thunb.	0	0	0	0	1	0	0	0	1	0	0	0	0	0	Introduced	
**Mahonia bealei* (Fortune) Carrière	1	0	0	0	0	0	0	0	0	0	0	0	0	0		

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Podophyllum peltatum L.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-Midwestern N. America	Central: Minnesota, Ontario and Quebec, east to Nova Scotia, south to Florida, west to Texas and Nebraska
BETULACEAE																
**Alnus glutinosa* (L.) Gaertn.	0	0	0	0	0	0	1	0	0	0	0	0	0	0		
A. serrulata (Aiton) Willd.	1	1	1	1	1	1	1	1	1	1	1	0	1	0	Intraneous: Eastern N. America	Central: Illinois, New York and Quebec, east to Nova Scotia, south to Florida, west to Texas and Kansas
Betula alleghaniensis Britton var. *alleghaniensis*	0	1	1	1	0	1	1	1	0	0	0	0	1	0		Northern: Ontario and Quebec, east to Nova Scotia, south to n. Georgia and Tennessee, west to Iowa and Minnesota
B. lenta L.	1	1	0	1	0	0	1	0	1	1	0	0	1	1		Central: Ontario and New York, east to Maine, south to Georgia and Mississippi, west to Tennessee and Kentucky
B. nigra L.	1	1	1	1	0	1	1	0	1	1	0	1	1	0		Central: Minnesota, Michigan and New York, east to Massachusetts, south to Florida, west to Texas and Kansas
Carpinus caroliniana Walter	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-Midwestern N. America	Central: Ontario and Quebec, east to Maine, south to Florida, west to Texas, Oklahoma, Iowa and Minnesota
Corylus americana Walter	1	1	1	1	0	1	1	1	1	1	1	1	1	0		Central: Manitoba to Quebec, east to Maine, south to Georgia and Louisiana, west to Oklahoma and North Dakota
Ostrya virginiana (Mill.) K. Koch	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-Midwestern N. America	Central: Manitoba to Quebec, east to Nova Scotia, south to Florida, west to Texas, Wyoming and North Dakota
BIGNONIACEAE																
Bignonia capreolata L.	1	0	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-Midwestern N. America	Central: Missouri and Iowa, east to Maryland, south to Florida, west to Texas and Oklahoma
Campsis radicans (L.) Seem. ex Bureau	1	1	1	1	1	1	1	1	1	1	1	1	1	0	Intraneous: Eastern-Midwestern N. America	Central: North Dakota, Ontario and New Hampshire, east to Massachusetts, south to Florida, west to Texas and Utah with disjuncts in California and Washington
Catalpa bignonioides Walter	1	1	0	1	0	1	0	0	0	0	0	0	0	0		Central: Iowa, Ontario and New York, east to Maine, south to Florida, west to Texas and Kansas; Oregon, south to California and Arizona, east to Utah with disjuncts in North Dakota
C. speciosa (Warder) Warder ex Engelm.	0	0	0	0	0	0	0	1	0	0	0	0	0	0		Central: North Dakota, Ontario and New York, east to Maine, south to Georgia and Texas, west to Utah
BORAGINACEAE																
**Buglossoides arvensis* (L.) I.M. Johnston	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Introduced	
Cynoglossum virginianum L.	1	0	1	1	1	1	1	1	0	0	1	1	1	1	Intraneous: Throughout N. America	Central: British Columbia, east to Quebec and Newfoundland, south to Florida, west to Texas, Oklahoma, Iowa and North Dakota
Echium vulgare L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central

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Hackelia virginiana (L.) I.M. Johnst.	0	0	0	0	0	0	1	1	0	0	0	1	0	0		Central: North Dakota, Ontario and Quebec, east to Maine, south to Georgia and Texas
Lithospermum canescens (Michx.) Lehm.	1	0	1	0	1	0	0	0	0	0	1	0	0	0	Intraneous: Eastern-Midwestern N. America	Central: Saskatchewan and Ontario, east to New York, south to Georgia and Mississippi, west to Texas and North Dakota
L. latifolium Michx.	0	0	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Eastern-Midwestern N. America	Northern: Minnesota, Ontario and Quebec, east to Massachusetts and Virginia, south to n. Georgia and n. Mississippi, west to Kansas, Iowa and South Dakota
L. tuberosum Rugel ex DC.	1	0	1	0	0	1	0	1	0	0	1	0	0	0		Southern: Kentucky and West Virginia, east to North Carolina, south to Florida, west to Texas and Arkansas
Mertensia virginica (L.) Pers. ex Link	0	1	0	0	1	0	0	0	0	1	1	0	0	0	Intraneous: Eastern N. America	Northern: Minnesota, Ontario and Quebec, east to Maine, south to n. Georgia and n. Mississippi, west to Kansas and Iowa
Myosotis laxa Lehm.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
M. macrosperma Engelm.	1	0	0	0	1	0	1	1	1	0	0	0	1	0	Intraneous: Eastern N. America	Central: Illinois, Ohio, Ontario and Pennsylvania, east to Maryland, south to Florida, west to Texas and Oklahoma
M. verna Nutt.	0	1	1	0	0	0	0	0	0	0	0	0	1	0		Central: Throughout N. America
Onosmodium bejariense DC. ex A. DC. Var. *bejariense*	0	0	0	0	1	0	0	0	0	0	0	0	0	0	Extraneous southeast: Southern-southwestern N. America	Southern: Oklahoma, Arkansas to n. Illinois, east to c. Kentucky and n.e. Tennessee, south to w.c. Alabama, s.c. Tennessee and s. Louisiana, west to s.c. Texas
****O. bejariense* DC. ex A. DC. Var. *hispidissimum* (Mack.) B.L. Turner	0	1	0	0	1	0	0	0	0	0	0	0	0	0	Extraneous southeast: Northeastern-southwestern N. America	Central: Ontario and Quebec, east to New Hampshire, south to Virginia, Alabama and Louisiana, west to Missouri and Minnesota
BRASSICACEAE																
Alliaria petiolata (M. Bieb.) Cavara & Grande	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
**Arabidopsis thaliana* (L.) Heynh.	1	1	0	1	0	0	0	0	0	0	0	0	1	0		
Arabis canadensis L.	1	1	0	1	0	1	0	0	0	0	1	1	0	0		Central: Ontario and Quebec, east to Massachusetts, south to Florida, west to Texas and North Dakota
A. laevigata (Muhl. ex Willd.) Poir. var. *laevigata*	1	1	1	0	1	1	0	1	1	0	1	0	1	1	Intraneous: Northeastern N. America	Northern: Quebec, east to Maine and Virginia, south to n.w. Georgia and n.e. Mississippi, west to Colorado, South Dakota and Ontario
A. lyrata L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
**Barbarea verna* (Mill.) Asch.	1	1	0	0	0	0	0	0	0	0	0	0	1	0		
**B. vulgaris* W.T. Aiton	1	1	1	1	0	0	1	0	0	1	0	1	1	0		
**Brassica napus* L.	1	0	0	0	0	0	1	0	0	0	0	0	0	0		
B. nigra (L.) W.D.J. Koch	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
B. rapa L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
**Capsella bursa-pastoris* (L.) Medik.	1	0	0	0	0	0	0	0	0	0	0	0	1	0		

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Cardamine angustata O.E. Schulz	0	1	1	1	1	0	0	0	1	1	0	1	1	1	Intraneous: Eastern N. America	Central: Indiana to Pennsylvania, east to New Jersey, south to Georgia and Mississippi, west to Oklahoma
C. bulbosa (Schreb. Ex Muhl.) Britton, Sterns & Poggenb.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
C. concatenata (Michx.) Sw.	1	1	1	1	1	1	1	1	0	0	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: North Dakota, Ontario and Quebec, east to New Brunswick, south to Florida, west to Texas and North Dakota
C. diphylla (Michx.) Alph. Wood	1	1	1	0	0	0	1	1	1	1	1	0	1	1		Central: Minnesota, Ontario and Quebec, east to Nova Scotia, south to Georgia and Mississippi, west to Arkansas and Missouri
C. dissecta (Leavenworth) Al-Shehbaz	1	0	0	0	1	0	1	1	1	0	0	0	0	0	Intraneous: Eastern N. America	Central: Indiana and Ohio, east to Virginia, south to Georgia and Mississippi, west to Oklahoma and Kentucky
C. douglassii Britton	0	0	0	0	0	0	0	0	0	1	0	0	0	0		Northern: Ontario and New Hampshire, east to Massachusetts, south to North Carolina and Alabama, west to Arkansas and Minnesota
***C. flagellifera* O.E. Schulz	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Southern: West Virginia, east to North Carolina, south to Georgia, west to Tennessee
**C. hirsuta* L.	1	1	1	1	1	1	1	1	1	1	1	1	1	0	Introduced	
C. impatiens L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
C. parviflora L.	0	0	0	1	0	0	0	0	0	0	0	0	1	1		Central: Throughout N. America
C. parviflora L. var. *arenicola* (Britton) O.E. Schulz	0	0	0	0	0	0	0	1	0	0	0	0	0	0		Central: Throughout N. America
C. pensylvanica Muhl. ex Willd.	1	1	0	0	0	0	1	0	0	1	0	1	1	1		Central: Throughout N. America
***C. rotundifolia* Michx.	0	1	0	0	0	0	0	0	0	0	0	0	1	0		Northern: Ohio and New York, east to New Jersey, south to North Carolina and Tennessee, west to Missouri and Kentucky
**Draba verna* L.	1	1	1	0	1	0	1	0	0	0	0	0	0	0	Introduced	
Hesperis matronalis L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
Iodanthus pinnatifidus (Michx.) Steud.	0	0	0	0	0	0	0	0	0	0	1	0	0	0		Central: Minnesota, Wisconsin and Pennsylvania, east to Connecticut, south to Tennessee, Alabama, Arkansas and Texas, west to Kansas
**Lepidium campestre* (L.) W.T. Aiton	1	0	1	0	0	0	0	0	0	0	0	0	0	0		
L. virginicum L.	1	1	0	1	1	0	1	0	0	0	0	1	1	0	Intraneous: Throughout N. America	Central: Throughout N. America
**Lunaria annua* L.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
**Nasturtium officinale* W.T. Aiton	1	1	0	0	0	0	0	0	1	0	0	0	0	0		
**Rorippa islandica* (Oeder) Borbas	0	1	0	0	0	0	0	0	0	0	0	0	0	0		
R. palustris (L.) Besser ssp. *fernaldiana* (Butters & Abbe) Jonsell	0	0	1	0	0	0	0	0	0	0	0	0	0	0		Central: Throughout N. America
R. sessiliflora (Nutt.) Hitchc.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Minnesota, Wisconsin and Ohio, east to Massachusetts and Maryland, south to Florida, west to Texas and South Dakota
R. sylvestris (L.) Besser	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central

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**Sinapis arvensis* L.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
**Sisymbrium officinale* (L.) Scop.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
**Thlaspi alliaceum* L.	0	0	0	0	1	0	0	0	0	0	0	0	0	0	Introduced	
BUXACEAE																
Pachysandra procumbens Michx.	0	0	1	1	0	1	1	1	0	1	0	0	0	0		Southern: Indiana and Kentucky, east to North Carolina, south to Florida, west to Louisiana with disjuncts in Pennsylvania
P. terminalis Siebold & Zucc.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
CABOMBACEAE																
Brasenia schreberi J. F. Gmel.	1	1	1	0	0	0	0	0	0	0	0	0	0	0		Central: Throughout N. America
CACTACEAE																
**Opuntia ficus-indica* (L.) Mill.	0	0	0	0	0	0	1	0	0	0	0	0	0	0		
O. humifusa (Raf.) Raf.	0	0	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Eastern-western N. America	Central: Minnesota, Ontario and New York, east to Massachusetts, south to Florida and Texas, west to New Mexico, Colorado and Montana
CALLITRICHACEAE																
Callitriche heterophylla Pursh	1	1	1	0	0	0	0	0	0	0	0	0	0	0		Central: Throughout N. America
C. palustris L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
C. terrestris Raf.	1	0	1	0	0	0	0	0	0	0	0	0	0	0		Central: Wisconsin to New York, east to New Brunswick, south to Florida, west to Texas and Kansas
CALYCANTHACEAE																
Calycanthus floridus L. var. *floridus*	1	0	1	1	1	1	0	1	1	1	0	0	0	0	Intraneous: Eastern N. America	Central: Tennessee to Pennsylvania, east to Massachusetts, south to Florida, west to Mississippi
C. floridus L. var. *glaucus* (Willd.) Torr. & A. Gray	0	0	0	0	0	0	1	0	1	0	0	0	0	0		Central: Illinois, Ohio and New York, east to Connecticut, south to Florida, west to Louisiana and Missouri
CAMPANULACEAE																
Campanula divaricata Michx.	1	1	1	1	1	0	1	0	1	1	0	0	1	1	Intraneous: Eastern N. America	Central: Kentucky and Maryland, northeast to New Hampshire, south to Georgia and Alabama, west to Tennessee
Campanulastrum americanum (L.) Small	1	1	1	0	1	1	1	1	0	0	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Minnesota, Ontario and New York, east to North Carolina, south to Florida and Louisiana, west to Oklahoma and South Dakota
Lobelia cardinalis L.	1	1	1	1	1	1	1	1	1	1	1	0	1	0	Intraneous: Throughout N. America	Central: Throughout N. America
L. inflata L.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-midwestern N	Central: Ontario and Quebec, east to Nova Scotia, south to Georgia and Louisiana, west to Oklahoma and Nebraska with disjuncts in British Columbia
L. nuttallii Schult.	0	0	1	0	0	0	1	0	0	0	0	0	0	0		Central: Kentucky and Virginia, north to New York, east to New Jersey, south to Florida and Alabama, west to Louisiana and Oklahoma

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L. puberula Michx.	1	0	1	0	1	1	1	1	1	1	1	1	1	0	Intraneous: Southeastern N. America	Southern: s. Illinois, s. Ohio and s.w. Pennsylvania, east to New Jersey, south to c. Florida, west to s.c. Texas, Oklahoma and s.e. Missouri
L. siphilitica L.	1	1	0	0	0	0	0	0	0	1	0	0	1	0		Central: Manitoba and Ontario, east to Maine, south to Georgia and Louisiana, west to Texas and Wyoming
L. spicata Lam.	1	0	1	1	1	0	0	0	0	0	1	1	0	1	Intraneous: Throughout N. America	Central: Alberta to Quebec, east to Nova Scotia, south to n. Georgia, west to e. Texas, Nebraska and e. Montana
Triodanis biflora (Ruiz & Pav.) Greene	0	0	0	0	0	0	1	0	0	0	0	0	0	0		Central: Nebraska, Illinois and Virginia, north to New York, south to Florida and Texas, west to California and Oregon
T. perfoliata (L.) Nieuwl.	1	1	1	1	1	1	1	1	1	0	1	1	1	0	Intraneous: Throughout N. America	Central: Throughout N. America
CANNABACEAE																
**Cannabis sativa* L.	1	0	0	1	0	0	0	0	0	0	0	0	0	0		
CAPRIFOLIACEAE																
***Diervilla lonicera* Mill.	1	0	0	0	0	0	0	0	1	0	0	0	0	0		Northern: Saskatchewan to Quebec and Labrador, east to Newfoundland, south to n. Georgia and n. Alabama, west to Illinois, Minnesota and North Dakota
***D. rivularis* Gattinger	0	0	0	0	0	0	0	0	1	0	0	0	0	0		Southern: Tennessee, east to North Carolina, south to Georgia and Alabama
D. sessilifolia Buckley	1	0	0	0	0	0	0	0	1	0	0	0	0	0		Southern: Tennessee, east to North Carolina, south to Georgia and Alabama
***Lonicera dioica* L.	0	0	0	0	1	0	0	0	0	0	0	0	0	0	Extraneous southeast: Northern N. America	Northern: Yukon, Manitoba and Quebec, east to Maine, south to n. Georgia and s. Arkansas, west to Wyoming, North Dakota and British Columbia
**L. fragrantissima* Lindl. & Paxton	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Introduced	
**L. japonica* Thunb.	1	1	1	1	1	1	1	1	1	1	1	1	1	0	Introduced	
**L. maackii* (Rupr.) Herder	1	0	1	0	1	0	0	0	1	0	0	1	0	0	Introduced	
L. morrowii A. Gray	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
L. sempervirens L.	1	0	1	0	1	1	0	1	1	0	1	0	0	0	Intraneous: Eastern N. America	Central: Iowa, Ontario and Quebec, east to Maine, south to Florida, west to Texas and Kansas
**L. tatarica* L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		
Sambucus nigra L. ssp. *canadensis* (L.) R. Bolli	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Throughout N. America	Central: Throughout N. America
S. racemosa L. var. *racemosa*	0	1	1	0	1	1	0	0	0	0	0	0	0	0	Intraneous: Northeastern-western N. America	Central: Alaska, Alberta, east to Quebec and Newfoundland, south to Georgia, Missouri, South Dakota and New Mexico, west to California and British Columbia
Symphoricarpos orbiculatus Moench	1	1	1	1	1	0	0	1	1	0	0	1	0	0	Intraneous: Eastern-midwestern N. America	Central: Minnesota, Ontario and Vermont, east to Massachusetts, south to Florida, west to Texas and South Dakota with disjuncts in Utah
Triosteum aurantiacum E.P. Bicknell	0	0	0	0	0	0	0	0	0	0	0	1	0	0		Northern: Minnesota, Ontario and Quebec, east to Nova Scotia, south to Georgia, Tennessee and Arkansas, west to Oklahoma and Nebraska

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*T. perfoliatum*L.	0	0	0	0	0	1	0	0	0	0	0	0	0	0		Central: Minnesota, Ontario and Quebec, east to Massachusetts, south to Georgia and Louisiana, west to Texas and Nebraska
Viburnum acerifolium L.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Wisconsin, Ontario and Quebec, east to New Brunswick, south to Florida, west to Texas, Arkansas and Illinois
V. dentatum L.	0	1	0	1	0	1	1	0	0	1	0	0	0	0		Central: Iowa and New York, east to Maine, south to Florida, west to Texas
V. nudum L. var. *cassinoides* (L.) Torr. & A. Gray	0	1	1	1	0	1	1	1	1	1	0	0	0	0		Northern: Ontario and Quebec, east to Newfoundland, south to n. Georgia and Alabama, west to Illinois and Wisconsin
V. nudum L. var. *nudum*	0	0	1	0	0	1	0	0	0	0	0	0	0	0		Central: Kentucky, Pennsylvania and New York, east to Rhode Island, south to Florida, west to Texas and Arkansas
V. prunifolium L.	0	1	1	0	0	0	0	0	1	0	1	1	0	0		Central: Iowa, Wisconsin and New York, east to Connecticut, south to Georgia and Louisiana, west to Texas and Kansas
V. recognitum Fernald	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
V. rufidulum Raf.	1	0	1	0	1	1	0	1	1	1	1	1	0	0	Intraneous: Eastern-midwestern N. America	Central: Missouri and Ohio, east to North Carolina, south to Florida, west to Texas and Kansas
CARYOPHYLACEAE																
**Arenaria serpyllifolia* L.	1	1	0	0	0	0	0	0	0	0	0	0	0	0		
**Cerastium brachypetalum* Pers.	0	0	1	0	0	0	0	0	0	0	0	0	0	0		
**C. fontanum* Baumg. ssp. *fontanum*	0	0	0	0	0	0	0	0	0	0	0	0	1	0		
**C. fontanum* Baumg. ssp. *vulgare* (Hartm.) Greuter & Burdet	1	1	0	0	1	1	0	0	0	0	0	1	0	0	Introduced	
**C. glomeratum* Thuill.	1	1	1	1	0	0	1	1	0	0	0	0	0	0		
C. nutans Raf. var. *nutans*	1	0	0	0	0	0	0	1	0	0	0	0	1	0		Central: Throughout N. America
**C. semidecandrum* L.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
**Dianthus armeria* L.	1	1	1	1	1	0	1	0	0	1	0	0	0	0	Introduced	
**Holosteum umbellatum* L.	1	0	0	0	0	0	0	0	1	0	0	0	0	0		
***Minuartia cumberlandensis* (B.E. Wofford & Kral) McNeill	0	0	0	0	0	0	0	0	0	1	0	0	0	0		Southern: s. Kentucky and n.e. Tennessee
M. glabra (Michx.) Mattf.	1	0	0	0	0	0	1	0	1	0	0	0	0	0		Central: Kentucky and New York, east to Maine, south to Georgia and Alabama, west to Tennessee and Illinois
Paronychia canadensis (L.) Alph. Wood	1	1	0	0	0	0	1	0	0	0	0	1	1	0		Central: Minnesota, Ontario and New Hampshire, east to Maine, south to Georgia and Louisiana, west to Oklahoma and Nebraska
P. fastigiata (Raf.) Fernald	0	0	0	0	0	0	0	1	0	0	0	0	0	0		Central: Minnesota, Ontario and New Hampshire, east to Maine, south to Georgia and Louisiana, west to Oklahoma and Nebraska
Sagina decumbens (Elliot) Torr. & A. Gray	0	0	1	0	0	0	0	0	0	0	0	0	0	0		Central: Alaska, east to Saskatchewan and Idaho, south to Arizona; Illinois, New York and Quebec, east to New Brunswick, south to Florida, west to Texas and Kansas

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**Saponaria officinalis* L.	0	1	0	0	0	0	1	1	0	0	0	0	1	0		
Silene antirrhina L.	1	1	0	1	0	0	0	0	1	0	1	0	0	0		Central: Throughout N. America
S. caroliniana Walter	0	0	0	0	0	0	0	0	0	0	0	1	0	0		Central: Ohio, New York and New Hampshire, east to Massachusetts, south to Florida and Alabama, west to Missouri
S. latifolia Poir. Ssp. *Alba* (Mill.) Greuter & Burdet	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
S. rotundifolia Nutt.	1	0	1	1	0	1	1	1	1	1	1	1	1	1		Central: Ohio, east to Virginia and Tennessee, south to Georgia and Alabama
S. stellata (L.) W.T. Aiton	1	1	1	1	1	1	1	1	1	1	1	1	0	0	Intraneous: Eastern-midwestern N. America	Central: Minnesota, Michigan and Vermont, east to Massachusetts, south to Georgia and Louisiana, west to Texas and North Dakota
S. virginica L.	1	1	1	1	1	1	1	1	1	1	1	0	1	1	Intraneous: Eastern-midwestern N. America	Central: Minnesota, Ontario and New York, east to Maryland, south to Florida and Texas, west to Oklahoma and Kansas
**Stellaria media* (L.) Vill. ssp. *media*	1	1	0	0	1	0	1	1	1	1	1	1	0	0	Introduced	
S. pubera Michx.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Illinois, New York and Vermont, east to Massachusetts, south to Florida, west to Louisiana and Tennessee with disjuncts in Nebraska and Minnesota
CELASTRACEAE																
**Celastrus orbiculatus* Thunb.	1	0	1	0	1	0	0	0	0	0	0	0	0	0	Introduced	
C. scandens L.	0	1	0	0	1	0	1	1	0	0	0	1	0	0	Intraneous: Eastern-midwestern N. America	Central: Saskatchewan to Quebec, east to New Brunswick, south to Georgia and Louisiana, west to Texas, Wyoming and Montana
**Euonymus alatus* (Thunb.) Siebold	1	0	1	0	0	0	0	0	0	0	0	0	0	0		
E. americanus L.	1	1	1	1	1	1	1	1	1	1	1	0	1	1	Intraneous: Eastern-midwestern N. America	Central: Illinois to New York, east to New Jersey, south to Florida, west to Texas and Oklahoma
E. atropurpureus Jacq.	0	0	1	0	1	1	0	1	1	0	0	1	0	0	Intraneous: Eastern-midwestern N. America	Central: Ontario and Quebec, east to Maine, south to Florida, west to Texas, Nebraska and Montana
**E. fortunei* (Turcz.) Hand.-Maz.	0	0	1	0	1	0	0	0	1	0	0	1	0	0	Introduced	
E. obovatus Nutt.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
CERATOPHYLLACEAE																
Ceratophyllum demersum L.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Throughout N. America
CHENOPODIACEAE																
**Chenopodium album* L. var. *album*	1	1	0	0	0	0	1	1	0	0	0	1	0	0		
**C. ambrosioides* L.	1	1	0	0	1	0	0	1	0	1	0	0	0	0	Introduced	
C. simplex (Torr.) Raf.	0	0	0	0	0	0	0	0	0	0	0	1	0	0		Central: Throughout N. America
C. standleyanum Aellen	0	0	0	0	0	0	0	0	0	1	0	0	0	0		Central: Saskatchewan, Ontario and New Hampshire, east to Maine, south to Florida and Texas, west to New Mexico, Kansas, Wyoming and Montana
CISTACEAE																

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Lechea minor L.	0	0	1	0	0	0	0	0	0	0	0	0	0	0		Central: Ontario, New York and New Hampshire, east to Massachusetts, south to Florida, west to Louisiana, Illinois and Wisconsin
L. racemulosa Michx.	1	0	1	1	1	1	1	1	0	0	1	1	0	0	Intraneous: Eastern-midwestern N. America	Central: Iowa, Missouri, Indiana, New York, east to Connecticut, south to Georgia and Alabama with disjuncts in Louisiana
L. tenuifolia Michx.	0	0	0	0	0	0	0	0	0	1	0	0	0	0		Central: Minnesota, Wisconsin and New York, east to Maine, south to Georgia and Texas, west to New Mexico and Nebraska
CLETHRACEAE																
Clethra acuminata Michx.	0	1	1	1	0	0	1	0	0	1	0	0	0	0		Central: Kentucky to Pennsylvania, east to North Carolina, south to Georgia and Alabama
CLUSIACEAE																
Hypericum canadense L.	0	0	0	0	0	0	0	0	1	0	0	0	0	0		Central: Ontario and Quebec, east to Newfoundland, south to Florida and Mississippi, west to Illinois and Iowa with disjuncts in Washington and Oregon
H. crux-andreae (L.) Crantz	0	0	1	0	0	1	1	0	0	0	0	0	0	0		Central: Arkansas, Kentucky, Virginia and New York, east to New Jersey, south to Florida, west to Texas and Oklahoma
H. densiflorum Pursh	0	1	0	0	1	0	0	0	0	1	0	0	0	0	Extraneous northwest: Eastern-southern N. America	Southern: Tennessee, north to s. New York, east to Massachusetts, south to s. Georgia, west to Texas and Oklahoma
H. denticulatum Walter	0	0	0	0	1	0	0	0	0	1	1	0	0	0	Intraneous: Eastern N. America	Central: Tennessee, Virginia and New York, east to New Jersey, south to Georgia and Alabama
H. dolabriforme Vent.	0	0	0	0	0	0	0	0	0	0	1	0	0	0		Southern: s. Indiana and Kentucky, east to e. Tennessee, south to n. Georgia and n. Alabama
H. drummondii (Grev. & Hook.) Torr. & A. Gray	0	0	0	0	0	0	0	1	0	0	0	0	0	0		Central: Iowa, Ohio and Pennsylvania, east to Delaware, south to Florida, west to Texas and Kansas
H. frondosum Michx.	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Southeastern N. America	Central: Indiana, Kentucky and Virginia, north to New York, east to Massachusetts, south to n. Florida, west to Louisiana and Texas
H. gentianoides (L.) Britton, Sterns & Poggenb.	1	1	1	1	1	1	1	1	1	0	1	1	0	0	Intraneous: Eastern N. America	Central: Ontario, Maine and Nova Scotia, east to Massachusetts and North Carolina, south to Florida and s. Texas, west to Oklahoma and Minnesota
H. hypericoides (L.) Crantz ssp. *hypericoides*	1	1	1	0	1	0	1	0	1	0	0	0	1	1	Intraneous: Southeastern-midwestern N. America	Central: Illinois, Kentucky and Virginia, east to New Jersey, south to Florida, west to Texas and Oklahoma
H. hypericoides (L.) Crantz ssp. *multicaule* (Michx. ex Willd.) Robson	1	0	1	1	1	1	0	1	1	1	1	1	0	0	Intraneous: Eastern-midwestern N. America	Central: Illinois to New York, east to Massachusetts, south to Georgia and Louisiana, west to Texas and Kansas
H. mutilum L.	1	1	1	1	0	1	1	0	1	1	1	1	1	0		Central: Ontario and Quebec, east to Nova Scotia, south to Florida, west to Texas and Nebraska with disjuncts in Saskatchewan, British Columbia, Washington and California

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H. nudiflorum Michx. ex Willd.	1	0	1	0	0	1	0	1	0	0	0	0	0	0		Southern: Arkansas, Kentucky and Virginia, east to North Carolina, south to Florida, west to Texas and Oklahoma
**H. perforatum* L.	0	1	1	0	0	0	0	0	0	0	1	0	0	0		
H. prolificum L.	1	1	0	1	0	1	1	0	0	1	0	0	0	0		Central: Ontario, east to Maine, south to Florida, west to Texas, Oklahoma and Minnesota
H. punctatum Lam.	1	1	1	1	1	1	1	1	1	1	1	1	1	0	Intraneous: Eastern-Midwestern N. America	Central: Ontario, Quebec and Maine, east to Nova Scotia and Massachusetts, south to c. Florida, west to s.e. Texas e. Nebraska and e. Minnesota
H. sphaerocarpum Michx.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Wisconsin and Ontario, east to Pennsylvania, south to Georgia and Texas, west to Nebraska
H. virgatum Lam.	1	0	1	0	0	1	1	0	0	0	0	0	0	0		Central: Illinois and Ohio, east to Maryland, south to Florida, west to Louisiana and Arkansas
Triadenum virginicum (L.) Raf.	0	0	0	0	0	0	0	0	0	1	0	0	0	0		Central: Ontario and Quebec, east to Nova Scotia, south to Florida and Texas, west to Oklahoma, Tennessee and Wisconsin
T. walteri (J.G. Gmel.) Gleason	1	0	0	0	0	0	0	0	0	0	1	0	0	0		Central: Illinois and Ohio, east to New Jersey, south to Florida, west to Texas and Oklahoma
CONVOLVULACEAE																
Calystegia catesbiana Pursh	1	0	0	0	0	0	0	1	0	0	0	0	0	0		Southern: Indiana, Tennessee and West Virginia, east to North Carolina, south to Florida and Alabama
C. sepium (L.) R. Br.	1	1	1	0	0	0	0	0	0	0	0	1	1	0		Central: Throughout N. America
C. spithamaea (L.) Pursh	0	0	1	0	0	1	1	0	0	0	1	0	0	0		Central: Manitoba to Quebec, east to Maine, south to Georgia and Alabama, west to Missouri and Minnesota
**Convolvulus arvensis* L.	0	0	0	0	0	0	0	0	0	0	0	0	1	0		
Dichondra carolinensis Michx.	1	0	1	0	0	0	0	0	0	0	0	0	0	0		Central: Missouri, Illinois, Ohio and Pennsylvania, east to Maryland, south to Florida, west to Texas and Oklahoma
**Ipomoea coccinea* L.	1	1	0	0	0	0	1	0	0	1	0	0	0	0		
**I. hederacea* Jacq.	1	0	0	0	0	0	1	1	1	0	0	0	0	0		
I. lacunosa L.	1	1	0	0	0	0	1	1	1	1	0	1	1	0		Central: Iowa, Ohio, Ontario and New York, east to Massachusetts, south to Florida, west to Texas and Kansas with disjuncts in California
I. nil (L.) Roth	0	0	0	0	0	0	0	0	0	0	0	0	1	0		Southern: California; Oklahoma, Texas, Louisiana and Mississippi; Maryland
I. pandurata (L.) G. Mey.	1	1	1	1	1	0	1	1	0	1	1	1	1	0	Intraneous: Eastern-midwestern N. America	Central: Iowa, Michigan, Ontario and New York, east to Massachusetts, south to Florida, west to Texas and Nebraska
**I. purpurea* (L.) Roth	0	1	0	0	0	1	0	0	0	0	0	1	1	0		
**I. quamoclit* L.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
CORNACEAE																

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Cornus alternifolia L. f.	0	1	1	0	0	1	1	1	0	0	1	0	1	1		Central: Manitoba to Quebec, east to Newfoundland, south to Florida and Mississippi, west to Arkansas and Minnesota
C. amomum Mill.	1	1	1	1	1	1	1	0	1	1	0	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Michigan, New York and Maine, east to Massachusetts, south to the panhandle of Florida, west to w. Mississippi, Missouri and Iowa
C. drummondii C.A. Mey	0	0	0	0	0	0	0	0	0	0	0	1	0	0		Central: Wisconsin and Ontario, east to New York, Pennsylvania and Tennessee, south to Georgia and Louisiana, west to Texas and South Dakota
C. florida L.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Illinois, Michigan, Ontario and New York, east to Maine, south to Florida, west to Texas and Kansas
C. foemina Mill.	0	0	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Eastern-midwestern-southwestern N. America	Central: Missouri, Illinois, Indiana, Virginia and New Jersey, east to Maryland, south to s. Florida, west to n.c. Texas and Oklahoma
C. obliqua Raf.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
C. racemosa Lam.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
Nyssa sylvatica Marsh.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Wisconsin, Ontario and New York, east to Maine, south to Florida, west to Texas and Kansas
CRASSULACEAE																
Hylotelephium telephioides (Michx.) H. Ohba	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
Penthorum sedoides L.	1	1	1	0	0	1	1	0	0	1	1	1	0	0		Central: Manitoba to Quebec, east to New Brunswick, south to Florida, west to Texas and North Dakota with disjuncts in British Columbia to California
Sedum acre L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
***S. nevii* A. Gray	0	0	0	0	0	0	0	0	0	0	0	0	0	0		Southern: Polk County, Tennessee, Harris County, Georgia and Franklin, Tuscaloosa, and Bibb counties, Alabama
S. pulchellum Michx.	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Missouri, Illinois and Ohio, south to Georgia and Mississippi, west to Texas and Kansas
**S. sarmentosum* Bunge	0	0	1	0	0	0	0	0	0	0	0	0	0	0		
S. ternatum Michx.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern N. America	Central: Ontario, east to Maine, south to Georgia and Mississippi, west to Arkansas and Iowa
CUCURBITACEAE																
**Citrullus lanatus* (Thunb.) Matsum. & Nakai	1	1	0	0	0	0	0	0	0	0	0	0	0	0		
Cucurbita pepo L. var. *ovifera* (L.) Harz	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Southern
Melothria pendula L.	1	0	1	0	0	0	0	1	0	0	0	0	0	0		Central: Illinois, Kentucky and Pennsylvania, east to Maryland, south to Florida, west to Texas and Kansas
Sicyos angulatus L.	1	1	0	0	0	0	0	0	0	1	0	0	0	0		Central: Ontario and Quebec, east to Maine, south to Florida, west to Texas and North Dakota
CUSCUTACEAE																

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Cuscuta compacta Juss. ex Choisy	0	0	0	0	0	1	1	1	0	1	0	0	0	0		Central: Iowa to New York and Quebec, east to Massachusetts, south to Florida, west to Texas and Nebraska
C. cuspidata Engelm.	0	0	0	0	0	0	0	0	0	0	0	1	0	0		Central: North Dakota and Wisconsin, east to Tennessee, south to Mississippi and Texas, west to Utah
C. gronovii Willd. ex Schult.	1	1	1	0	1	0	1	0	0	0	0	1	0	0	Intraneous: Throughout N. America	Central: Throughout N. America
**C. indecora* Choisy	0	1	0	0	0	0	0	0	0	0	0	0	0	0		
C. pentagona Engelm.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
C. pentagona Engelm. var. *pentagona*	1	0	0	1	0	1	0	0	0	0	0	0	0	0		Central: Throughout N. America
DROSERACEAE																
Drosera intermedia Hayne	0	0	0	0	0	0	1	0	0	0	0	0	0	0		Central: Nunavut, Ontario to Labrador, east to Newfoundland, south to Florida, west to Texas, Illinois and Minnesota with disjuncts in Idaho
EBENACEAE																
Diospyros virginiana L.	1	1	1	1	1	1	1	1	1	0	1	1	0	1	Intraneous: Eastern-midwestern N. America	Central: Iowa, east to New York and Massachusetts, south to Florida, west to Texas and Nebraska with disjuncts in Utah and California
ELAEAGNACEAE																
**Elaeagnus pungens* Thunb.	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Introduced	
**E. umbellata* Thunb.	1	1	1	0	1	0	1	0	1	1	0	0	1	0	Introduced	
ERICACEAE																
Epigaea repens L.	1	1	1	1	1	1	1	1	1	1	0	1	1	1	Intraneous: Eastern-Midwestern N. America	Central: Manitoba to Labrador, east to Newfoundland, south to Florida, west to Mississippi, Iowa and Minnesota
Eubotrys racemosa (L.) Nutt.	0	0	0	0	0	0	1	0	0	0	0	0	0	0		Central: Tennessee and Virginia, north to New York, east to Massachusetts, south to Florida, west to Texas
Gaultheria procumbens L.	0	1	1	1	0	0	1	0	1	1	0	1	1	1		Northern: Manitoba and Quebec, east to Newfoundland, south to n. Georgia and n. Alabama, west to Illinois and Minnesota
Gaylussacia baccata (Wangenh.) K. Koch	0	0	0	1	0	0	1	0	0	1	0	1	1	1		Central: Ontario and Quebec, east to Newfoundland, south to Georgia and Mississippi, west to Arkansas and Minnesota
G. brachycera (Michx.) A. Gray	0	0	0	1	0	0	0	0	0	1	0	0	0	0		Central: Kentucky, north to Pennsylvania, south to Virginia and Tennessee
Kalmia latifolia L.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern N. America	Central: Indiana, New York and Maine, east to Massachusetts, south to Florida, west to Louisiana and Tennessee
Leucothoe fontanesiana (Steud.) Sleumer	0	0	0	0	0	0	1	0	0	0	0	0	0	0		Central: Kentucky, Virginia and Maryland, south to Georgia and Alabama with disjuncts in New York and Massachusetts
Lyonia ligustrina (L.) DC.	1	0	1	1	0	1	1	0	0	1	1	0	1	0		Central: Kentucky and New York, east to Maine, south to Florida, west to Texas and Oklahoma

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Oxydendrum arboreum (L.) DC.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern N. America	Central: Illinois to New York, east to Rhode Island, south to Florida, west to Louisiana and Arkansas
Rhododendron alabamense Rehder	0	0	0	0	0	1	0	0	0	0	1	0	0	0		Southern: Tennessee, east to Georgia, south to Florida, west to Mississippi
R. arborescens (Pursh) Torr.	1	0	1	1	0	1	1	1	1	1	0	0	0	0		Central: Kentucky to New York, east to Maryland, south to Georgia, west to Mississippi
R. x *bakeri* (Lemmon & McKay) Hume (pro sp.) [*canescens* x *flammeum*]	0	0	0	0	0	0	0	0	0	0	0	0	1	0		Southern: Upson County, Georgia
R. calendulaceum (Michx.) Torr.	0	1	0	0	0	1	0	1	0	0	0	0	1	1		Central: Ohio and New York, east to Connecticut, south to Georgia and Alabama, west to Tennessee
R. canescens (Michx.) Sweet	1	0	1	0	0	0	0	0	0	0	0	0	0	0		Southern: Kentucky, east to s.c. North Carolina, south to Florida, west to Texas and Oklahoma with disjuncts in Maryland and Pennsylvania
R. catawbiense Michx.	1	1	1	0	1	0	0	0	1	1	0	0	0	0	Extraneous west: Southeastern N. America	Southern: West Virginia, east to North Carolina, south to Georgia, west to e. Alabama and e. Kentucky
R. cumberlandense E. L. Braun	1	0	1	0	1	1	1	0	1	1	0	0	0	1	Extraneous southwest: Southern Appalachian Plateau	Southern: e. Kentucky, east to w. Virginia and North Carolina, south to Georgia, west to e. Alabama and w. Tennessee
R. maximum L.	0	1	1	1	0	1	1	0	1	1	0	0	1	1		Central: Ohio, New York and Maine, east to Nova Scotia, south to Georgia and Alabama, west to Tennessee
R. periclymenoides (Michx.) Shinners	1	1	0	1	0	1	1	1	1	1	1	0	0	0		Central: Ohio, New York and New Hampshire, east to Massachusetts, south to Georgia and Alabama, west to Illinois
R. prinophyllum (Small) Millais	1	1	0	0	0	0	0	0	0	0	1	0	0	0		Central: Illinois, Ohio and New York, east to Maine, south to Georgia, Alabama and Arkansas, west to Texas and Oklahoma
Vaccinium angustifolium Aiton	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
V. arboreum Marsh.	1	0	1	1	1	1	1	1	1	1	1	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Illinois, Indiana and Virginia, east to North Carolina, south to Florida, west to Texas and Kansas
V. corymbosum L.	1	0	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-southeastern N. America	Central: Ontario and Quebec, east to Nova Scotia, south to Georgia and Louisiana, west to Texas, Oklahoma and Illinois with disjuncts in British Columbia and Washington
V. erythrocarpum Michx.	0	0	0	0	0	0	0	1	0	0	0	0	0	0		Southern: Kentucky and West Virginia, east to North Carolina, south to Georgia and Alabama, west to Tennessee
V. fuscatum Aiton	1	0	0	0	0	0	1	0	0	0	0	0	0	0		Central: Michigan and New York, east to Maine, south to Florida, west to Texas, Oklahoma and Indiana
V. pallidum Aiton	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-Midwestern N. America	Central: Minnesota, Ontario and Vermont, east to Maine, south to Georgia and Louisiana, west to Oklahoma, Kansas and Illinois
V. stamineum L.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-Midwestern N. America	Central: Ontario, east to Maine, south to s. Florida, west to e. Texas and Kansas

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EUPHORBIACEAE																
Acalypha gracilens A. Gray	1	0	1	0	1	1	1	1	0	1	0	1	0	0	Intraneous: Eastern-midwestern N. America	Central: Wisconsin to New York, east to Maine, south to Florida, west to Texas, Oklahoma and Iowa
A. rhomboidea Raf.	1	1	1	0	0	1	0	1	0	0	0	0	0	0		Central: North Dakota, Ontario and Quebec, east to Nova Scotia, south to Florida, west to Texas and South Dakota
A. virginica L.	1	0	0	0	0	0	0	1	0	0	1	1	1	1		Central: Michigan and New York, east to Maine, south to Georgia and Louisiana, west to Texas and South Dakota
Chamaesyce maculata (L.) Small	1	1	1	0	0	0	1	1	0	0	1	0	1	0		Central: Throughout N. America
C. nutans (Lag.) Small	1	0	1	0	1	0	0	0	0	1	0	1	0	0	Intraneous: Eastern-midwestern N. America	Central: North Dakota, Ontario and Quebec, east to Massachusetts, south to Florida and Texas, west to New Mexico, Kansas and Wyoming with disjuncts in California
C. prostrata (Aiton) Small	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: South Dakota, Illinois and Pennsylvania, east to Massachusetts, south to Florida and Texas, west to California, Utah and Wyoming
Croton capitatus Michx.	0	0	0	0	0	0	0	0	1	0	1	0	0	0		Central: Iowa, Ohio, Ontario and Pennsylvania, east to Massachusetts, south to Florida, west to Texas and South Dakota
C. glandulosus L.	0	1	0	1	0	0	0	0	0	0	0	0	0	0		Central: Minnesota, Michigan and Pennsylvania, east to New Jersey, south to Florida and Texas, west to New Mexico, Kansas and South Dakota
C. glandulosus L. var. *septentrionalis* Müll. Arg.	0	0	0	0	0	0	0	1	0	0	0	0	0	0		Central: Minnesota, Michigan and Pennsylvania, east to New Jersey, south to Florida and Texas, west to New Mexico, Kansas and South Dakota
C. monanthogynus Michx.	1	0	1	0	1	1	0	0	0	0	0	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Nebraska, Wisconsin and Pennsylvania, east to Maryland, south to Georgia and Texas, west to Arizona and Kansas
C. willdenowii G.L. Webster	1	0	1	0	0	0	1	1	1	0	0	0	0	0		Central: Iowa, Indiana and Pennsylvania, east to Connecticut, south to Florida, west to Texas and Kansas
Euphorbia commutata Engelm. Ex A. Gray	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
E. corollata L.	1	1	1	1	1	0	1	1	1	1	1	1	1	0	Intraneous: Eastern-midwestern N. America	Central: Minnesota, Ontario and New York, east to Maine, south to Florida, west to Texas and South Dakota
E. dentata Michx.	1	1	1	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Southeastern-southwestern N. America	Central: Colorado, Iowa, Michigan and Pennsylvania, east to New Jersey, south to Georgia and Texas, west to Arizona and California
E. mercurialina Michx.	1	0	1	0	1	1	1	1	1	1	1	0	0	0	Intraneous: Southeastern N. America	Southern: s. Kentucky, east to e. Virginia, south to n.w. Georgia, s. Florida and n.e. Alabama, west to c. Tennessee
E. peplus L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
E. pubentissima Michx.	0	0	0	0	0	1	0	0	0	0	0	0	0	0		Central: Illinois, Kentucky and Pennsylvania, east to New Hampshire, south to Florida, west to Texas and Oklahoma

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Phyllanthus caroliniensis Walter	1	1	0	0	0	0	0	1	0	0	0	0	0	0		Central: Illinois to Pennsylvania, east to Maryland, south to Florida, west to Texas and Kansas
FABACEAE																
**Albizia julibrissin* Durazz.	1	1	1	1	1	1	0	0	1	1	0	0	1	0	Introduced	
Amorpha fruticosa L.	1	0	0	0	1	0	1	1	0	0	0	0	0	0	Intraneous: Throughout N. America	Central: Throughout N. America
A. nitens Boynt.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Southern: Illinois and Kentucky, east to South Carolina, south to Alabama and Louisiana, west to Oklahoma
Amphicarpaea bracteata (L.) Fernald	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-Midwestern N. America	Central: Manitoba to Quebec, east to Nova Scotia, south to Florida, west to Texas and Montana
Apios americana Medik.	1	1	1	1	1	1	0	1	0	1	0	1	1	0	Intraneous: Eastern-Midwestern N. America	Central: North Dakota, Ontario and Quebec, east to Nova Scotia, south to Florida, west to Texas and Colorado
Astragalus canadensis L.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Throughout N. America
Baptisia australis (L.) R. Br.	0	1	0	0	0	0	0	0	0	1	0	0	0	0		Central: Wisconsin, Ontario and New York, east to Massachusetts, south to Georgia, Alabama and Arkansas, west to Texas and Nebraska
B. tinctoria (L.) R. Br.	0	0	1	0	0	1	1	0	0	1	0	0	0	0		Northern: Ontario and New York, east to Maine, south to Georgia, west to Tennessee, Illinois and Iowa
Centrosema virginianum (L.) Benth.	1	0	0	0	0	0	0	0	0	1	1	0	0	0		Central: Illinois, Kentucky and Virginia, east to New Jersey, south to Florida, west to Texas and Oklahoma
Cercis canadensis L.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Iowa, Ontario and New York, east to Massachusetts, south to Florida and Texas, west to New Mexico and Nebraska
Chamaecrista fasciculata (Michx.) Greene var. *fasciculata*	1	1	1	0	1	0	1	0	0	1	1	1	0	0	Intraneous: Eastern-midwestern N. America	Central: Minnesota to New York, east to Massachusetts, south to Florida and Texas, west to New Mexico, Kansas and South Dakota
C. nictitans (L.) Moench ssp. *nictitans* var. *nictitans*	1	1	1	1	1	1	1	1	0	1	1	1	1	0	Intraneous: Eastern-midwestern N. America	Central: Wisconsin to New York, east to Maine, south to Florida, west to Texas and Kansas
Cladrastis kentukea (Dum. Cours.) Rudd	1	0	1	0	1	1	0	1	0	0	0	0	0	0	Intraneous: Eastern N. America	Central: Iowa to New York and Ontario, east to Maine, south Georgia and Louisiana, west to Oklahoma and Missouri
Clitoria mariana L.	1	0	1	0	1	1	1	1	1	1	1	1	1	0	Intraneous: Eastern-southwestern N. America	Central: Minnesota, Ohio and New York, east to New Jersey, south to Florida and Texas, west to Arizona and Nebraska
Desmanthus illinoensis (Michx.) MacMill. ex B.L. Rob. & Fernald	0	0	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: throughout N. America except west coast and northwest	Central: North Dakota, Wisconsin and Pennsylvania, east to Maryland, south to Florida, west to New Mexico, Nevada and Nebraska
Desmodium canadense (L.) DC.	0	0	0	0	0	0	0	0	0	0	0	0	1	0		Northern: Manitoba to Quebec, east to Nova Scotia, south to Virginia, Indiana, Arkansas and Texas, west to Nebraska

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D. canescens (L.) DC.	1	1	0	1	0	0	0	0	1	0	0	0	0	0		Central: Minnesota, Ontario and New York, east to Massachusetts, south to Florida, west to Texas and Nebraska
D. ciliare (Muhl. ex Willd.) DC.	0	0	0	0	0	0	0	1	0	0	0	0	0	0		Central: Illinois, Ontario and New York, east to Massachusetts, south to Florida, west to Texas and Kansas
D. cuspidatum (Muhl. ex Willd.) DC. ex D. Don	0	0	1	0	0	1	1	1	0	0	0	0	0	0		Central: Minnesota, Ontario, New York and New Hampshire, east to Massachusetts, south to Florida, west to Texas and Nebraska
D. glabellum (Michx.) DC.	0	1	0	0	0	0	0	0	0	1	0	1	0	0		Central: Iowa, Michigan and New York, east to Connecticut, south to Florida, west to Texas and Kansas
D. glutinosum (Muhl. ex Willd.) Alph. Wood	1	1	1	0	0	1	1	1	1	1	1	1	1	1		Central: Ontario and Quebec, east to Nova Scotia, south to Florida, west to Texas and North Dakota
D. laevigatum (Nutt.) DC.	0	0	0	0	0	0	0	0	0	0	1	0	1	0		Central: Illinois to New York, east to New Jersey, south to Florida, west to Texas and Oklahoma
D. marilandicum (L.) DC.	0	0	1	0	0	1	0	1	1	0	0	0	1	0		Central: Illinois, Ontario and New York, east to Massachusetts, south to Florida, west to Texas and Kansas
D. nudiflorum (L.) DC.	1	1	1	1	1	1	1	1	1	1	0	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Ontario and Quebec, east to Maine, south to Florida, west to Texas and Kansas
D. nuttallii (Schindl.) B.G. Schub.	1	0	1	0	1	0	1	0	0	0	0	0	0	0	Intraneous: Southeastern N. America	Central: Illinois, West Virginia and New York, east to New Jersey, south to Florida, west to Texas and Oklahoma
D. obtusum (Muhl. ex Willd.) DC.	1	1	0	0	0	1	0	0	0	0	0	0	0	0		Central: Illinois, Michigan and New York, east to Massachusetts, south to Florida, west to Texas and Colorado
D. paniculatum (L.) DC. var. *paniculatum*	1	1	1	1	0	1	1	1	0	1	1	1	1	0		Central: Iowa, Michigan, Ontario and Quebec, east to Maine, south to Florida, west to Texas and Nebraska
D. pauciflorum (Nutt.) DC.	1	0	1	0	1	1	0	1	0	1	0	0	1	1	Intraneous: Southeastern N. America	Central: Illinois to New York, east to New Jersey, south to Florida, west to Texas and Kansas
D. perplexum B.G. Schub.	0	0	1	0	0	1	0	1	0	0	0	0	1	0		Central: Wisconsin and New York, east to Maine, south to Florida, west to Texas, Oklahoma, Missouri and Nebraska
D. rotundifolium DC.	1	0	1	1	1	1	1	1	0	0	1	1	1	0	Intraneous: Eastern-Midwestern N. America	Central: Illinois, Ontario and New Hampshire, east to Massachusetts, south to Florida, west to Texas and Kansas
D. viridiflorum (L.) DC.	0	0	0	0	0	0	0	0	0	1	1	0	0	0		Central: Missouri to Pennsylvania, east to New Jersey, south to Florida, west to Texas and Oklahoma
D. sp.	0	0	0	0	0	0	0	0	0	1	0	0	0	0		
Galactia volubilis (L.) Britton	1	0	1	1	0	1	1	1	0	0	0	0	0	0		Central: Illinois to New York, south to Florida, west to Texas and Kansas
Gleditsia triacanthos L.	1	1	0	0	1	0	0	0	0	0	1	0	0	0	Intraneous: Throughout N. America	Central: Throughout N. America

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**Glycine max* (L.) Merr.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
Gymnocladus dioicus (L.) K. Koch	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
**Kummerowia stipulacea* (Maxim.) Makino	1	1	0	1	0	0	0	0	0	0	0	0	1	0		
**K. striata* (Thunb.) Schindl.	0	0	1	0	0	0	1	1	0	0	0	1	0	0		
**Lathyrus hirsutus* L.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
**L. latifolius* L.	1	0	1	0	1	0	1	0	1	0	0	0	0	0	Introduced	
**Lespedeza bicolor* Turcz.	1	1	1	0	0	1	1	0	1	0	0	0	0	0		
**L. cuneata* (Dum. Cours.) G. Don	1	1	1	1	1	1	1	1	1	1	0	1	0	0	Introduced	
L. frutescens (L.) Hornem.	1	0	1	1	0	1	1	0	0	1	1	1	1	1		Central: Ontario, east to Maine, south to Florida, west to Texas, Oklahoma, Missouri and Minnesota
L. hirta (L.) Hornem.	1	1	1	0	0	1	1	0	1	1	1	1	1	1		Central: Illinois, Michigan and Ontario, east to Maine, south to Florida, west to Texas and Kansas
L. hirta x *intermedia*	0	0	0	0	0	1	0	0	0	0	0	0	0	0		Central: Illinois, Michigan and Ontario, east to Maine, south to Florida, west to Texas and Kansas
L. procumbens Michx.	0	1	1	1	0	0	1	0	0	0	0	1	0	0		Central: Wisconsin to New Hampshire, east to Massachusetts, south to Florida, west to Texas and Kansas
L. repens (L.) W. Bartram	1	1	1	0	0	1	0	1	0	1	0	1	1	0		Central: Wisconsin, Ohio and New York, east to Connecticut, south to Florida, west to Texas, Kansas and Iowa
L. stuevei Nutt.	0	0	0	0	0	1	0	0	0	0	1	0	0	0		Central: Illinois, West Virginia and Vermont, east to Massachusetts, south to Florida, west to Texas and Kansas
L. violacea (L.) Pers.	0	0	0	0	0	0	1	0	0	1	1	1	0	0		Central: Ontario to New Hampshire, east to Massachusetts, south to Georgia and Louisiana, west to Texas and Nebraska
L. virginica (L.) Britton	0	1	0	0	1	0	0	0	0	0	1	1	0	0	Intraneous: Eastern-midwestern N. America	Central: Minnesota, Ontario, New York and New Hampshire, east to Massachusetts, south to n.w. Florida, west to c. Texas and Kansas
Lotus corniculatus L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
**Medicago lupulina* L.	1	1	0	0	1	0	0	0	1	1	0	0	0	0	Introduced	
**Melilotus officinalis* (L.) Lam.	1	1	1	1	1	1	1	0	1	1	1	1	1	0	Introduced	
Mimosa microphylla Dryand.	1	0	1	1	1	1	1	0	1	0	1	0	0	0	Intraneous: Southeastern N. America	Central: Illinois, Kentucky and Virginia, east to North Carolina, south to Florida, west to Texas and Tennessee
M. quadrivalvis L.	0	0	0	0	0	0	0	0	0	1	0	0	0	0		Southern: Georgia and Florida; Texas
Orbexilum pedunculatum (Mill.) Rydb. var. *pedunculatum*	1	0	1	0	1	0	0	0	1	1	1	1	0	0	Intraneous: Eastern N. America	Central: Illinois, Michigan, Ohio and Virginia, east to North Carolina, south to Florida, west to Texas and Kansas
O. pedunculatum (Mill.) Rydb. var. *psoralioides* (Walter) Isely	0	0	0	0	0	1	0	0	0	0	0	0	0	0		Southern: Kentucky to Maryland, south to Florida

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Phaseolus polystachyios (L.) Britton, Sterns & Poggenb.	1	0	0	0	1	0	1	0	0	0	0	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Iowa, Michigan, New York and Maine, south to Florida, west to Texas, Oklahoma and Missouri
**Pueraria montana* (Lour.) Merr. var. *lobata* (Willd.) Maesen & S. Almeida	1	1	1	0	1	0	0	0	1	0	0	0	1	0	Introduced	
Rhynchosia tomentosa (L.) Hook. & Arn.	1	0	0	0	1	0	1	0	0	0	0	0	0	0	Intraneous: Southeastern N. America	Southern: Kentucky to Maryland, south to Florida, west to Texas and Arkansas
Robinia hispida L.	1	0	0	0	0	0	1	0	0	0	0	0	0	0		Central: Throughout N. America
R. hispida L. var. *rosea* Pursh	0	0	1	0	0	0	0	0	0	0	0	0	0	0		Southern: Kentucky, east to Virginia and North Carolina, south to Georgia and Alabama
R. pseudoacacia L.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Throughout N. America	Central: Throughout N. America
**Securigera varia* (L.) Lassen	1	1	1	0	1	0	0	0	1	0	0	1	1	0	Introduced	
Senna hebecarpa (Fernald) Irwin & Barneby	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
S. marilandica (L.) Link	1	1	1	0	1	1	1	0	0	0	1	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Wisconsin to New York, east to Massachusetts, south to Florida, west to Texas and Nebraska
S. obtusifolia (L.) Irwin & Barneby	1	0	0	0	0	0	0	0	0	0	1	0	0	0		Central: Wisconsin, Kentucky and New York, east to Massachusetts, south to Florida, west to Texas and Nebraska with disjuncts in California
Strophostyles helvola (L.) Elliot	0	1	0	0	0	0	0	0	0	0	0	1	0	0		Central: Ontario and Quebec, east to Maine, south to Florida, west to Texas and South Dakota
S. umbellata (Muhl. ex Willd.) Britton	0	0	0	0	0	0	1	0	0	0	0	1	0	0		Central: Illinois to New York, east to Rhode Island, south to Florida, west to Texas, Oklahoma and Missouri
Stylosanthes biflora (L.) Britton, Sterns & Poggenb.	1	1	1	0	0	1	1	1	0	1	1	0	0	0		Central: Wisconsin, Ohio and New York, south to Florida, west to Texas and Kansas with disjuncts in Arizona
Tephrosia virginiana (L.) Pers.	1	0	1	1	0	1	1	1	0	1	1	1	0	0		Central: Ontario, New York and New Hampshire, east to Massachusetts, south to Florida, west to Texas and Nebraska
***Thermopsis mollis* (Michx.) M.A. Curtis ex A. Gray	0	0	0	0	0	0	0	0	0	0	1	0	0	0		Southern: Kentucky and Virginia, east to North Carolina, south to Georgia and Alabama, west to Tennessee
**Trifolium aureum* Pollich	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
**T. campestre* Schreb.	1	0	1	1	1	1	1	1	1	0	1	0	1	0	Introduced	
**T. hybridum* L.	0	0	0	0	0	0	0	0	0	0	0	0	1	0		
**T. incarnatum* L.	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Introduced	
**T. pratense* L.	1	1	1	1	1	1	1	1	1	1	1	1	1	0	Introduced	
**T. repens* L.	1	1	1	0	1	0	0	1	1	1	0	1	1	0	Introduced	
Vicia caroliniana Walter	1	0	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern N. America	Central: Ontario and New York, east to Delaware and North Carolina, south to n.w. Florida, west to e. Texas, Illinois and Minnesota

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**V. sativa* L. ssp. *nigra* (L.) Ehrh.	1	1	1	0	0	0	0	0	1	0	0	0	0	0		
**V. sativa* L. ssp. *sativa*	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
**V. villosa* Roth ssp. *villosa*	0	0	0	0	0	0	0	0	0	0	0	0	1	0		
**V. villosa* Roth ssp. *varia* (Host) Corb.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
**Wisteria floribunda* (Willd.) DC.	0	0	0	0	1	0	0	0	1	0	0	0	0	0	Introduced	
W. frutescens (L.) Poir.	1	0	0	0	0	0	1	0	0	0	0	0	0	0		Central: Iowa, Michigan and New York, east to Massachusetts, south to Florida, west to Texas, Oklahoma and Missouri
**W. sinensis* (Sims) DC.	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Introduced	
FAGACEAE																
***Castanea dentata* (Marsh.) Borkh.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern N. America	Central: Ontario, east to Maine, south to Florida and Louisiana, west to Missouri, Iowa and Wisconsin
C. mollissima Blume	0	1	1	0	0	0	0	0	0	0	0	0	1	0		Central: Illinois and Kentucky, east to North Carolina, south to Florida, west to Alabama and Tennessee with disjuncts in Pennsylvania and Massachusetts
C. pumila (L.) Mill.	0	0	1	1	0	0	1	1	0	0	0	0	0	0		Central: Missouri, Indiana and New York, east to Massachusetts, south to Florida, west to Texas and Oklahoma
Fagus grandifolia Ehrh.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Ontario and Quebec, east to Nova Scotia, south to Florida, west to Texas, Missouri and Minnesota with disjuncts in Utah
Quercus acutissima Carruthers	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Pennsylvania, south to North Carolina and Georgia, west to Mississippi and Louisiana
Q. alba L.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern N. America	Central: Ontario and Quebec, east to Maine, south to Florida, west to Texas and Nebraska
Q. bicolor Willd.	0	0	0	0	0	0	0	0	1	0	0	0	0	0		Northern: Ontario and Quebec, east to Nova Scotia, south to South Carolina, Tennessee and Georgia, west to Missouri and Minnesota
Q. coccinea Münchh.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern N. America	Central: Wisconsin and New York, east to Maine, south to Georgia and Louisiana, west to Missouri
Q. falcata Michx.	1	0	1	1	1	1	1	0	1	1	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Illinois to Pennsylvania, east to New Jersey, south to Florida, west to Texas, Oklahoma and Missouri
Q. imbricaria Michx.	0	0	0	0	0	0	0	0	0	0	0	1	0	0		Central: Iowa, Michigan and New York, east to Massachusetts, south to Georgia and Louisiana, west to Oklahoma and Kansas
Q. lyrata Walter	1	0	0	0	0	0	0	0	1	0	0	0	0	0		Central: Illinois, Indiana and Virginia, east to New Jersey, south to Florida, west to Texas and Oklahoma
Q. marilandica Münchh.	1	0	1	0	1	1	1	0	0	0	1	1	1	1	Intraneous: Southeastern N. America	Southern: Iowa and Ohio, east to New York and North Carolina, south to n. Florida and s. Louisiana, west to c. Texas and s.e. Nebraska

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Q. michauxii Nutt.	1	0	0	0	1	0	0	0	1	0	0	0	0	0	Intraneous: Southeastern-midwestern N. America	Central: Illinois, Indiana and Virginia, east to New Jersey, south to Florida, west to Texas and Oklahoma
Q. muehlenbergii Engelm.	1	1	1	0	1	1	0	1	0	0	0	0	1	1	Intraneous: Eastern-midwestern-southwestern N. America	Central: Minnesota, Ontario, New York and Vermont, east to Massachusetts, south to Florida and Texas, west to New Mexico and Nebraska
Q. nigra L.	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Southeastern-midwestern N. America	Central: Illinois, Indiana and Virginia, east to New Jersey, south to Florida, west to Texas and Oklahoma
Q. pagoda Raf.	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Southeastern-midwestern N. America	Central: Illinois, Indiana and Virginia, east to New Jersey, south to Florida, west to Texas and Oklahoma
Q. palustris Münchh.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
Q. phellos L.	0	0	0	0	1	0	0	0	1	0	0	0	0	0	Intraneous: Southeastern-midwestern N. America	Central: Illinois, Kentucky to New York, east to Connecticut, south to Florida, west to Texas and Oklahoma
Q. prinus L.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern N. America	Central: Michigan and New York, east to Maine, south to Georgia and Louisiana, west to Illinois
Q. rubra L.	1	1	1	1	1	1	1	1	1	1	0	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Ontario and Quebec, east to Nova Scotia, south to Georgia and Louisiana, west to Oklahoma and Nebraska with disjuncts in British Columbia
Q. shumardii Buckley	0	0	0	0	1	0	0	1	0	0	1	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Illinois, Michigan, Ontario and Pennsylvania, east to North Carolina, south to c. Florida, west to e. Texas and Kansas
Q. stellata Wangenh.	1	1	1	0	1	1	1	0	1	0	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Ohio to New York, east to Massachusetts, south to c. Florida, west to Texas and Kansas
Q. velutina Lam.	1	1	1	1	1	1	1	1	1	0	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Ontario, east to Maine, south to Florida, west to Texas and Nebraska
FUMARIACEAE																
***Adlumia fungosa* (Aiton) Greene ex Britton, Stearns & Poggenb.	0	1	0	0	0	0	1	0	0	0	0	0	0	0		Northern: Manitoba and Quebec, east to Nova Scotia, south to North Carolina and Tennessee, west to Iowa and Minnesota
Corydalis flavula (Raf.) DC.	1	1	0	0	1	0	0	0	0	0	0	1	1	0	Intraneous: Eastern N. America	Central: Iowa, Michigan, Ontario and New York east to Connecticut, south to Florida and Louisiana, west to Oklahoma and Nebraska
C. sempervirens (L.) Pers.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
Dicentra canadensis (Goldie) Walp.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
D. cucullaria (L.) Bernh.	0	1	1	0	0	1	1	1	0	0	1	0	1	0		Central: Manitoba to Quebec, east to Nova Scotia, south to Georgia and Mississippi, west to Oklahoma and North Dakota with disjuncts in Washington, Oregon and Idaho
GENTIANACEAE																
Bartonia paniculata (Michx.) Muhl.	0	0	1	0	0	0	1	0	0	0	1	0	0	0		Central: Wisconsin, Ontario, New York and New Brunswick, east to Newfoundland, south to Florida, west to Texas, Oklahoma and Missouri

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B. virginica (L.) Britton, Stearns & Poggenb.	0	0	0	1	0	1	0	0	0	0	0	0	0	0		Central: Ontario and Quebec, east to Newfoundland, south to Florida and Louisiana, west to Tennessee, Missouri and Minnesota
Frasera caroliniensis Walter	1	0	0	0	1	1	0	0	0	0	0	1	0	0	Intraneous: Eastern-midwestern N. America	Central: Illinois, Michigan, Ontario and New York, east to Virginia, south to Georgia and Louisiana, west to Oklahoma and Missouri
Gentiana austromontana Pringle & Sharp	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
G. saponaria L.	1	0	1	0	0	1	1	0	0	1	1	0	0	0		Central: Illinois and Michigan, east to New York, south to Florida, west to Texas, Oklahoma and Kentucky
G. villosa L.	1	0	1	0	0	1	1	0	0	1	1	0	0	0		Central: Indiana and Pennsylvania, east to New Jersey, south to Florida, west to Louisiana and Tennessee
Gentianella quinquefolia (L.) Small ssp. *quinquefolia*	0	0	1	0	0	1	0	0	0	0	0	0	0	0		Northern: Ontario and Vermont, east to Maine, south to n. Georgia, west to Tennessee, West Virginia and Pennsylvania
Obolaria virginica L.	1	0	1	1	1	0	0	1	0	0	1	0	1	0	Intraneous: Southeastern N. America	Southern: s. Illinois and Ohio, east to New Jersey and North Carolina, south to n. Florida, west to e. Texas and e. Missouri
Sabatia angularis (L.) Pursh	1	1	0	1	1	0	1	0	0	1	1	1	1	0	Intraneous: Eastern-midwestern-southwestern N. America	Central: Missouri, Wisconsin, Ontario and New York, east to Massachusetts, south to Florida, west to New Mexico and Kansas
S. brachiata Elliot	0	0	1	0	0	1	1	0	0	0	0	0	0	0		Southern: Kentucky, east to Virginia and North Carolina, south to Georgia, west to Louisiana and Missouri
S. campanulata (L.) Torr.	0	0	0	0	0	0	1	0	0	0	0	0	0	0		Central: Indiana, Virginia and New York, east to Massachusetts, south to Florida, west to Texas, Arkansas and Illinois
***S. capitata* (Rafinesque) Blake	1	0	0	0	0	0	0	0	1	0	0	0	0	0		Southern: Tennessee, east to North Carolina, south to Georgia and Alabama
GERANIACEAE																
Geranium bicknellii Britton	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
G. carolinianum L.	1	1	1	1	0	1	1	0	1	0	1	1	1	0		Central: Throughout N. America
**G. dissectum* L.	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Introduced	
G. maculatum L.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Manitoba to Quebec, east to Maine, south to Georgia and Louisiana, west to Oklahoma, Kansas, Iowa and North Dakota
**G. molle* L.	0	1	0	0	1	0	0	0	0	0	0	0	0	0	Introduced	
GROSSULARIACEAE																
Itea virginica L.	1	0	1	1	1	1	1	1	1	1	0	0	0	0	Intraneous: Eastern N. America	Central: Illinois and Pennsylvania, east to New Jersey, south to Florida, west to Texas and Oklahoma
Ribes cynosbati	0	1	1	0	0	0	1	1	1	0	0	0	0	0		Central: Ontario and Quebec, east to Maine, south to Georgia, Alabama and Arkansas, west to Oklahoma, Iowa and North Dakota
HALORAGACEAE																
**Myriophyllum aquaticum* (Vell.) Verdc.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		

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M. heterophyllum Michx.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
M. pinnatum (Walter) B.S.P.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
**M. spicatum L.*	0	0	0	0	1	0	0	0	0	0	0	0	0	0	Introduced	
Proserpinaca palustris L.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Ontario and Quebec, east to Nova Scotia, south to Florida, west to Texas, Oklahoma and Minnesota
P. pectinata Lam.	0	0	0	0	0	1	0	0	0	0	0	0	0	0		Central: Kentucky, Virginia to New York and Maine, east to Newfoundland, south to Florida, west to Texas and Tennessee with disjuncts in Michigan
HAMAMELIDACEAE																
***Fothergilla major* (Sims) Lodd.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Southern: Tennessee, east to North Carolina, south to Georgia, Alabama and Arkansas
Hamamelis virginiana L.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern N. America	Central: Ontario and Quebec, east to Nova Scotia, south to Florida, west to Texas, Oklahoma and Minnesota
Liquidamber styraciflua L.	1	1	1	1	1	1	1	1	1	1	1	1	1	0	Intraneous: Eastern-midwestern N. America	Central: Illinois to New York, east to Massachusetts, south to Florida, west to Texas and Oklahoma with disjuncts in California
HIPPOCASTANACEAE																
Aesculus flava Aiton	1	1	1	1	1	1	1	1	1	1	1	0	1	1	Intraneous: Eastern N. America	Central: Illinois to Pennsylvania, east to New Jersey, south to Georgia and Mississippi
A. pavia L.	1	0	0	0	0	0	0	1	1	0	0	0	0	0		Central: Illinois to West Virginia, east to North Carolina, south to Florida, west to Texas and Oklahoma with disjuncts in Ontario
HYDRANGEACEAE																
**Deutzia scabra* Thunb.	0	0	0	0	0	0	0	0	0	0	0	1	0	0		
Hydrangea arborescens L.	1	1	1	1	0	0	1	1	1	1	1	1	1	1		Central: Illinois to New York, east to Massachusetts and Nova Scotia, south to Florida and Louisiana, west to Oklahoma and Kansas
H. cinerea Small	1	0	1	0	1	1	0	1	1	0	0	0	0	0	Intraneous: Southeastern N. America	Central: Illinois, Indiana and West Virginia, east to North Carolina and Massachusetts, south to Georgia and Alabama, west to Oklahoma
Philadelphus hirsutus Nutt.	1	0	1	0	1	0	1	1	1	0	1	0	0	0	Intraneous: Southeastern N. America	Southern: Kentucky, Virginia and Maryland, south to n. Georgia and Mississippi, west to Arkansas
P. inodorus L.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Ontario and New York, east to Massachusetts, south to Florida, west to Louisiana, Missouri and Wisconsin
HYDROPHYLLACEAE																
Hydrophyllum appendiculatum Michx.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
H. canadense L.	1	1	1	0	0	1	0	1	1	0	1	0	1	0		Northern: Ontario and Quebec, east to Massachusetts, south to n. Georgia and n. Alabama, west to Tennessee, Missouri and Iowa

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H. macrophyllum Nutt.	1	0	1	0	1	0	0	0	0	0	0	0	1	1	Intraneous: Eastern N. America	Central: Illinois, east to Pennsylvania, south to Georgia and Mississippi, west to Arkansas
H. virginianum L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
Nemophila aphylla (L.) Brummitt	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Southeastern-southwestern N. America	Southern: Kentucky, east to Maryland, south to Florida, west to Texas and Oklahoma
Phacelia bipinnatifida Michx.	1	1	1	1	1	1	1	1	1	0	1	0	1	1	Intraneous: Eastern-midwestern N. America	Central: Illinois, east to Pennsylvania, south to Georgia and Mississippi, west to Arkansas and Iowa
P. dubia (L.) Trel. var. *dubia*	1	1	0	0	1	0	0	0	0	0	0	0	0	0	Extraneous northwest: Eastern-southern N. America	Central: Tennessee, Ohio and New York, south to Georgia, west to Louisiana and Arkansas
P. purshii Buckley	0	0	0	0	0	0	0	0	0	0	0	0	1	0		Central: Michigan, Ontario and Pennsylvania, south to Georgia and Alabama, west to Oklahoma and Missouri
JUGLANDACEAE																
Carya alba (L.) Nutt.	1	0	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Iowa, Michigan and New Hampshire, east to Massachusetts, south to Florida, west to Texas and Kansas
C. carolinae-septentrionalis (Ashe) Engl. & Graebn.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Southern: Kentucky, east to Virginia and North Carolina, south to Georgia and Alabama
C. cordiformis (Wang.) K. Koch	1	1	1	0	1	1	1	1	1	1	1	0	1	1	Intraneous: Eastern N. America	Central: Ontario and Quebec, east to Maine, south to Florida, west to Texas and Nebraska
C. glabra (Mill.) Sweet	1	1	1	1	1	1	1	0	1	0	1	1	1	1	Intraneous: Eastern N. America	Central: Illinois, Michigan, Ontario and New Hampshire, east to Massachusetts, south to Florida, west to Texas and Kansas
C. laciniosa (Michx. f.) G. Don	1	1	0	0	0	0	0	0	0	0	0	0	0	0		Central: Michigan, Ontario and New York, east to Maine, south to Georgia and Louisiana, west to Texas, Kansas and Iowa
C. ovalis (Wagenh.) Sarg.	1	0	0	0	0	1	1	1	0	0	0	0	1	0		Central: Wisconsin to New York, east to Maine, south to Florida and Louisiana, west to Oklahoma and Iowa
C. ovata (Mill.) K. Koch	0	0	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Ontario and Quebec, east to Maine, south to Georgia and Louisiana, west to Texas, Nebraska and North Dakota
C. pallida (Ashe) Engl. & Graebn.	1	0	1	0	1	1	1	0	1	0	1	0	0	0	Intraneous: Southeastern-midwestern N. America	Central: Illinois, Indiana, Kentucky, Virginia and New Jersey, east to North Carolina, south to n.w. Florida, west to Louisiana and Missouri
***Juglans cinerea* L.	1	1	1	1	0	1	1	1	0	0	1	0	1	1		Central: Manitoba to Quebec, east to Maine, south to Georgia and Mississippi, west to Arkansas and Minnesota
J. nigra L.	1	1	1	0	1	1	1	1	0	1	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Manitoba to Quebec, east to Maine, south to Florida, west to Texas and North Dakota with disjuncts in Utah
LAMIACEAE																

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Agastache nepetoides (L.) Kuntze	1	1	0	0	0	0	0	1	0	1	0	0	0	0		Central: Ontario and Quebec, east to Massachusetts, south to Georgia and Alabama, west to Oklahoma and South Dakota
**Ajuga reptans* L.	0	0	1	0	0	0	0	0	0	0	0	0	0	0		
Blephilia hirsuta (Pursh) Benth.	1	1	1	0	0	0	0	1	0	1	1	0	0	0		Central: Ontario and Quebec, east to Massachusetts, south to Georgia and Alabama, west to Arkansas, Kansas and Nebraska
**Calamintha nepeta* (L.) Savi	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
Clinopodium vulgare L.	0	1	0	1	0	0	1	0	1	1	1	0	0	0		Central: Ontario and Quebec, east to Newfoundland, south to North Carolina, Arkansas, Kansas, New Mexico and Arizona, west to Minnesota and Iowa, British Columbia and Oregon
Collinsonia canadensis L.	1	1	1	1	1	1	1	1	1	1	1	1	0	1	Intraneous: Eastern N. America	Northern: Canada, east to Massachusetts, south to n. Florida and Louisiana, west to Missouri and Wisconsin
C. tuberosa Michx.	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Extraneous north: Southeastern N. America	Southern: Tennessee, east to North Carolina, south to Georgia and Louisiana
C. verticillata Baldw.	1	0	0	0	0	0	0	0	1	0	0	0	0	0		Central: Ohio and Kentucky, east to Virginia, south to Florida, west to Alabama and Tennessee
***Conradina verticillata* Jennison	0	0	0	0	0	0	1	0	0	1	0	0	0	0		Southern: Kentucky and Tennessee
Cunila origanoides (L.) Britton	1	0	0	0	0	0	1	0	0	1	0	1	1	1		Central: Illinois, east to New York and New Jersey, south to Georgia and Louisiana, west to Texas and Kansas
**Glechoma hederacea* L.	1	1	1	0	1	0	0	0	1	0	0	0	0	0	Introduced	
Hedeoma pulegioides (L.) Pers.	1	1	1	0	0	0	0	1	0	0	0	1	0	0		Central: Ontario and Quebec, east to Nova Scotia, south to Georgia and Mississippi, west to Oklahoma and North Dakota
**Lamium amplexicaule* L.	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Introduced	
**L. purpureum* L.	1	1	0	1	1	0	1	0	1	1	0	0	1	0	Introduced	
**Leonurus cardiaca* L.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
L. sibiricus L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
Lycopus americanus Muhl. ex W. Bartram	1	1	1	0	0	0	0	0	0	0	0	0	0	0		Central: Throughout N. America
L. rubellus Moench	0	0	0	0	0	0	0	0	1	0	0	0	0	0		Central: Illinois, Michigan and New York, east to Maine, south to Florida, west to Texas and Kansas with disjuncts in Oregon
L. uniflorus Michx.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
L. virginicus L.	1	1	1	1	1	1	1	1	1	1	1	1	1	0	Intraneous: Eastern-midwestern N. America	Central: Ontario and Quebec, east to Maine, south to Florida, west to Texas and Nebraska
***Meehania cordata* (Nutt.) Britton	0	1	0	0	0	0	0	0	0	0	0	0	1	1		Central: Illinois, Kentucky, Ohio and Pennsylvania, south to North Carolina and Tennessee
Mentha arvensis L.	0	1	0	0	0	0	0	1	0	0	0	0	0	0		Central: Throughout N. America

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M. spicata L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
**M. x piperita* L. (pro. sp.) [*aquatica* x spicata]	0	0	0	0	0	0	0	0	0	0	0	0	1	0		
Monarda clinopodia L.	1	1	1	0	1	1	1	1	1	0	1	0	1	1	Intraneous: Eastern N. America	Central: Michigan to Vermont, east to Massachusetts, south to Georgia and Alabama, west to Missouri
M. fistulosa L.	1	1	1	0	1	0	0	0	0	1	1	1	0	0	Intraneous: Throughout N. America	Central: Throughout N. America
M. russeliana Nutt. ex Sims	0	0	0	0	0	0	0	0	0	0	0	1	0	0		Central: Oklahoma and Arkansas, east to Kentucky, south to Georgia and Alabama, west to Texas
**Mosla dianthera* (Buch.-Ham. ex Roxb.) Maxim.	1	0	1	1	1	1	0	0	0	1	0	0	0	0	Introduced	
**Perilla frutescens* (L.) Britton	1	1	1	0	1	1	0	1	0	1	1	1	1	0	Introduced	
Physostegia virginiana (L.) Benth. ssp. *praemorsa* (Shinners) Cantino	0	1	1	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Eastern-midwestern-southwestern N. America	Central: Nebraska, Minnesota and Ohio, east to Virginia, south to Florida and Texas, west to New Mexico, Missouri and Nebraska
P. virginiana (L.) Benth. ssp. *virginiana*	0	0	0	0	0	1	1	0	0	1	0	0	0	0		Central: Manitoba to Quebec, east to Nova Scotia, south to Georgia and Mississippi, west to Oklahoma, Montana and Utah
Prunella vulgaris L.	1	1	1	1	1	1	1	1	1	1	1	1	1	0	Introduced	
Pycnanthemum incanum (L.) Michx.	0	0	0	1	0	1	1	1	0	1	1	0	0	0		Central: Ontario to New Hampshire, east to Massachusetts, south to Florida, west to Louisiana and Illinois
P. loomisii Nutt.	1	1	0	0	0	0	0	0	1	1	0	0	0	0		Central: Illinois, Kentucky and Virginia, east to New Jersey, south to Florida and Alabama, west to Tennessee
P. muticum (Michx.) Pers.	0	0	1	0	1	1	1	0	1	0	0	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Illinois, Kentucky, Michigan, Ohio, New York and Maine, east to Massachusetts, south to Georgia and s.w. Louisiana, west to Texas and Missouri
P. pycnanthemoides (Leavenworth) Fernald var. *pycnanthemoides*	0	1	1	0	1	0	0	0	0	0	0	1	1	0	Intraneous: Eastern N. America	Central: Illinois and Ohio, east to Maryland, south to Florida, west to Alabama and Tennessee
P. tenuifolium Schrad.	1	1	1	0	1	0	1	0	0	1	0	1	1	0	Intraneous: Eastern-midwestern N. America	Central: Ontario and Quebec, east to e. Massachusetts, south to the panhandle of Florida and s.w. Louisiana, west to s.c. Texas, s.e. Nebraska and Minnesota
P. verticillatum (Michx.) Pers.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
P. virginianum (L.) T. Dur. & B.D. Jacks. Ex B.L. Rob. & Fernald	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
Salvia lyrata L.	1	1	1	1	1	1	1	1	1	1	1	1	1	0	Intraneous: Eastern-midwestern N. America	Central: Illinois to New York, east to Connecticut, south to Florida, west to Texas and Kansas
S. urticifolia L.	1	0	0	0	1	1	1	0	1	0	0	0	0	0	Intraneous: Eastern N. America	Central: Kentucky to Pennsylvania, south to Florida, west to Mississippi and Tennessee
Scutellaria elliptica Muhl. ex Spreng.	0	1	0	1	0	1	0	1	1	1	0	1	1	1		Central: Illinois and Michigan, east to New York, south to Florida, west to Texas and Kansas

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S. elliptica Muhl. var. *hirsuta* (Short & Peter) Fernald	1	0	1	0	1	0	1	0	0	0	1	0	0	0	Intraneous: Eastern N. America	Central: Michigan and Pennsylvania, east to North Carolina, south to Florida, west to e. Texas and Missouri
S. incana Biehler var. *incana*	0	1	0	0	0	0	0	0	0	1	0	1	0	0		Central: Wisconsin and New York, south to Georgia and Louisiana, west to Texas, Kansas and Iowa
S. incana Biehler var. *punctata* (Chapm.) C. Mohr	1	0	1	1	0	0	1	0	1	1	0	0	0	0		Southern: Kentucky and West Virginia, east to North Carolina, south to Florida, west to Alabama, Arkansas and Missouri
S. integrifolia L.	1	0	1	1	0	0	1	0	1	1	0	0	0	0		Central: Missouri, Kentucky, Ohio and New York, east to Massachusetts, south to Florida, west to Texas and Oklahoma
S. lateriflora L.	1	1	0	0	0	0	0	1	1	0	0	0	1	0		Central: Throughout N. America
***S. montana* Chapm.**	1	0	0	0	1	0	0	0	1	0	0	0	0	0	Strict Endemic: Cumberland Plateau	Southern: Tennessee and Alabama
S. nervosa Pursh	0	1	0	0	0	0	0	0	0	0	0	1	0	0		Central: Ontario and New York, south to Georgia and Louisiana, west to Iowa
S. ovata Hill	1	1	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Eastern and mid-western N. America	Central: Minnesota, Michigan and Pennsylvania, east to North Carolina, south to c. Florida, west to c. Texas and e. Kansas
S. parvula Michx. var. *missouriensis* (Torr.) Goodman & C.A. Lawson	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Manitoba and Ontario, east to Maine, south to Georgia and Louisiana, west to Texas and North Dakota
S. pseudoserrata Epling	1	0	1	0	1	1	0	0	1	0	0	0	0	0	Intraneous: Southeastern N. America	Southern: e. Tennessee, east to North Carolina, south to c. Georgia and Alabama
S. serrata Andrews	0	1	0	0	0	0	0	1	1	0	0	0	0	0		Central: Ohio and New York, south to Florida, west to Mississippi and Tennessee
Stachys cordata Riddell	1	1	1	0	1	0	0	1	1	0	0	1	0	0	Intraneous: Eastern N. America	Central: Ohio and New York, south to Georgia and Alabama, west to Arkansas and Illinois
S. tenuifolia Willd.	1	1	0	0	1	0	1	0	0	0	0	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Manitoba to Quebec, east to Maine, south to Florida, west to Texas and North Dakota
Synandra hispidula (Michx.) Britton	0	0	1	0	0	0	0	0	0	0	1	0	0	0		Central: Ohio, east to North Carolina, south to n. Alabama, west to s. Illinois
Teucrium canadense L.	1	1	0	0	1	0	1	1	0	1	0	0	1	0	Intraneous: Throughout N. America	Central: Throughout N. America
Trichostema brachiatum L.	1	1	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Ontario and Quebec, east to Massachusetts, south to Florida and Texas, west to Arizona, Kansas and South Dakota
T. dichotomum L.	0	1	1	1	0	1	1	0	0	1	0	0	0	0		Central: Ontario and Quebec, east to Maine, south to Florida, west to Texas, Oklahoma and Iowa
T. setaceum Houtt.	1	0	0	0	0	0	0	1	0	0	0	0	0	0		Central: Indiana to New York, east to Connecticut, south to Florida, west to Texas, Tennessee and Missouri
LAURACEAE																

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Lindera benzoin (L.) Blume	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern N. America	Central: Iowa, Michigan and Ontario, east to Maine, south to Florida, west to Texas and Kansas
Sassafras albidum (Nutt.) Nees	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern N. America	Central: Wisconsin and Ontario, east to Maine, south to Florida, west to Texas and Kansas
LENTIBULARIACEAE																
***Utricularia subulata* L.	0	0	0	0	0	0	1	0	0	0	0	0	0	0		Central: Missouri, Indiana, Michigan, Virginia and New York, east to Maine and Nova Scotia, south to s. Florida, west to Texas and Oklahoma with disjuncts in California
LINACEAE																
Linum floridanum (Planch.) Trel. var. *floridanum*	0	0	0	0	0	1	0	0	0	0	0	0	0	0		Central: Illinois, Tennessee and Virginia, east to New Jersey, south to Florida, west to Texas
L. intercursum E.P. Bicknell	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Virginia to New York, east to Massachusetts, south to Georgia and Alabama, west to Tennessee and Indiana
L. medium (Planch.) Britton	0	0	0	0	0	0	0	0	0	1	0	0	1	0		Central: Iowa, Ontario and New York, east to Maine, south to Florida, west to Texas and Kansas
L. medium (Planch.) Britton var. *texanum* (Planch.) Fernald	1	0	1	0	0	0	0	0	0	0	0	0	0	0		Central: Iowa, Ontario and New York, east to Maine, south to Florida, west to Texas and Kansas
L. striatum Walter	1	1	1	1	1	1	0	0	1	1	0	1	1	0	Intraneous: Eastern-midwestern N. America	Central: Illinois, Michigan, Ontario and New York, east to Massachusetts, south to Florida, west to Texas, Oklahoma and Missouri
L. sulcatum Riddell	0	0	0	0	0	0	0	1	0	0	0	0	0	0		Central: Saskatchewan to Quebec, east to Massachusetts, south to Florida, west to Texas and North Carolina
L. virginianum L.	0	1	1	0	0	0	1	0	0	1	1	0	0	0		Central: Michigan, Ontario and New York, east to Maine, south to Georgia and Alabama, west to Tennessee, Missouri and Iowa
LOGANIACEAE																
***Gelsemium sempervirens* (L.) W.T. Aiton	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Southern: Tennessee, east to Virginia and North Carolina, south to s. Florida, west to Texas and Arkansas
Spigelia marilandica (L.) L.	1	0	1	0	1	1	1	1	1	1	1	0	0	0	Intraneous: Eastern N. America	Central: Illinois, Indiana and Virginia, east to Maryland, south to Florida, west to Texas and Oklahoma
LYTHRACEAE																
Ammannia coccinea Rottb.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: North Dakota, Minnesota and Ohio, east to New Jersey, south to Florida and Texas, west to Nebraska, Arizona and California
Cuphea viscosissima Jacq.	0	1	0	0	0	0	1	0	0	0	0	0	0	0		Central: Iowa, Ohio, Ontario and New Hampshire, east to Massachusetts, south to Florida and Louisiana, west to Oklahoma and Nebraska
Lythrum alatum Pursh	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central

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Rotala ramosoir (L.) Koehne	1	1	1	0	1	0	0	1	0	0	0	0	0	0	Intraneous: Throughout N. America	Central: Throughout N. America
MAGNOLIACEAE																
Liriodendron tulipifera L.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Michigan, Ontario and Vermont, east to Massachusetts, south to Florida, west to Texas, Missouri and Iowa
Magnolia acuminata (L.) L.	1	1	1	1	0	1	1	1	1	1	1	0	1	1		Central: Illinois, Ohio and Ontario, east to Maine, south to Florida and Louisiana, west to Oklahoma and Missouri
M. fraseri Walter	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
M. macrophylla Michx.	1	0	1	1	0	0	1	1	1	1	0	0	1	1		Central: Kentucky and Ohio, east to Maryland, south to Georgia, west to Louisiana and Arkansas
M. tripetala (L.) L.	1	1	1	1	0	1	1	1	1	1	0	0	1	1		Central: Indiana to New York, east to Massachusetts, south to Florida and Mississippi, west to Oklahoma and Missouri
MALVACEAE																
Abutilon theophrasti Medik.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
Alcea rosea L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
Hibiscus laevis All.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Minnesota and Ontario, east to New York, south to Florida, west to Texas and Nebraska
H. moscheutos L.	1	1	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Eastern-Southern N. America	Central: Missouri, Wisconsin, Ontario and New York, east to Massachusetts, south to Florida and Texas, west to New Mexico, Utah and Kansas
**H. syriacus* L.	0	0	0	0	0	1	0	0	0	0	0	1	0	0		
Sida hermaphrodita (L.) Rusby	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
S. spinosa L.	1	1	0	0	1	0	1	1	0	0	0	1	1	0	Intraneous: Eastern-midwestern N. America	Central: Iowa, Michigan, Ontario and New York, east to Maine, south to Florida, west to Texas and Nebraska with disjuncts in Arizona and California
MELASTOMATACEAE																
Rhexia mariana L. var. *mariana*	1	0	1	0	0	1	1	0	1	1	1	1	0	0		Central: Illinois, Michigan, Kentucky and New York, east to Massachusetts, south to Florida, west to Texas and Oklahoma
R. virginica L.	1	0	1	1	0	1	1	0	1	1	1	1	0	0		Central: Wisconsin, Ontario and Maine, east to Nova Scotia, south to Florida, west to Texas, Oklahoma and Iowa
MENISPERMACEAE																
Calycocarpum lyonii (Pursh) A. Gray	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Illinois and Indiana, east to Tennessee and South Carolina, south to Florida, west to Texas and Kansas
Cocculus carolinus (L.) DC.	1	0	1	0	1	0	0	1	0	0	0	1	0	0	Intraneous: Southeastern-midwestern N. America	Central: Illinois and Indiana, east to Tennessee and South Carolina, south to Florida, west to Texas and Kansas

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Menispermum canadense L.	1	1	1	0	1	0	1	1	0	0	1	0	1	1	Intraneous: Eastern-midwestern N. America	Central: Manitoba to Quebec, east to Massachusetts, south to Florida, west to Texas and North Dakota
MOLLUGINACEAE																
Mollugo verticillata L.	1	1	0	0	0	0	1	0	0	1	0	0	0	0		Central: Throughout N. America
MONOTROPACEAE																
Monotropa hypopithys L.	1	0	1	1	1	1	1	1	1	0	1	0	1	0	Intraneous: Throughout N. America	Central: Throughout N. America
M. uniflora L.	1	1	1	1	1	1	1	0	0	0	1	1	1	1	Intraneous: throughout N. America	Central: throughout N. America except for seven midwest to southwest states
***Monotropsis odorata* Schwein. ex Elliot	0	0	0	0	0	1	0	0	0	0	0	0	1	0		Central: Kentucky, east to Maryland, south to c. Florida, west to Alabama and Tennessee
MORACEAE																
Maclura pomifera (Raf.) C.K. Schneid.	1	1	0	0	0	0	0	0	0	0	0	0	0	0		Central: Throughout N. America
**Morus alba* L.	0	1	0	0	0	0	0	0	1	0	1	0	1	0		
M. rubra L.	1	1	1	0	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Minnesota, Ontario and Vermont, east to Massachusetts, south to Florida, west to Texas and South Dakota
NYMPHAEACEAE																
Nuphar lutea (L.) Sm. ssp. *advena* (Aiton) Kartesz & Gandhi	0	0	0	0	0	0	1	0	0	0	0	0	0	0		Central: Minnesota and Ontario, east to Maine, south to Florida, west to Texas, Kansas and Illinois
OLEACEAE																
Chionanthus virginicus L.	1	1	1	1	0	1	1	1	1	1	1	0	0	0		Central: Missouri, Kentucky, Ohio and New York, east to Massachusetts, south to Florida, west to Texas and Oklahoma
**Forsythia suspensa* (Thunb.) Vahl	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
**F. viridissima* Lindl.	0	1	1	0	1	0	0	0	1	0	0	0	0	0	Introduced	
Fraxinus americana L.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern N. America	Central: Minnesota, Ontario and Quebec, east to Nova Scotia, south to Florida, west to Texas, Colorado and Nebraska
F. pennsylvanica Marsh.	1	1	1	0	0	0	0	0	0	1	1	1	1	1		Central: Alberta to Quebec, east to Nova Scotia and North Carolina, south to c. Florida and c. Texas, west to w. Utah and Montana
F. profunda (Bush) Bush	0	0	0	0	0	0	0	0	0	0	0	1	0	0		Central: Ontario, east to New York, south to Florida, west to Louisiana and Missouri
F. quadrangulata Michx.	0	0	1	0	1	1	0	0	0	0	0	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Minnesota and Ontario, east to Ohio, Virginia and Tennessee, south to Georgia and Mississippi, west to Oklahoma, Kansas and Iowa
**Ligustrum obtusifolium* Siebold & Zucc.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
**L. sinense* Lour.	1	0	1	0	1	0	0	1	1	0	1	0	0	0	Introduced	
**L. vulgare* L.	0	1	0	0	0	1	0	0	0	0	0	0	0	0		

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ONAGRACEAE																
Chamerion angustifolium (L.) Holub ssp. Angustifolium	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
Circaea alpina L.	0	0	1	0	0	0	0	0	0	0	0	1	0	0		Central: Alaska, east to Labrador and Newfoundland, south to North Carolina, Tennessee, Iowa, South Dakota and New Mexico, west to California and British Columbia
C. lutetiana L.	0	0	0	0	0	0	0	0	0	1	0	0	1	1		Central: Manitoba to Quebec, east to Nova Scotia, south to Georgia and Louisiana, west to Oklahoma, Wyoming and North Dakota
C. lutetiana L. ssp. *canadensis* (L.) Asch. & Magnus	1	1	1	1	1	1	1	1	0	1	1	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Manitoba to Quebec, east to Nova Scotia, south to Georgia and Louisiana, west to Oklahoma, Wyoming and North Dakota
Epilobium coloratum Biehler	0	1	0	1	0	0	0	0	0	1	0	0	0	0		Central: Ontario and Quebec, east to Newfoundland, south to Georgia and Louisiana, west to Texas and North Dakota
Gaura biennis L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
G. filipes Spach	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Southeastern N. America	Central: Illinois and Indiana, east to South Carolina, south to Florida, west to Louisiana and Tennessee
Ludwigia alternifolia L.	1	1	1	1	1	1	1	1	1	1	1	1	1	0	Intraneous: Eastern-midwestern N. America	Central: Ontario and Quebec, east to e. Massachusetts, south to n.w. Florida and s. Louisiana, west to s.c. Texas, Colorado and s.e. Nebraska
L. decurrens Walter	1	1	0	0	1	0	1	1	0	1	0	0	0	0	Intraneous: Eastern N. America	Central: Wisconsin, east to Pennsylvania, south to Florida, west to Texas and Kansas
L. leptocarpa (Nutt.) H. Hara	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Illinois, east to Pennsylvania, south to Florida, west to Texas, Oklahoma and Missouri
L. linearis Walter	0	0	1	0	0	0	0	0	0	0	0	0	0	0		Southern: Tennessee and Virginia, east to New Jersey, south to Florida, west to Texas and Oklahoma
L. palustris (L.) Elliot	1	1	0	0	1	0	1	0	0	1	0	0	1	0	Intraneous: Throughout N. America	Central: British Columbia, east to Idaho, south to California; Nebraska, Minnesota, Ontario and Quebec, east to Nova Scotia, south to Florida and Texas, west to Arizona
L. peploides (Kunth) P.H. Raven ssp. *glabrescens* (Kuntze) P.H. Raven	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Iowa, east to New York, south to Florida, west to Texas and Nebraska
Oenothera biennis L.	1	1	1	1	1	1	1	1	1	1	1	1	1	0	Intraneous: Throughout N. America	Central: Throughout N. America
O. fruticosa L. ssp. *fruticosa*	1	0	1	0	1	0	1	0	0	1	0	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Illinois, Ohio and New York, east to Massachusetts, south to Florida, west to Louisiana, Oklahoma and Missouri
O. fruticosa L. ssp. *glauca* (Michx.) Straley	1	0	0	0	0	1	0	0	1	0	0	0	0	0		Central: Manitoba to Quebec, east to Nova Scotia, south to Georgia and Louisiana, west to Tennessee, Missouri and Michigan
O. laciniata Hill	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Eastern-midwestern N. America	Central: North Dakota and Ontario, east to Maine, south to Florida and Texas, west to New Mexico, Kansas and Wyoming with disjuncts in California

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O. parviflora L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
OROBANCHACEAE																
Conopholis americana (L.) Wallr.	1	1	1	1	1	1	1	1	1	0	1	1	1	1	Intraneous: Eastern N. America	Central: Manitoba to Quebec, east to Nova Scotia, south to Florida and Mississippi, west to Illinois and Iowa
Epifagus virginiana (L.) W. Bartram	1	1	1	1	0	1	1	1	0	0	1	0	1	1		Central: Ontario and Quebec, east to Nova Scotia, south to Florida, west to Texas, Oklahoma and Missouri
Orobanche uniflora L.	0	1	0	0	0	0	1	0	0	1	0	0	1	0		Central: Throughout N. America
OXALIDACEAE																
Oxalis corniculata L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
O. dillenii Jacq.	0	0	0	0	0	1	1	0	1	0	1	1	0	0		Central: Throughout N. America
O. grandis Small	1	1	1	0	0	0	1	1	1	1	1	1	1	1		Central: Indiana to Pennsylvania, east to Maryland, south to Georgia and Mississippi, west to Tennessee
O. montana Raf.	0	1	0	1	0	0	0	1	0	0	0	0	0	0		Northern: Ontario to Labrador, east to Newfoundland, south to North Carolina, n. Georgia and Tennessee, west to Indiana and Minnesota
O. stricta L.	1	1	1	1	1	1	1	1	1	1	1	1	1	0	Intraneous: Throughout N. America	Central: Throughout N. America
O. suksdorfii Trel.	0	0	0	0	0	0	0	0	0	1	0	0	0	0		Western: Washington, south to California
O. violacea L.	1	0	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: North Dakota, Michigan to Vermont, east to Massachusetts, south to Florida and Texas, west to Arizona, Colorado and Wyoming with disjuncts in Oregon
PAPAVERACEAE																
Chelidonium majus L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
Sanguinaria canadensis L.	1	1	1	1	1	1	1	1	1	1	1	0	1	1	Intraneous: Eastern-midwestern N. America	Central: Manitoba to Quebec, east to Nova Scotia, south to Florida, west to Texas and North Dakota
Stylophorum diphyllum (Michx.) Nutt.	0	0	1	0	0	1	0	0	0	0	1	0	1	0		Northern: Michigan and Ontario, east to Pennsylvania, south to n. Georgia and n. Alabama, west to Arkansas, Missouri and Illinois
PASSIFLORACEAE																
Passiflora incarnata L.	1	0	0	0	1	0	0	1	1	0	1	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Illinois, east to Pennsylvania, south to Florida, west to Texas and Kansas
P. lutea L.	1	1	1	1	1	1	1	1	1	1	1	1	1	0	Intraneous: Eastern-midwestern N. America	Central: Illinois, east to Pennsylvania, south to Florida, west to Texas and Kansas
PHYTOLACCACEAE																
Phytolacca americana L.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-midwestern-southwestern N. America	Central: Minnesota, Ontario and Quebec, east to New Brunswick, south to Florida and Texas, west to Nebraska, California and Washington

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PLANTAGINACEAE																
Plantago aristata Michx.	1	1	1	0	1	1	1	0	1	0	0	0	0	0	Intraneous: Throughout N. America	Central: Throughout N. America
**P. lanceolata* L.	1	1	1	1	1	1	1	1	1	1	1	0	0	0	Introduced	
P. patagonica Jacq.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
P. rugelii Decne.	1	1	1	1	1	1	1	1	1	1	1	1	1	0	Intraneous: Eastern-midwestern N. America	Central: North Dakota, Ontario and Quebec, east to Nova Scotia, south to Florida, west to Texas, Nebraska and Montana
P. virginica L.	1	1	1	1	1	1	1	1	1	1	0	1	1	0	Intraneous: Eastern-midwestern-southwestern N. America	Central: Minnesota, Ontario and New York, east to Maine, south to Florida and Texas, west to South Dakota, California and Oregon
PLATANACEAE																
Platanus occidentalis L.	1	1	1	1	1	1	1	1	1	1	1	1	1	0	Intraneous: Eastern-midwestern N. America	Central: Iowa and Ontario, east to Maine, south to Florida, west to Texas and Nebraska
PODOSTEMACEAE																
Podostemum ceratophyllum Michx.	0	1	0	0	0	0	1	0	0	0	0	0	0	0		Central: North Dakota, Ontario and Quebec, east to Nova Scotia, south to Georgia and Louisiana, west to Oklahoma, Kentucky and Michigan
POLEMONIACEAE																
Phlox amoena Sims	1	0	1	0	1	1	1	1	1	1	1	0	0	0	Intraneous: Southeastern N. America	Southern: Kentucky, east to North Carolina, south to n. Florida, west to Alabama and w. Tennessee
P. amplifolia Britton	1	0	1	0	1	0	0	1	0	0	1	0	0	0	Intraneous: Southeastern N. America	Southern: w. and s. Indiana, east to w. Virginia and w. North Carolina, south to Georgia and Mississippi, west to Arkansas and Missouri
P. carolina L.	0	0	0	0	1	1	1	1	1	0	0	0	0	0	Intraneous: Southeastern N. America	Southern: Illinois and Indiana, east to Maryland, south to Florida, west to Texas and Missouri
P. divaricata L.	1	1	1	0	1	1	1	1	1	1	1	0	1	1	Intraneous: Eastern-midwestern N. America	Central: Minnesota, Ontario and Quebec, east to Connecticut, south to Florida and Texas, west to New Mexico, Kansas and South Dakota
P. glaberrima L.	1	0	1	1	0	1	1	0	1	0	0	0	0	0		Central: Wisconsin and Ohio, east to Maryland, south to Florida and Louisiana, west to Oklahoma and Missouri
P. latifolia Michx.	0	0	0	0	0	0	0	0	1	0	0	0	0	0		Central: Indiana to Pennsylvania, east to Massachusetts, south to Georgia and Alabama, west to Tennessee and Kentucky
P. maculata L.	0	0	1	1	0	0	1	0	0	1	0	1	0	0		Central: Ontario and Quebec, east to Nova Scotia, south to Georgia and Mississippi, west to Missouri and Minnesota
P. maculata L. ssp. *pyramidalis* (Sm.) Wherry	0	0	0	0	0	1	0	1	1	0	1	0	0	0		Central: Illinois to Pennsylvania, east to Maryland, south to Georgia and Mississippi, west to Missouri
P. nivalis Lodd. ex Sweet	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Virginia, south to Florida, west to Alabama with disjuncts in Michigan, Texas and Utah

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P. paniculata L.	0	1	1	0	0	0	1	1	0	1	0	1	1	0		Central: Ontario and Quebec, east to Newfoundland, south to Georgia and Louisiana, west to Oklahoma and Nebraska with disjuncts in Utah and Washington
P. pilosa L.	0	0	0	0	0	1	0	0	0	0	1	1	0	0		Central: Manitoba, Ontario and New York, east to Connecticut, south to Florida, west to Texas and North Dakota
**P. subulata* L.	0	1	0	0	0	0	0	0	0	0	0	1	0	0		
Polemonium reptans L. var. *reptans*	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
POLYGALACEAE																
Polygala ambigua Nutt.	1	0	1	0	0	0	0	1	0	0	1	1	0	0		Central: Wisconsin and New York, east to Maine, south to Georgia and Louisiana, west to Texas, Oklahoma and Missouri
P. curtissii A. Gray	1	0	1	1	0	1	1	1	1	0	1	0	0	0		Central: Ohio and Pennsylvania, east to Delaware, south to Georgia and Mississippi, west to Tennessee
P. incarnata L.	1	0	0	0	0	1	0	0	0	0	0	0	0	0		Central: Wisconsin and Ontario, east to New York, south to Florida, west to Texas, Kansas and Iowa
P. paucifolia Willd.	0	0	0	0	0	0	0	0	0	1	0	0	0	0		Northern: Alberta to Quebec, east to Newfoundland south to n. Georgia and Tennessee, west to Illinois and Minnesota
P. sanguinea L.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	Central: Ontario and Quebec, east to Nova Scotia, south to Georgia and Texas, west to New Mexico, Kansas and South Dakota
P. senega L.	0	0	1	1	0	1	0	1	0	0	1	0	1	0		Northern: Alberta to Quebec, east to Newfoundland south to n. Georgia, Tennessee and Oklahoma, west to Wyoming and North Dakota
P. verticillata L. var. *verticillata*	0	1	1	1	1	1	0	0	0	0	1	0	0	0	Intraneous: Eastern N. America	Central: Ontario and Quebec, east to Maine, south to Georgia and Louisiana, west to Missouri and Wisconsin
POLYGONACEAE																
**Fagopyrum esculentum* Moench	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
***Polygonella americana* (Fisch. & C.A. Mey.) Small	0	0	0	0	0	0	1	0	0	0	0	0	0	0		Southern: Missouri, Indiana and Tennessee, east to North Carolina, south to Florida and Texas, west to New Mexico
Polygonum amphibium L.	0	0	1	0	0	0	0	0	0	0	0	0	0	0		Central: Throughout N. America
P. arifolium L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
**P. aviculare* L.	1	1	1	0	0	0	0	0	0	0	0	0	0	0		
**P. cespitosum* Blume, nom. inq.	0	1	0	1	0	0	0	0	0	1	0	1	1	0		
**P. cespitosum* Blume var. *longisetum* (Bruijn) A.N. Steward	0	0	1	0	0	1	1	0	1	1	1	0	0	0		
**P. convolvulus* L.	0	0	0	0	0	0	0	0	0	0	0	0	1	0		
**P. cuspidatum* Siebold & Zucc.	1	1	0	0	0	0	0	0	1	0	0	0	0	0		
P. erectum L.	0	0	0	0	0	0	0	0	0	0	0	0	1	0		Central: Throughout N. America
**P. hydropiper* L.	0	1	0	0	0	0	0	0	0	1	0	0	0	0		

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P. hydropiperiodes Michx.	1	1	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Throughout N. America	Central: Throughout N. America
P. lapathifolium L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
P. pensylvanicum L.	0	1	0	0	0	0	1	1	0	0	0	0	1	0		Central: Throughout N. America
**P. persicaria* L.	1	1	0	0	1	1	0	1	1	0	1	0	0	0	Introduced	
P. punctatum Elliot var. *confertiflorum* (Meisn.) Fassett	0	0	0	0	0	0	0	0	0	0	1	0	0	0		Central: Throughout N. America
P. punctatum Elliot var. *punctatum*	1	0	1	0	1	1	1	1	1	1	1	1	1	0	Intraneous: Eastern-midwestern N. America	Central: Saskatchewan to Quebec, east to Nova Scotia, south to Florida, west to Texas, Nebraska and Minnesota with disjuncts in California, Washington and British Columbia
P. sagittatum L.	1	1	1	1	0	0	0	0	1	1	0	1	1	0		Central: Manitoba to Labrador, east to Newfoundland south to Florida, west to Texas, Colorado and North Dakota with disjuncts in Oregon
P. scandens L. var. *cristatum* (Engelm. & A. Gray) Gleason	0	0	0	0	0	0	0	1	0	1	1	0	0	0		Central: Minnesota, Michigan and Vermont, east to Massachusetts, south to Florida, west to Texas, Arkansas and Iowa
P. scandens L. var. *scandens*	1	1	1	0	1	1	1	0	0	0	0	1	1	0	Intraneous: Eastern-midwestern N. America	Central: Alberta to Quebec, east to Nova Scotia, south to Florida, west to Texas, Wyoming and North Dakota
P. setaceum Baldw.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Illinois, Michigan and New York, east to Massachusetts, south to Florida, west to Texas and Kansas with disjuncts in Washington
P. tenue Michx.	1	0	0	0	0	0	0	0	0	0	1	0	0	0		Central: Minnesota, Ontario and Quebec, east to Maine, south to Georgia and Louisiana, west to Texas, Kansas and Wyoming
P. virginianum L.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Ontario and Quebec, east to Massachusetts, south to Florida, west to Texas and Nebraska
**Rumex acetosella* L.	1	1	1	1	0	1	1	0	1	0	1	1	1	0		
R. altissimus Alph. Wood	0	0	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Throughout N. America	Central: Alberta and Northwest Territories, Ontario and Quebec, east to Newfoundland and Nova Scotia, south to Georgia and Texas, west to Arizona, Colorado and South Dakota
**R. conglomeratus* Murray	1	0	0	0	0	0	0	0	1	0	0	0	0	0		
**R. crispus* L.	1	1	1	1	0	1	0	0	0	0	1	1	1	0		
**R. obtusifolius* L.	1	1	1	0	0	0	0	0	0	0	0	0	1	0		
PORTULACACEAE																
Claytonia caroliniana Michx.	0	1	0	1	0	1	0	1	0	0	1	0	1	0		Central: Ontario and Quebec, east to Newfoundland, south to North Carolina, Georgia and Alabama, west to Arkansas, Indiana and Minnesota
C. virginica L.	1	1	1	1	1	0	1	0	1	1	1	1	0	1	Intraneous: Eastern-midwestern N. America	Central: Ontario and Quebec, east to Massachusetts, south to Georgia and Louisiana, west to Texas and Nebraska

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***Phemeranthus mengesii* (W. Wolf) Kiger	1	0	0	0	1	0	1	0	0	0	0	0	0	0	Extraneous northwest: Southern Appalachians and Coastal Plain	Southern: Virginia and North Carolina, south to s. Georgia, west to n.w. Alabama and e. Tennessee
***P. teretifolius* (Pursh) Raf.	0	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Kentucky to Pennsylvania, south to Georgia and Alabama, west to Tennessee
**Portulaca oleracea* L.	1	1	0	0	1	0	0	0	0	0	0	0	0	0	Introduced	
Talinum sp.	0	0	0	0	0	0	0	0	0	0	1	0	0	0		
PRIMULACEAE																
**Anagallis arvensis* L.	0	0	1	0	0	0	0	0	0	0	0	0	0	0		
Dodecatheon meadia L.	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Manitoba and Minnesota, east to New York, south to Florida, west to Texas, Kansas and Iowa
Lysimachia ciliata L.	0	1	0	1	0	0	0	0	0	0	0	0	0	0		Central: Throughout N. America
***L. fraseri* Duby	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Illinois and Kentucky, east to North Carolina, south to Georgia and Alabama
L. lanceolata Walter	1	0	1	0	0	1	1	0	0	1	1	1	0	0		Central: Manitoba, Ontario and Pennsylvania, east to Maine and Connecticut, south to Florida, west to Texas, Oklahoma and Iowa
**L. nummularia* L.	1	1	0	0	0	0	0	0	0	0	0	0	0	0		
L. x producta (A. Gray) Fernald (pro sp.) [*quadrifolia x terrestris*]	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
***L. quadrifolia* L.	1	1	1	1	0	1	1	1	1	1	1	1	1	1		Central: Ontario and Quebec, east to New Brunswick, south to Georgia and Alabama, west to Tennessee, Illinois and Minnesota
L. terrestris (L.) B.S.P.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
L. tonsa (Alph. Wood) Alph. Wood ex Pax & R. Knuth	1	0	1	1	1	1	1	1	1	0	0	0	1	1	Intraneous: Southern Appalachians	Southern: Kentucky and s. West Virginia, east to North Carolina, south to Georgia and Alabama, west to Tennessee
Samolus valerandi L. ssp. *parviflorus* (Raf.) Hultén	1	0	1	1	0	0	0	1	0	0	1	0	0	0		Central: Kansas, Wisconsin, Ontario and Quebec, east to Nova Scotia, south to Florida and Texas, west to California and Washington
PYROLACEAE																
Chimaphila maculata (L.) Pursh	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern N. America	Central: Ontario and Quebec, east to Maine, south to Florida, west to Mississippi and Illinois with disjuncts in Arizona
Pyrola americana Sweet	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
RANUNCULACEAE																
Actaea pachypoda Elliot	1	1	1	1	1	1	1	1	1	1	1	0	1	1	Intraneous: Eastern-midwestern N. America	Central: Ontario and Quebec, east to Nova Scotia, south to Florida and Louisiana, west to Oklahoma and Nebraska
A. podocarpa DC.	0	0	0	1	0	0	0	0	0	0	0	0	0	1		Central: Kentucky, east to Pennsylvania, south to Georgia and Tennessee, west to Illinois

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A. racemosa L. var. *racemosa*	1	1	0	0	1	0	0	1	1	0	0	1	1	1	Intraneous: Eastern N. America	Central: Ontario and Quebec, east to Maine, south to Georgia and Mississippi, west to Arkansas and Iowa
***A. rubifolia* (Kearney) Kartesz	0	0	0	0	0	1	0	0	0	0	0	0	0	0		Central: Indiana, Kentucky and Virginia, north to Pennsylvania, south to Georgia, west to Illinois
Anemone quinquefolia L.	1	1	1	1	0	1	1	0	0	1	0	0	1	1		Central: Alberta to Quebec, east to Nova Scotia, south to Georgia and Mississippi, west to Arkansas, South Dakota and North Dakota
A. quinquefolia L. var. *minima* (DC.) Frodin	0	0	0	0	0	0	0	0	1	0	0	0	0	0		Central: West Virginia, south to North Carolina and Tennessee
A. virginiana L.	1	1	1	1	1	1	0	1	1	1	0	1	1	0	Intraneous: Eastern-midwestern-northwestern N. America	Central: British Columbia to Quebec, east to Newfoundland, south to Georgia and Louisiana, west to Oklahoma, Wyoming and North Dakota
Aquilegia canadensis L.	0	1	1	0	0	1	0	0	0	1	0	0	0	0		Central: Saskatchewan to Quebec, east to New Brunswick, south to Florida, west to Texas and North Dakota
**Clematis terniflora* DC. var. *terniflora*	1	1	0	0	1	0	1	1	1	0	0	0	0	0	Introduced	
C. versicolor Small ex Rydb.	0	0	0	0	0	0	1	0	0	0	0	0	0	0		Southern: Missouri and Kentucky, south to Alabama and Arkansas, west to Texas and Oklahoma
C. viorna L.	1	1	1	1	0	0	1	0	0	1	0	0	1	0		Central: Ohio, Ontario and Pennsylvania, south to Georgia and Mississippi, west to Arkansas and Missouri
C. virginiana L.	1	1	1	1	0	1	1	1	0	1	0	1	1	1		Central: Manitoba to Quebec, east to Nova Scotia, south to Florida, west to Texas and North Dakota
Delphinium tricorne Michx.	1	1	1	0	1	1	0	1	0	0	1	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Minnesota and Ohio, east to Pennsylvania, south to Georgia and Mississippi, west to Oklahoma and Nebraska
Hepatica nobilis Schreb.	0	0	0	0	0	0	0	0	0	0	0	0	1	0		Central: Manitoba to Quebec, east to Nova Scotia, south to Florida and Mississippi, west to Arkansas and Minnesota
H. nobilis Schreb. var. *acuta* (Pursh) Steyerm.	1	1	1	1	1	1	0	1	1	0	1	0	0	1	Intraneous: Eastern-midwestern N. America	Central: Ontario and Quebec, east to Maine, south to Georgia and Mississippi, west to Arkansas and Minnesota
H. nobilis Schreb. var. *obtusa* (Pursh) Steyerm.	0	1	1	1	0	0	1	0	0	1	0	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Manitoba to Quebec, east to Maine, south to Georgia and Mississippi, west to Arkansas and Minnesota
***Hydrastis canadensis* L.	1	1	1	0	1	1	1	1	0	0	1	0	0	0	Extraneous southeast: Eastern to Northeastern N. America	Northern: Ontario to Vermont, east to Massachusetts, south to w. North Carolina and c. Alabama, west to Oklahoma, Kansas and s.e. Minnesota
Ranunculus abortivus L.	1	1	1	0	1	1	1	1	1	1	0	0	1	1	Intraneous: Throughout N. America	Central: Throughout N. America
R. acris L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
**R. bulbosus* L.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
R. fascicularis Muhl. ex Bigelow	0	0	1	0	0	0	0	0	0	0	0	0	0	0		Central: Manitoba and Ontario, east to Maine, south to Georgia and Louisiana, west to Texas, Colorado and Minnesota

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**R. ficaria* L.	0	0	0	0	1	0	0	0	0	0	0	0	0	0	Introduced	
R. hispidus Michx. var. *hispidus*	1	1	1	0	1	0	1	0	1	1	1	1	1	1	Intraneous: Eastern N. America	Central: Ontario and Vermont, east to Massachusetts, south to Georgia, Alabama and Arkansas, west to Oklahoma, Kansas and Wisconsin
R. hispidus Michx. var. *nitidus* (Chapm.) T. Duncan	0	1	1	1	0	0	1	0	0	1	0	0	0	0		Central: Manitoba and Ontario, east to New York, south to Florida, west to Texas and South Dakota
R. micranthus Nutt.	0	0	1	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Eastern N. America	Central: Illinois to New York, east to Massachusetts, south to North Carolina, Georgia and Mississippi, west to Oklahoma, Kansas and South Dakota
R. pusillus Poir.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
R. recurvatus Poir.	1	1	1	1	1	1	1	1	0	1	1	0	1	1	Intraneous: Eastern-midwestern N. America	Central: North Dakota, Ontario and Quebec, east to Newfoundland, south to Florida, west to Texas, Nebraska and Minnesota with disjuncts in Washington
R. repens L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
**R. sardous* Crantz	1	0	1	0	0	0	0	0	0	0	0	0	0	0		
Thalictrum clavatum DC.	1	0	1	1	1	1	1	1	1	1	1	0	0	0	Intraneous: Eastern N. America	Central: Kentucky and West Virginia, east to Virginia and North Carolina, south to n. Georgia and c. Alabama, west to s.c. Tennessee
T. coriaceum (Britton) Small	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
T. dioicum L.	1	1	1	0	0	0	0	0	0	0	0	0	0	1		Central: Ontario and Quebec, east to Maine, south to Georgia and Mississippi, west to Kansas and North Dakota
T. pubescens Pursh	0	1	1	1	0	1	1	0	0	1	0	1	1	1		Central: Ontario to Labrador, east to Newfoundland, south to Georgia and Mississippi, west to Illinois
T. revolutum DC.	1	0	1	0	1	0	1	0	0	1	0	1	0	0	Intraneous: Eastern-Southern N. America	Central: Manitoba to Quebec, east to Massachusetts, south to Florida, west to Arizona, Nevada and South Dakota
T. thalictroides (L.) Eames & B. Boivin	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Ontario and New York, east to Maine, south to Florida, west to Texas, Kansas and Minnesota
Trautvetteria caroliniensis (Walter) Vail	0	1	1	1	0	0	1	0	1	1	0	0	0	0		Central: Indiana and Kentucky, east to Pennsylvania, south to Florida and Mississippi, west to Arkansas and Missouri; British Columbia, east to Montana, south to California and New Mexico
Xanthorhiza simplicissima Marsh.	1	1	1	1	0	1	1	1	1	1	1	0	0	0		Central: Ohio and New York, east to Maine, south to Florida, west to Texas, Tennessee and Kentucky
RHAMNACEAE																
Berchemia scandens (Hill) K. Koch	1	0	0	0	1	0	0	0	0	0	1	0	0	0	Intraneous: Eastern N. America	Central: Illinois and Kentucky, east to Maryland, south to Florida, west to Texas, Oklahoma and Missouri
Ceanothus americanus L.	1	0	1	1	1	1	1	1	1	1	0	1	0	0	Intraneous: Eastern-midwestern N. America	Central: Ontario and Quebec, east to Maine, south to Florida, west to Texas and Nebraska

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Frangula caroliniana (Walter) A. Gray	1	0	1	0	1	1	0	1	1	0	1	1	0	0	Intraneous: Southeastern-midwestern N. America	Central: Illinois and Ohio, east to Maryland, south to Florida, west to Texas, Oklahoma and Missouri
Rhamnus cathartica L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
ROSACEAE																
Agrimonia gryposepala Wallr.	0	0	0	0	1	0	0	0	0	0	1	0	0	0	Intraneous: Throughout N. America	Central: Throughout N. America
A. parviflora Aiton	0	1	1	0	0	1	1	0	0	1	0	0	0	0		Central: Wisconsin, Ontario and New York, east to Massachusetts, south to Georgia and Louisiana, west to Texas and South Dakota
A. pubescens Wallr.	1	1	1	0	1	1	1	0	0	1	1	0	1	1	Intraneous: Eastern-midwestern N. America	Central: Ontario and Quebec, east to Maine, south to Georgia and Louisiana, west to Oklahoma and South Dakota
A. rostellata Wallr.	1	0	1	1	1	1	1	1	1	1	0	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Minnesota, Michigan and New York, east to Massachusetts, south to Florida, west to Texas and Kansas
Amelanchier arborea (Michx. f.) Fernald	1	1	1	0	1	0	1	1	1	1	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Ontario and Quebec, east to Nova Scotia, south to Florida, west to Texas, Nebraska and Minnesota
A. canadensis (L.) Medik.	0	0	1	0	0	1	0	0	0	0	0	0	0	0		Central: Ontario and Quebec, east to Nova Scotia, south to Georgia, west to Mississippi, Tennessee and West Virginia
A. laevis Wiegand	0	0	0	1	0	0	1	0	0	1	0	0	0	0		Northern: Ontario and Quebec, east to Newfoundland, south to Georgia and Alabama, west to Illinois and Minnesota
***A. sanguinea* (Pursh) DC.	1	0	0	0	0	0	1	0	0	0	0	0	0	0		Northern: Ontario and Quebec, east to Newfoundland, south to Georgia and Tennessee, west to Iowa and North Dakota
**Aphanes microcarpa* (Boiss. & Reut.) Rothm.	0	0	1	0	0	0	0	0	0	0	0	0	0	0		
Aruncus dioicus (Walter) Fernald	1	1	1	0	1	1	1	0	1	1	0	0	1	1	Intraneous: Eastern-western N. America	Central: Ontario and Quebec, east to Nova Scotia, south to Georgia and Mississippi, west to Oklahoma, Iowa and Wisconsin; Alaska, east to Alberta, south to California
**Chaenomeles speciosa* (Sweet) Nakai	1	0	0	0	0	0	0	0	0	0	0	0	1	0		
Crataegus calpodendron (Ehrh.) Medik.	0	0	1	0	0	0	0	0	1	0	0	0	0	0		Central: Minnesota and Ontario, east to New York, south to Georgia and Louisiana, west to Texas and Nebraska
C. chrysocarpa Ashe var. *chrysocarpa*	0	0	0	0	0	0	0	0	0	0	0	1	0	0		Central: Alberta to Quebec, east to Newfoundland, south to Virginia, Missouri, Nebraska and New Mexico, west to Oregon
C. crus-galli L.	1	1	0	0	0	1	0	0	0	0	1	0	0	0		Central: Ontario and Quebec, east to Nova Scotia, south to Florida, west to Texas, Kansas and Minnesota
C. flabellata (Bosc ex Spach) K. Koch	1	0	0	0	0	1	1	0	0	1	0	0	0	0		Central: Ontario and Quebec, east to Nova Scotia, south to Georgia, west to Louisiana, Illinois and Minnesota
C. flava Aiton	0	0	0	0	0	1	0	1	0	0	1	0	0	0		Central: Tennessee to Pennsylvania, south to Florida, west to Mississippi

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C. intricata Lange	0	0	0	1	0	0	0	0	0	0	0	0	0	0		Central: Ontario to New Hampshire, east to Nova Scotia, south to Georgia and Mississippi, west to Oklahoma, Missouri and Wisconsin
C. marshallii Eggl.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Illinois and Kentucky, east to Virginia, south to Florida, west to Texas and Oklahoma
C. pruinosa (Wendl. f.) K. Koch	0	0	1	0	0	0	0	0	0	1	0	0	1	0		Central: Ontario and Quebec, east to Maine, south to Georgia, Tennessee and Louisiana, west to Oklahoma, Kansas and Iowa
C. punctata Jacq.	0	1	0	0	0	0	0	0	0	0	0	1	0	0		Central: Manitoba to Quebec, east to Nova Scotia, south to Georgia and Mississippi, west to Oklahoma, Kansas and Minnesota
C. spathulata Michx.	1	1	0	0	0	0	0	0	0	0	0	0	0	0		Central: Illinois and Kentucky, east to Virginia, south to Florida, west to Texas and Oklahoma
C. viridis L.	0	1	0	0	0	1	0	0	0	0	0	0	0	0		Central: Indiana, West Virginia and Pennsylvania, south to Florida, west to Texas and Kansas
C. sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
**Duchesnea indica* (Andrews) Focke	1	1	1	0	1	0	0	0	1	0	1	0	0	0	Introduced	
Fragaria virginiana Duchesne	1	0	1	1	0	0	0	1	0	1	0	1	1	0		Central: Throughout N. America
Geum canadense Jacq.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Ontario and Quebec, east to Nova Scotia, south to Georgia and Louisiana, west to Texas, Wyoming and Montana
G. vernum (Raf.) Torr. & A. Gray	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
G. virginianum L.	0	1	1	0	1	0	1	1	0	1	1	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Minnesota, Ontario, New York and Vermont, east to Massachusetts, south to Georgia and Alabama, west to Arkansas, Missouri and Illinois
Gillenia stipulata (Muhl. ex Willd.) Baill.	1	0	0	1	1	1	1	0	1	0	0	1	0	0	Intraneous: Eastern-midwestern N. America	Central: Illinois and Michigan, east to New York, south to Georgia and Louisiana, west to Texas and Kansas
G. trifoliata (L.) Moench	1	0	1	1	0	1	1	1	1	1	1	0	0	0		Central: Ontario and New York, east to Massachusetts, south to Georgia and Alabama, west to Arkansas and Missour
Malus angustifolia (Aiton) Michx. var. *angustifolia*	1	0	1	0	1	1	0	0	1	0	0	0	0	0	Intraneous: Eastern-southwestern N. America	Central: Illinois, Kentucky, Ohio and Pennsylvania, east to New Jersey, south to n.w. Florida, west to Texas and Arkansas
M. coronaria (L.) Mill.	1	0	1	0	0	0	0	0	1	0	0	1	0	0		Central: Wisconsin and Ontario, east to New York, south to Georgia and Alabama, west to Arkansas, Kansas and Wyoming
**M. pumila* Mill.	0	1	1	0	0	0	0	0	0	0	0	0	0	0		
Photinia melanocarpa (Michx.) K.R. Robertson & Phipps	1	0	1	0	0	1	1	0	0	0	0	1	0	0		Central: Ontario to Labrador, east to Newfoundland, south to Georgia and Mississippi, west to Arkansas and Minnesota
P. pyrifolia (Lam.) K. R. Robertson & Phipps	0	0	1	1	0	1	1	0	1	1	1	0	0	0		Central: Ontario and Quebec, east to Nova Scotia, south to Florida, west to Texas, Oklahoma, Kentucky and Pennsylvania

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Physocarpus opulifolius (L.) Maxim., orth. cons.	0	1	1	1	1	1	1	0	0	1	0	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Manitoba to Quebec, east to Nova Scotia, south to Florida, Arkansas and Oklahoma, west to Colorado and North Dakota
Potentilla canadensis L.	1	1	1	1	1	1	1	1	1	1	0	1	1	1	Intraneous: Eastern N. America	Central: Ontario and Quebec, east to Newfoundland, south to Georgia and Mississippi, west to Texas, Arkansas, Iowa and Wisconsin
P. norvegica L.	0	1	0	0	0	1	0	0	0	0	0	1	0	0		Central: Throughout N. America
P. recta L.	1	1	0	1	0	0	0	0	0	0	0	0	1	0		Central: Throughout N. America
P. simplex Michx.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern N. America	Central: Ontario and Quebec, east to Newfoundland and Nova Scotia, south to s. Georgia and s. Louisiana, west to e. Texas, Nebraska and Minnesota
Prunus alleghaniensis Porter	0	0	0	0	0	0	0	0	0	0	0	0	1	0		Northern: Michigan and West Virginia to New York, east to Massachusetts, south to North Carolina and Tennessee
P. americana Marsh.	1	1	1	0	1	1	1	1	0	0	1	1	0	0	Intraneous: Throughout N. America	Central: Saskatchewan to Quebec, east to Maine, south to Florida, Louisiana, Oklahoma and New Mexico, west to Arizona, Montana and Washington
P. angustifolia Marsh.	0	0	1	0	1	0	1	0	0	0	0	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Nebraska, Illinois and Pennsylvania, east to New Jersey, south to Florida and Texas, west to New Mexico and Colorado with disjuncts in California
P. avium (L.) L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
**P. cerasus* L.	1	1	0	0	0	0	0	0	1	0	0	1	0	0		
P. hortulana L.H. Bailey	0	0	0	0	0	0	0	0	0	0	0	0	1	0		Central: Iowa and Ohio, east to Massachusetts and Maryland, south to Tennessee and Arkansas, west to Texas and Nebraska
**P. mahaleb* L.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
P. mexicana S. Watson	1	0	0	0	1	0	0	1	0	0	0	1	0	0	Intraneous: Eastern-midwestern N. America	Central: Wisconsin and Ohio, east to North Carolina, south to Georgia and Louisiana, west to Texas and South Dakota
P. pensylvanica L. f.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
**P. persica* (L.) Batsch	1	1	1	1	1	0	0	0	1	0	0	0	1	0	Introduced	
P. serotina Ehrh.	1	1	1	1	1	1	1	1	1	1	0	1	1	1	Intraneous: Eastern-midwestern N. America	Central: North Dakota, Ontario and Quebec, east to Nova Scotia, south to Florida and Texas, west to Arizona and Nebraska with disjuncts in British Columbia
P. umbellata Elliot	0	0	0	0	0	0	0	0	0	1	0	0	0	0		Southern: Tennessee, east to North Carolina, south to Florida, west to Texas
**Pseudocydonia sinensis* (Thouin) C.K. Schneid.	0	0	1	0	0	0	0	0	0	0	0	0	0	0		
**Pyrus calleryana* Decne.	0	0	0	0	1	0	0	0	1	0	0	1	0	0	Introduced	
**P. communis* L.	0	0	1	0	0	0	0	0	0	0	0	0	0	0		
**Rhodotypos scandens* (Thunb.) Makino	0	0	0	0	1	0	0	0	0	0	0	0	0	0	Introduced	
Rosa carolina L.	1	1	1	0	1	1	1	0	0	1	0	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Minnesota, Ontario and Quebec, east to Nova Scotia, south to Florida, west to Texas and Nebraska
**R. multiflora* Thunb.	1	1	1	1	1	1	1	0	1	1	0	1	1	0	Introduced	

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R. palustris Marsh.	1	1	1	0	0	0	1	0	0	0	0	0	0	0		Central: Ontario and Quebec, east to Nova Scotia, south to Florida, west to Louisiana and Iowa
R. setigera Michx.	0	0	0	0	0	0	0	0	0	0	0	1	0	0		Central: Iowa, Ontario and New Hampshire, east to Nova Scotia, south to Florida, west to Texas and Nebraska
****R. virginiana* Mill.	0	0	0	0	0	0	0	0	0	0	0	0	1	0		Central: Ontario and Quebec, east to Newfoundland, south to North Carolina, Georgia and Alabama, west to Arkansas, Missouri, Illinois and Pennsylvania
R. wichuraiana Crep.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
Rubus allegheniensis Porter ex Bailey	1	1	1	0	0	0	1	1	0	1	0	1	0	1		Central: Ontario and Quebec, east to Nova Scotia, south to Georgia, Alabama and Arkansas, west to Oklahoma and Nebraska with disjuncts in California and British Columbia
R. allegheniensis Porter x *R. argutus* Link	0	0	0	0	0	0	0	1	0	0	0	0	0	0		Central: Ontario and Quebec, east to Nova Scotia, south to Georgia, Alabama and Arkansas, west to Oklahoma and Nebraska with disjuncts in California and British Columbia
R. argutus Link	1	1	1	1	1	1	0	1	1	1	1	1	1	0	Intraneous: Eastern N. America	Central: Illinois and Pennsylvania, east to Maine, south to Florida, west to Texas, Oklahoma and Missouri
**R. bifrons* Vest ex Tratt.	0	0	1	0	1	0	0	0	0	0	0	0	0	0	Introduced	
R. flagellaris Willd.	1	1	1	0	1	0	1	1	1	1	1	1	1	1	Intraneous: Eastern N. America	Central: Ontario and Quebec, east to Nova Scotia, south to n.w. Florida, west to w. Texas, s.e. Nebraska and Minnesota
R. flagellaris Willd. x *R. argutus* Link	0	0	0	0	0	0	0	1	0	0	0	0	0	0		Central: Ontario and Quebec, east to Nova Scotia, south to n.w. Florida, west to w. Texas, s.e. Nebraska and Minnesota
R. hispidus L.	0	1	1	0	0	1	1	1	1	1	0	1	1	0		Central: Ontario and Quebec, east to Newfoundland, south to South Carolina, Tennessee and Louisiana, west to Illinois, Kansas and Iowa
R. idaeus L. ssp. *Strigosus* (Michx.) Focke	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
R. occidentalis L.	1	1	1	1	1	1	0	1	0	0	0	1	0	0	Intraneous: Eastern-midwestern N. America	Central: Ontario and Quebec, east to New Brunswick, south to Georgia and Mississippi, west to Colorado and North Dakota
R. odoratus L.	0	1	0	0	0	0	0	1	1	0	0	0	0	0		Northern: Ontario and Quebec, east to Nova Scotia, south to n. Georgia and Alabama, west to Illinois and Wisconsin with disjuncts in Washington
R. pensilvanicus Poir.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
**R. phoenicolasius* Maxim.	1	1	1	0	1	1	0	0	0	0	0	0	0	0	Introduced	
R. trivialis Michx.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
**Spiraea japonica* L.f.	1	1	1	1	0	1	1	0	0	1	0	0	0	0		
**S. prunifolia* Siebold & Zucc.	1	0	0	0	0	0	1	0	0	0	0	0	0	0		
**S. thunbergii* Siebold ex Blume	1	0	0	0	0	0	0	0	0	0	0	0	0	0		

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S. tomentosa L.	0	0	1	1	0	0	1	0	0	0	0	0	1	0		Central: Ontario and Quebec, east to Nova Scotia, south to Georgia and Louisiana, west to Kansas and Minnesota with disjuncts in Washington and Oregon
***S. virginiana* Britton	0	0	1	0	0	0	0	0	1	1	0	0	0	0		Central: Ohio and Pennsylvania, east to North Carolina, south to Georgia, Alabama and Louisiana, west to Tennessee and Kentucky
Waldsteinia fragarioides (Michx.) Tratt.	1	0	0	1	0	0	1	1	0	1	0	0	0	0		Central: Ontario and Quebec, east to New Brunswick, south to Georgia and Alabama, west to Arkansas and Minnesota
RUBIACEAE																
Cephalanthus occidentalis L.	1	1	1	1	1	1	1	1	1	1	1	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Ontario and Quebec, east to Nova Scotia, south to Florida, west to Texas and Nebraska with disjuncts in California and Arizona
Diodia teres Walter	1	1	1	1	1	1	1	1	1	1	1	1	1	0	Intraneous: Southern N. America	Central: Wisconsin to New York, east to Massachusetts and North Carolina, south to Florida and e. Texas, west to California, Kansas and Iowa
D. virginiana L.	1	1	1	1	0	1	1	0	0	1	0	0	0	0		Central: Illinois and Pennsylvania, east to Connecticut, south to Florida, west to Texas and Kansas
Galium aparine L.	1	1	1	0	1	1	1	1	1	1	0	1	1	1	Intraneous: Throughout N. America	Central: Throughout N. America
G. circaezans Michx.	1	1	1	1	1	1	1	0	1	1	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Ontario and Quebec, east to Maine, south to Florida, west to Texas and Nebraska
G. lanceolatum Torr.	1	0	1	1	0	0	1	1	0	0	0	0	0	0		Northern: Ontario and Quebec, east to Maine, south to South Carolina, Tennessee and Alabama, west to Illinois and Minnesota
G. latifolium Michx.	1	0	0	0	0	1	0	1	1	0	0	0	1	1		Central: Kentucky and Pennsylvania, south to Georgia and Alabama, west to Tennessee
G. obtusum Bigelow	1	0	0	0	0	0	0	0	0	0	0	0	1	0		Central: Ontario and Quebec, east to Nova Scotia, south to Florida, west to Texas and South Dakota
**G. parisiense* L.	0	0	1	0	1	0	0	0	0	0	0	0	0	0	Introduced	
G. pilosum Aiton	1	1	1	0	0	1	1	0	0	1	0	0	0	0		Central: Illinois, Ontario and New Hampshire, east to Massachusetts, south to Florida, west to New Mexico and Kansas
G. tinctorium (L.) Scop.	1	1	1	0	1	0	0	1	0	0	0	0	0	0	Intraneous: Eastern N. America	Central: Ontario and Quebec, east to Newfoundland, south to s. Florida, west to e. Texas and Nebraska
G. triflorum Michx.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Throughout N. America	Central: Throughout N. America
***G. uniflorum* Michx.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Southern: Arkansas, Georgia and Virginia, south to Florida, west to Texas
Houstonia caerulea L.	1	1	1	1	0	1	1	1	1	1	1	1	0	0		Central: Ontario and Quebec, east to Nova Scotia, south to Georgia and Louisiana, west to Missouri and Wisconsin

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H. canadensis Willd. ex Roem. & Schult.	1	0	1	0	1	0	0	0	0	1	0	1	0	0	Extraneous southwest: Northeastern N. America	Northern: Michigan and New York, east to Maine and Virginia, south to s.e. Tennessee and n. Georgia, west to Missouri, Minnesota and North Dakota
H. longifolia Gaertn.	1	1	0	0	0	0	0	0	1	0	0	0	1	1		Central: Alberta and Quebec, east to Maine, south to Florida, west to Oklahoma, Kansas, Illinois and North Dakota
H. purpurea L. var. *calycosa* A. Gray	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Illinois, Michigan and New York, east to Maine, south to North Carolina and Georgia, west to Louisiana, Oklahoma, Missouri and Nebraska
H. purpurea L. var. *purpurea*	1	0	1	1	1	1	0	1	1	1	1	1	1	0	Intraneous: Eastern-midwestern N. America	Central: Iowa and Ohio, east to New York, south to Florida, west to Texas, Oklahoma and Missouri
H. pusilla Schoepf	0	0	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Iowa and Kentucky, east to Maryland, south to Florida, west to Texas and South Dakota with disjuncts in Arizona
H. serpyllifolia Michx.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
Mitchella repens L.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Ontario and Quebec, east to Newfoundland, south to Florida, west to Texas, Oklahoma and Missouri
**Sherardia arvensis* L.	1	0	1	0	0	0	0	0	1	0	0	0	0	0		
RUTACEAE																
**Poncirus trifoliata* (L.) Raf.	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Introduced	
Ptelea trifoliata L.	1	1	1	0	0	0	1	0	1	0	1	0	0	0		Central: Minnesota, Ontario and Quebec, east to Maine, south to Florida and Texas, west to Arizona, Utah and Nebraska
Zanthoxylum americanum Mill.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
SALICACEAE																
**Populus alba* L.	0	0	1	0	0	0	0	0	0	0	0	0	0	0		
P. deltoides Bartram ex Marsh.	1	1	1	0	1	0	1	0	0	0	0	0	0	0	Intraneous: Throughout N. America	Central: Throughout N. America
P. grandidentata Michx.	0	1	0	0	0	0	0	0	0	0	0	1	0	0		Northern: Manitoba to Quebec, east to Nova Scotia, south to North Carolina and Tennessee, west to Missouri and North Dakota with disjuncts in British Columbia
**P. nigra* L.	0	0	0	0	0	0	0	0	0	0	0	0	1	0		
Salix caroliniana Michx.	1	1	1	1	1	0	1	1	0	0	0	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Illinois to Pennsylvania, east to New Jersey, south to Florida, west to Texas and Kansas
S. eriocephala Michx.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
S. exigua Nutt.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Western
S. humilis Marsh. var. *humilis*	0	0	1	0	0	1	0	0	1	0	1	1	0	0		Central: Manitoba to Labrador, east to Newfoundland, south to Florida, west to Texas and North Dakota
S. humilis Marsh. var. *tristis* (Aiton) Griggs	0	0	1	0	0	0	0	0	0	0	0	0	0	0		Central: Minnesota, Indiana and New York, east to Maine, south to Florida and Louisiana, west to Oklahoma and North Dakota

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S. lucida Muhl.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
S. nigra Marsh.	1	1	1	1	1	1	1	1	1	1	0	1	1	0	Intraneous: Eastern-midwestern N. America	Central: Manitoba to Quebec, east to New Brunswick, south to Florida, west to Texas, Colorado and Minnesota
S. purpurea L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Northern
S. sericea Marsh.	0	1	1	0	0	0	0	0	0	0	0	0	1	0		Central: Michigan, New York and Quebec, east to Nova Scotia, south to Georgia and Albama, west to Arkansas and Minnesota
S. x *sepulcralis* Simonkai [alba x ?pendulina]	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Ontario and Quebec, east to Massachusetts, south to Florida, west to Louisiana and Iowa; Alaska, south to California, east to Wyoming and New Mexico
SANTALACEAE																
Comandra umbellata (L.) Nutt.	1	0	1	0	0	0	1	0	0	0	0	0	0	0		Central: Throughout N. America
***Nestronia umbellula* Raf.	0	0	1	0	0	0	0	0	1	0	0	0	0	0		Southern: Kentucky, east to Virginia, south to Georgia and Mississippi
Pyrularia pubera Michx.	0	1	0	1	0	1	1	0	1	1	0	0	1	1		Central: Kentucky, east to New York, south to Georgia and Alabama
SAPOTACEAE																
Sideroxylon lycioides L.	1	0	1	0	1	1	0	1	0	0	0	0	0	0	Intraneous: Eastern N. America	Central: Indiana and West Virginia, east to Delaware, south to Florida, west to Texas and Missouri
SAURURACEAE																
Saururus cernuus L.	1	1	0	0	1	0	1	0	0	0	0	0	0	0	Intraneous: Eastern N. America	Central: Wisconsin, Ontario and Quebec, east to Massachusetts, south to Florida, west to Texas, Kansas and Illinois
SAXIFRAGACEAE																
Astilbe biternata (Vent.) Britton	1	0	1	1	1	1	0	1	1	0	1	0	1	1	Extraneous south-central: Appalachian Mountains	Southern: n.c. Kentucky, s.w. West Virginia and Maryland, east to w. Virginia and w. North Carolina, south to n. Georgia and s.e. Tennessee, west to s.c. Tennessee and Mississippi
Boykinia aconitifolia Nutt.	0	0	0	1	0	0	1	0	1	1	0	0	0	0		Eastern: s.e. Kentucky, n.e. West Virginia and s.w. Virginia, east to w. North Carolina and w. South Carolina, south to n. Georgia and n. Alabama, west to s.c. Tennessee
Decumaria barbara L.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Southern: Tennessee and s.e. Virginia, east to e. North Carolina, south to s. Florida and s. Louisiana, west to w. Louisiana and Arkansas
Heuchera americana L.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-Midwestern N. America	Central: s.w. Iowa, Ontario and s.e. New York, east to Virginia and e. North Carolina, south to s.w. Georgia and s.e. Louisiana, west to e. Oklahoma and e. Nebraska
H. parviflora Bartlett	1	0	1	1	0	1	1	1	1	1	1	0	1	0		Central: s. Illinois to s. Ohio, east to w. Virginia and w. North Carolina, south to n. Georgia, s. Alabama and n.e. Mississsippi, west to s.e. Missouri
H. villosa Michx. var. *villosa*	1	1	1	1	1	1	1	1	1	0	0	1	1	1	Intraneous: Eastern N. America	Central: s. Indiana, s. Ohio and New York, east to c. Virginia and w. North Carolina, south to n. Georgia and c. Alabama, west to n.w. Arkansas and s.e. Missouri

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Mitella diphylla L.	0	1	1	1	0	1	0	1	0	0	1	0	1	0		Northern: Ontario and Quebec, east to Massachusetts, south to n. Georgia and Alabama, west to n. Arkansas and n.w. Minnesota
Parnassia asarifolia Vent.	0	0	1	1	0	1	1	1	0	1	1	0	0	0		Southern: s. Kentucky, s. West Virginia and Maryland, east to e. Virginia and w. North Carolina, south to w.c. Georgia and e.c. Alabama, west to e. Texas and Arkansas
Saxifraga careyana A. Gray	1	0	1	0	1	0	0	1	1	0	0	0	0	0	Extraneous northwest: Southern Appalachian Mountains	Southern: n.e. Tennessee and w. Virginia, east to w. North Carolina, south to n.e. Georgia, west to Alabama and s.c. Tennessee
S. michauxii Britton	0	0	0	1	0	0	0	0	0	1	0	0	0	0		Eastern: s.e. Kentucky, West Virginia and Maryland, east to n.e. Virginia, south to n.e. Georgia, west to e. Tennessee
S. virginiensis Michx.	1	1	0	0	0	0	0	0	0	0	1	1	1	0		Central: Nunavut, Quebec and New Brunswick, east to Maryland and Delaware, south to c. Georgia and s. Alabama, west to Oklahoma, Minnesota and Manitoba
Tiarella cordifolia L.	1	1	1	1	0	1	1	0	1	1	1	0	1	1		Central: Ontario and Quebec, east to Nova Scotia, south to Georgia and Mississippi, west to Ohio and Minnesota
T. cordifolia L. var. *collina* Wherry	0	0	0	0	0	0	0	1	0	0	0	0	0	0		Central: Kentucky, east to Maryland, south to Georgia and Mississippi
SCROPHULARIACEAE																
Agalinis gattingeri (Small) Small	1	0	0	0	0	1	0	0	0	0	1	1	0	0		Central: Minnesota and Ontario, east to Kentucky and North Carolina, south to Alabama and Texas, west to Nebraska
A. purpurea (L.) Pennell	0	1	1	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Minnesota, Ontario, New York and New Hampshire, east to Massachusetts, south to Florida, west to Texas and Nebraska
A. tenuifolia (Vahl) Raf.	1	0	0	0	0	0	1	0	1	0	0	1	0	0		Central: Manitoba to Quebec, east to New Brunswick, south to Florida and Texas, west to New Mexico, Wyoming and North Dakota
Aureolaria flava (L.) Farw.	0	0	1	0	0	0	0	0	0	1	0	0	0	0		Central: Illinois and Ontario, east to Maine, south to Florida, west to Texas and Missouri
A. laevigata (Raf.) Raf.	0	0	1	1	0	1	1	0	0	1	1	0	1	1		Central: Ohio to Pennsylvania, south to Georgia and Mississippi, west to Tennessee
A. pedicularia (L.) Raf.	0	0	0	0	0	0	0	0	0	0	1	0	0	0		Northern: Ontario and New York, east to Maine, south to n. Georgia and Tennessee, west to Missouri and Minnesota
***A. patula* (Chapm.) Pennell	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Southern: Kentucky, south to Georgia and Alabama
A. pectinata (Nutt.) Pennell	1	0	1	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Southeastern N. America	Southern: c. Missouri, c. Kentucky and Virginia, east to e. North Carolina, south to s. Florida, west to extreme e. Texas and Oklahoma
A. virginica (L.) Pennell	1	0	1	0	1	1	1	1	1	1	1	1	0	0	Intraneous: Eastern N. America	Central: Ontario and New Hampshire, east to Massachusetts, south to Florida, west to Texas, Tennessee and Indiana
**Chaenorhinum minus* (L.) Lange	0	1	0	0	1	0	0	0	0	0	0	0	0	0	Introduced	

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Chelone glabra L.	0	1	1	1	0	1	1	0	0	1	0	0	0	0		Central: Manitoba to Quebec, east to Newfoundland, south to Georgia and Mississippi, west to Arkansas and Minnesota
C. lyonii Pursh	1	1	0	0	1	1	0	0	0	0	0	0	0	0	Extraneous northwest: Eastern N. America	Central: West Virginia and New York, east to Maine, south to South Carolina, Alabama and Mississippi
Dasistoma macrophylla (Nutt.) Raf.	0	0	1	0	0	0	0	0	0	0	0	0	0	0		Central: Wisconsin, east to Pennsylvania, south to Georgia and Louisiana, west to Texas and Nebraska
Gratiola brevifolia Raf.	0	0	0	0	0	0	1	0	0	0	0	0	0	0		Southern: Tennessee, east to South Carolina, south to Florida, west to Texas and Oklahoma
G. neglecta Torr.	0	1	1	0	0	0	0	0	0	0	0	0	0	0		Central: Throughout N. America
G. virginiana L.	1	0	1	0	0	1	0	1	0	0	0	0	0	0		Central: Illinois, Michigan and Maryland, east to New Jersey, south to Florida, west to Texas and Kansas
G. viscidula Pennell	0	0	0	0	0	0	1	0	0	0	0	0	0	0		Central: Ohio, east to Delaware, south to Florida, west to Tennessee and Missouri
Leucospora multifida (Michx.) Nutt.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Iowa to Ontario, east to New Jersey, south to Florida, west to Texas and Nebraska
**Linaria vulgaris* Mill.	0	0	0	0	0	0	1	0	0	0	0	0	0	0		
Lindernia dubia (L.) Pennell var. *dubia*	1	1	1	0	1	1	1	1	1	0	0	0	0	0	Intraneous: Throughout N. America	Central: Throughout N. America
Mecardonia acuminata (Walter) Small	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Illinois and Kentucky, east to Maryland, south to Florida, west to Texas and Kansas
Melampyrum lineare Desr. var. *latifolium* Bart.	0	0	0	0	0	0	0	0	0	1	0	0	0	0		Northern: Ontario and Quebec, east to Maine, south to Georgia and Tennessee, west to Illinois and Minnesota
Mimulus alatus Aiton	1	1	1	1	1	1	1	0	0	1	1	0	1	0	Intraneous: Eastern-midwestern N. America	Central: Iowa, Michigan, Ontario and New York, east to Massachusetts, south to Florida, west to Texas and Nebraska
M. ringens L.	1	1	1	1	0	0	0	0	0	0	0	1	1	0		Central: Throughout N. America
Nuttallanthus canadensis (L.) D.L. Sutton	1	0	0	0	1	0	0	0	1	0	0	0	0	0	Intraneous: Eastern-midwestern N. America	Central: North Dakota, Ontario and Quebec, east to Nova Scotia, south to Florida, west to Texas to Iowa with disjuncts in Washington to California
**Paulownia tomentosa* (Thunb.) Siebold & Zucc. ex Steud.	1	1	1	0	1	1	1	0	1	0	1	1	0	0	Introduced	
Pedicularis canadensis L.	1	0	1	1	0	1	1	1	1	1	1	1	1	1		Central: Manitoba to Quebec, east to New Brunswick, south to Florida and Texas, west to New Mexico and North Dakota
Penstemon canescens (Britton) Britton	1	1	1	1	1	0	0	1	1	1	1	0	1	0	Intraneous: Eastern N. America	Central: Illinois to Pennsylvania, east to Vermont, south to Georgia and Alabama
P. digitalis Nutt. Ex Sims	0	1	0	0	0	0	0	0	0	0	0	0	1	0		Central: Ontario and Quebec, east to Nova Scotia, south to Georgia and Louisiana, west to Texas and South Dakota
P. hirsutus (L.) Willd.	0	0	0	0	0	0	0	0	0	0	0	1	0	0		Northern: Ontario and Quebec, east to Maine, south to Virginia and Tennessee, west to Illinois and Wisconsin

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P. laevigatus Aiton	0	0	0	0	0	0	0	0	1	0	0	0	1	0		Central: Ohio, east to Massachusetts, south to Florida, west to Louisiana and Arkansas
P. pallidus Small	1	0	0	0	0	1	1	0	1	0	0	0	1	0		Central: Ontario, east to Maine, south to Georgia and Mississippi, west to Kansas and Minnesota
Scrophularia marilandica L.	0	1	0	0	0	0	0	1	0	1	0	0	0	0		Central: Ontario and Quebec, east to Maine, south to Florida, west to Texas and South Dakota
**Verbascum blattaria* L.	1	1	1	1	1	1	1	0	1	1	0	0	0	0	Introduced	
**V. thapsus* L.	1	1	1	1	1	1	1	1	1	1	1	0	1	0	Introduced	
**Veronica arvensis* L.	1	1	1	0	0	0	0	1	1	1	1	1	1	0		
**V. hederifolia* L.	1	1	0	0	1	0	0	0	0	0	0	0	0	0	Introduced	
**V. officinalis* L.	1	1	0	1	0	0	1	0	0	0	0	1	1	0		
V. peregrina L.	1	1	1	0	0	0	0	0	0	0	0	0	0	0		Central: Throughout N. America
**V. persica* Poir.	0	0	0	0	1	0	0	0	0	0	0	0	0	0	Introduced	
V. polita Fr.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
**V. serpyllifolia* L.	1	0	1	0	0	0	1	1	0	0	0	0	0	0		
Veronicastrum virginicum (L.) Farw.	0	1	0	0	0	0	1	0	0	0	0	0	0	0		Central: Manitoba to New York, east to Nova Scotia, south to Florida, west to Texas and North Dakota
SIMAROUBACEAE																
**Ailanthus altissima* (Mill) Swingle	1	1	1	1	1	1	1	1	1	1	0	0	0	0	Introduced	
SOLANACEAE																
**Datura stramonium* L.	1	1	0	0	0	0	0	1	1	0	0	0	0	0		
**Nicandra physalodes* (L.) Scop.	0	0	0	0	0	0	0	1	0	0	0	0	0	0		
Nicotiana longiflora Cav.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
Physalis heterophylla Nees	1	1	0	0	0	1	0	1	0	1	0	0	0	0		Central: Throughout N. America
P. longifolia Nutt. var. *subglabrata* (Mack. & Bush) Cronquist	1	1	1	0	0	0	0	0	0	0	0	0	0	0		Central: Throughout N. America
P. pubescens L.	0	0	0	0	0	0	0	0	0	0	0	1	0	0		Central: Throughout N. America
P. pubescens L. var. *integrifolia* (Dunal) Waterf.	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Throughout N. America
Solanum americanum Mill.	0	1	0	0	0	0	0	1	0	0	0	0	1	0		Western: British Columbia, south to California and Texas, east to Florida and Georgia with disjuncts in Missouri and Manitoba
S. carolinense L.	1	1	1	1	1	1	0	1	1	1	1	1	1	0	Intraneous: Throughout N. America	Central: Throughout N. America
S. dulcamara L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
**S. lycopersicum* L. var. *lycopersicum*	1	1	0	0	0	0	0	0	0	0	0	0	0	0		
**S. nigrum* L.	0	0	0	0	0	0	0	0	0	0	0	1	0	0		

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S. ptychanthum Dunal	1	0	0	0	1	0	1	0	0	1	0	0	0	0	Intraneous: Throughout N. America	Central: Throughout N. America
S. rostratum Dunal	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Throughout N. America
STAPHYLEACEAE																
Staphylea trifolia L.	1	1	1	0	1	0	1	1	1	0	1	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Ontario and Quebec, east to Massachusetts, south to Florida and Louisiana, west to Oklahoma and Nebraska
STYRACACEAE																
Halesia carolina L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Southern
H. tetraptera Ellis	1	0	0	0	1	0	0	0	1	0	0	0	0	0	Intraneous: Eastern N. America	Central: Michigan, east to New York, south to Georgia, Alabama and Arkansas, west to Texas and Oklahoma
Styrax grandifolia Aiton	1	0	0	0	0	0	0	1	0	0	1	0	0	0		Central: Illinois and Ohio, east to North Carolina, south to Florida, west to Texas and Arkansas
THEACEAE																
Stewartia ovata (Cav.) Weath.	0	0	1	1	0	1	1	1	1	1	1	0	0	0		Southern: Kentucky and Virginia, east to North Carolina, south to Florida, west to Mississippi and Tennessee
THYMELAEACEAE																
Dirca palustris L.	0	1	1	1	1	1	1	1	0	1	1	0	0	0	Intraneous: Eastern N. America	Central: Ontario and Quebec, east to Nova Scotia, south to Florida, west to Oklahoma, Kansas, Iowa and North Dakota
TILIACEAE																
Tilia americana L. var. *americana*	0	1	1	0	1	0	1	0	1	0	0	0	0	1	Extraneous south: Northeastern-northern N. America	Northern: Saskatchewan to Quebec, east to New Brunswick, south to South Carolina, Kentucky and Missouri, west to Oklahoma and North Dakota
T. americana L var. *heterophylla* (Vent.) Loudon	1	1	1	1	1	1	1	1	0	1	1	0	1	0	Intraneous: Eastern N. America	Central: Ontario and New York, east to New Brunswick, south to Florida, west to Louisiana and Iowa
ULMACEAE																
Celtis laevigata Willd.	1	0	1	0	1	0	0	1	0	0	1	0	0	0	Intraneous: Throughout N. America	Central: Wyoming, Kansas and Indiana, east to Maryland, south to Florida and Texas, west to California and Washington
C. occidentalis L.	1	1	1	1	1	1	0	0	0	1	0	1	1	0	Intraneous: Throughout N. America	Central: Throughout N. America
C. tenuifolia Nutt.	1	1	1	0	0	0	1	1	0	0	1	0	0	0		Central: Illinois, Ontario and Pennsylvania, east to Connecticut, south to Florida, west to Texas and Kansas
Ulmus alata Michx.	1	0	1	1	1	1	1	1	1	1	1	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Illinois and Indiana, east to Maryland, south to Florida, west to Texas and Kansas
U. americana L.	1	1	1	0	1	1	1	1	1	0	0	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Saskatchewan to Quebec, east to Nova Scotia, south to Florida, west to Texas and Montana

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U. rubra Muhl.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Ontario to Quebec, east to New Brunswick, south to Florida, west to Texas and North Dakota
U. serotina Sarg.	0	0	0	0	0	0	0	1	0	0	0	0	0	0		Central: Illinois and Kentucky, south to Georgia and Mississippi, west to Oklahoma
U. thomasii Sarg.	0	0	1	0	0	0	0	0	0	0	0	0	0	0		Northern: Ontario and Quebec, east to Massachusetts, south to Tennessee and Arkansas, west to Kansas and North Dakota
URTICACEAE																
Boehmeria cylindrica (L.) Sw.	1	1	1	0	1	1	1	1	0	1	0	1	0	0	Intraneous: Eastern and Southern N. America	Central: Canada, east to Maine and North Carolina, south to Florida and Texas, west to California, Utah, and South Dakota
Laportea canadensis (L.) Weddell	1	1	1	1	1	1	1	1	1	1	1	0	1	1	Intraneous: Northeastern to Eastern N. America	Northern: Saskatchewan to Nova Scotia, south to n. Florida and e. Louisiana, west to Oklahoma and North Dakota
Parietaria pensylvanica Muhl. ex Willd.	1	1	1	0	0	0	0	1	0	0	1	1	0	0		Central: Throughout N. America
Pilea pumila (L.) A. Gray	1	1	1	1	1	1	0	1	1	1	1	1	0	1	Intraneous: Eastern N. America	Central: Ontario to Nova Scotia, east to South Carolina, south to c. Florida and e. Texas, west to North Dakota
Urtica dioica L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
VALERIANACEAE																
Valeriana pauciflora Michx.	0	0	0	0	0	0	0	0	0	0	1	0	0	0		Central: Illinois, east to Pennsylvania and Virginia, south to Alabama and Tennessee
**Valerianella locusta* (L.) Lat.	1	1	0	0	0	0	0	0	0	0	0	0	0	0		
V. radiata (L.) Dufr.	1	1	1	1	1	0	1	0	1	1	0	0	1	0	Intraneous: Eastern-midwestern N. America	Central: Illinois and Pennsylvania, east to Connecticut, south to Florida, west to Texas and Kansas
VERBENACEAE																
Callicarpa americana L.	1	0	0	0	1	0	0	1	1	0	1	0	0	0	Intraneous: Southeastern N. America	Southern: Missouri and Tennessee, east to Maryland, south to s. Florida, west to Texas and Oklahoma
Phryma leptostachya L.	1	1	1	0	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-Midwestern N. America	Central: Manitoba and Quebec, east to New Brunswick, south to n. Florida, west to e. Texas and n.e. Wyoming with disjuncts in California
Phyla lanceolata (Michx.) Greene	1	1	1	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Throughout N. America	Central: Throughout N. America
**Verbena brasiliensis* Vell.	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Introduced	
V. hastata L.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
V. simplex Lehm.	1	0	1	0	1	1	1	0	1	0	1	0	0	0	Intraneous: Eastern-midwestern N. America	Central: Ontario and Quebec, east to Massachusetts, south to Florida, west to Texas and Nebraska
V. urticifolia L.	1	1	1	1	0	1	1	1	0	1	1	1	1	0		Central: Saskatchewan to Quebec, east to New Brunswick, south to Florida, west to Texas and North Dakota
VIOLACEAE																

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Hybanthus concolor (T. F. Forst.) Spreng.	1	1	1	0	1	1	1	1	0	0	0	0	0	0	Intraneous: Eastern-Midwestern N. America	Central: Ontario and Vermont, east to Connecticut, south to n. Florida, west to e. Oklahoma, e. Kansas and Iowa
Viola affinis Leconte	0	1	0	0	0	1	0	1	1	0	0	0	0	0		Central: Ontario and Quebec, east to Maine, south to Florida, west to Texas, Missouri and Minnesota
**V. arvensis* Murray	1	0	0	0	1	0	0	0	0	0	0	1	0	0	Introduced	
V. bicolor Pursh	1	1	1	0	1	0	0	1	1	0	1	0	1	0	Intraneous: Throughout N. America	Central: Throughout N. America
V. blanda Willd.	1	1	1	1	0	1	1	1	1	1	1	0	0	0		Central: Saskatchewan to Labrador, east to Newfoundland, south to Georgia and Alabama, west to Tennessee, Iowa and North Dakota
V. canadensis L.	1	1	1	1	1	1	0	0	1	0	1	0	1	0	Intraneous: Throughout N. America	Central: Throughout N. America
V. canadensis L. var. *rugulosa* (Greene) C.L. Hitchc.	0	0	0	0	0	0	0	1	0	0	0	0	0	0		Western: Alaska to Ontario, south to Illinois, Nebraska, New Mexico and Arizona, west to Oregon and British Columbia
V. x *consobrina* House [*affinis* x *hirsutula*]	0	0	0	0	0	0	0	1	0	0	0	0	0	0		Northern: Tennessee, Ohio, New York and New Jersey
V. x *cordifolia* (Nutt.) Schwein. (pro sp.) [*hirsutula* x *sororia*]	0	0	0	0	0	0	0	1	0	0	0	0	0	0		Northern: Indiana to New York, east to Connecticut, south to North Carolina and Tennessee
V. cucullata Aiton	1	0	1	1	1	0	1	1	0	1	0	0	1	1	Intraneous: Eastern-midwestern N. America	Central: Ontario to Labrador, east to Newfoundland, south to Georgia and Mississippi, west to Arkansas and Minnesota
V. hastata Michx.	1	1	1	1	1	1	1	1	1	1	1	0	0	0	Extraneous mid-west: Appalachian Plateau	Central: New York, east to Maryland, south to n. Florida, west to Mississippi and Kentucky
V. hirsutula Brainerd	1	0	1	0	1	1	0	1	0	0	0	0	0	0	Intraneous: Eastern N. America	Central: Indiana to New York, east to Connecticut, south to Florida, west to Mississippi and Kentucky
V. labradorica Schrank	0	1	1	1	0	1	1	1	1	1	1	0	1	1		Central: Northwest Territories and Greenland, east to Newfoundland, south to Florida and Alabama, west to Illinois, North Dakota and Saskatchewan with disjuncts in Colorado
V. macloskeyi Lloyd ssp. *macloskeyi*	0	0	0	0	0	0	0	0	0	0	0	0	1	0		Western: Washington, east to Nevada, south to California
V. macloskeyi Lloyd ssp. *pallens* (Banks ex Ging) M.S. Baker	0	0	0	0	0	0	0	1	0	0	1	0	0	0		Central: Throughout N. America
V. x *napae* House [*nephrophylla* x *sororia*]	0	0	0	0	0	0	0	1	0	0	0	0	0	0		Northern: Missouri, Michigan, Tennessee, Indiana and Vermont
V. x *palmata* L. (pro. sp.) [*brittoniana* or *pedatifida* x *affinis* or *sororia*]	1	1	1	1	1	0	0	1	0	0	1	1	0	1	Intraneous: Eastern N. America	Central: Wisconsin and Ontario, east to Maine, south to Georgia and Louisiana, west to Tennessee and Ohio
V. pedata L.	1	0	1	0	1	1	1	1	0	1	1	1	1	0	Intraneous: Eastern N. America	Central: Ontario, east to Maine and Delaware, south to Georgia and Louisiana, west to e. Texas, Nebraska and e. Minnesota
V. x *primulifolia* L. (pro sp.) [*lanceolata* x *macloskeyi*]	1	0	1	1	0	1	1	1	1	0	1	0	0	0		Central: Wisconsin and New York, east to Maine, south to Florida, west to Texas, Oklahoma, Illinois and Iowa

Flora	Prentice Cooper (Beck & Van Horn 2007) 25,452 Acres	New River Gorge (Suiter & Evans 1999) 25,123 acres	Fall Creek Falls (Flemming & Wofford 2004) 21,992 Acres	White Oak Creek Gorge (Allawos 1994) 13,361 Acres	Tennessee River Gorge (Blyveis & Shaw) 12,281 Acres	Savage Gulf (Wofford et al. 1979) 10,000 Acres	Obed (Schmalzer et al. 1985) 9,884 Acres	Fiery Gizzard (Clark 1966) ca. 8,960 Acres	NCCGSNA (Huskins & Shaw 2010) 7,073 Acres	Clear Fork/New River (Goodson & Bailey 2001) 4,685 Acres	Wolf Cove (Clements & Wofford 1991) 2,471 Acres	Pilot Knob (Weckman et al. 2003) 647 Acres	Lilley Cornett Woods (Sole et al. 1983) 544 acres	Big Everidge Hollow (McEwan et al. 2005) 129 Acres	Geographical Affinities to the TRG	Center of Distribution
V. pubescens Aiton var. *pubescens*	0	0	1	0	0	1	1	0	0	1	1	0	1	1		Central: Manitoba to Quebec, east to Maine, south to Georgia and Louisiana, west to Texas, Wyoming and North Dakota
V. pubescens Aiton var. *scabriuscula* Schwein. ex Torr. & A. Gray	0	0	0	0	1	0	0	1	0	0	0	0	0	0	Intraneous: Northeastern-eastern N. America	Northern: Saskatchewan to Quebec, east to Nova Scotia, south to Georgia and n. Alabama, west to Oklahoma, Kansas, Illinois and Minnesota
V. rostrata Pursh	1	1	1	1	1	1	1	1	1	1	1	0	1	1	Intraneous: Northeastern N. America	Northern: Ontario and Quebec, east to Massachusetts and North Carolina, south to n. Georgia and n. Alabama, west to m. Tennessee, Indiana and e. Wisconsin
V. rotundifolia Michx.	0	0	0	1	0	0	0	1	0	0	0	0	0	0		Northern: Ontario and Quebec, east to Maine, south to n. Georgia and Tennessee, west to Kentucky and Ohio
V. sagittata Ait. var. *sagittata*	1	1	1	0	0	0	0	0	0	0	0	0	0	0		Central: Ontario and Quebec, east to Nova Scotia, south to Georgia and Louisiana, west to Texas, Kansas and Minnesota
V. septemloba Leconte	0	0	0	0	0	0	0	0	0	0	1	0	0	0		Southern: Tennessee, east to North Carolina, south to Florida, west to Texas
V. sororia Willd.	1	1	1	0	1	0	1	1	1	1	1	1	1	1	Intraneous: Eastern-midwestern N. America	Central: Saskatchewan, Ontario and Quebec, east to Maine, south to s. Florida, west to n. Texas, w. Nebraska and North Dakota
V. striata Ait.	0	1	1	1	0	0	0	1	0	0	1	0	1	1		Central: Wisconsin, Ontario and New York, east to Massachusetts, south to Georgia and Alabama, west to Oklahoma and Iowa
V. triloba Schwein. var. *triloba*	0	1	0	0	0	1	1	1	0	0	1	0	1	0		Central: Illinois, Michigan, Virginia to Vermont, east to Massachusetts, south to Florida, west to Texas and Kansas
***V.tripartita* Ell.	1	0	0	0	1	0	0	1	1	0	1	0	0	0	Intraneous: Appalachian Plateau; Eastern N. America	Central: Ohio and Pennsylvania, east to Maryland and North Carolina, south to Florida, west to e. Mississippi and w. Tennessee
VISCACEAE																
Phoradendron leucarpum (Raf.) Reveal & M. C. Johnst.	1	0	1	0	1	1	0	1	1	0	0	0	0	0	Intraneous: Southeastern N. America	Central: Illinois to New York, east to Virginia and South Carolina, south to Florida and Texas, west to New Mexico and Kansas
VITACEAE																
Ampelopsis cordata Michx.	1	0	0	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Southeastern N. America	Central: s. Iowa, c. Illinois and s. Ohio, east to Connecticut and Maryland, south to n. Florida, west to w. Texas and e. Nebraska
Parthenocissus quinquefolia (L.) Planch.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Eastern-Midwestern N. America	Central: Saskatchewan to Quebec, east to Nova Scotia, south to s. Florida, west to c. Texas and Utah
Vitis aestivalis Michx. var. *aestivalis*	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Intraneous: Southeastern-midwestern N. America	Central: Wisconsin to s. New York, east to Massachusetts, south to s. Florida, west to e. Texas and e. Nebraska with disjuncts in one county in California
V. aestivalis Michx. var. *bicolor* Deam	0	0	0	0	0	0	0	1	0	0	0	0	0	0		Northern: Ontario, east to Maine and Massachusetts, south to Georgia and Alabama, west to Iowa and Minnesota
V. cinerea (Engelm.) Engelm. ex Millard	0	0	0	0	0	1	1	0	0	0	0	0	0	0		Central: s. Iowa, c. Illinois and s. Ohio, east to Connecticut and Maryland, south to s. Florida, west to w. Texas and e. Nebraska

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V. cinerea (Engelm.) Engelm. ex Millard var. *baileyana* (Munson) Comeaux	0	0	1	0	0	0	0	0	0	0	0	0	0	0		Central: Ohio and Pennsylvania, east to North Carolina, south to Georgia and Alabama, west to Mississippi and Indiana
V. labrusca L.	1	0	1	0	1	0	0	0	0	0	0	0	0	0	Intraneous: Eastern N. America	Central: Ontario and New Brunswick, east to Nova Scotia, south to Georgia and Louisiana, west to Illinois and Wisconsin with disjuncts in Utah
V. palmata Vahl	1	0	0	0	0	0	0	0	0	0	0	0	0	0		Central: Illinois and Indiana, east to Georgia, south to n. Florida, west to c. Texas and Oklahoma with disjuncts in Connecticut and New Jersey
V. riparia Michx.	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
V. rotundifolia Michx.	1	0	1	1	1	1	1	1	1	1	1	0	0	0	Intraneous: Southeastern N. America	Southern: Missouri and Maryland, east to Delaware, south to s. Florida, west to e. Texas and Oklahoma
***V. rupestris* Scheele	0	1	0	0	0	0	0	0	0	0	0	0	0	0		Central
V. vulpina L.	1	1	1	0	1	0	0	0	0	1	1	1	0	0	Intraneous: Eastern-Midwestern N. America	Central: Ontario, east to Massachusetts and North Carolina, south to c. Florida, west to w. Texas and w. Nebraska
TOTAL NUMBER OF SPECIES:	1072	900	879	522	692	675	725	597	604	585	574	502	515	263		

VITA

Emily Blyveis was born in Berrian Springs, Michigan, to the parents of Teresa and Phillip Blyveis but grew up in Nashville, Tennessee. She attended Hillwood High School and went on to East Tennessee State University where she began a bachelor's in Environmental Health and played collegiate soccer. Emily eventually transferred to the University of Tennessee at Chattanooga where she completed her Bachelor's of Science degree in December 2007 in Environmental Science. As an undergraduate, she interned for the Student Conservation Association at the Sandy Hook unit of Gateway National Recreation Area in the Interpretive Division. Later, she accepted a graduate assistantship at the University of Tennessee at Chattanooga. During her graduate school career, she presented her thesis research at multiple regional conferences and received five awards, including the Southern Appalachian Botanical Society Outstanding Student Paper Award and the Earl Core Student Award. Emily graduated with a Master's of Science in Environmental Science in December 2011. She has a strong interest in vascular plant taxonomy and floristics of the Southeastern U.S. and would like to continue working in this field.