



# **A Summary of Biological Inventory Data Collected at Vicksburg National Military Park**

## *Vertebrate and Vascular Plant Inventories*

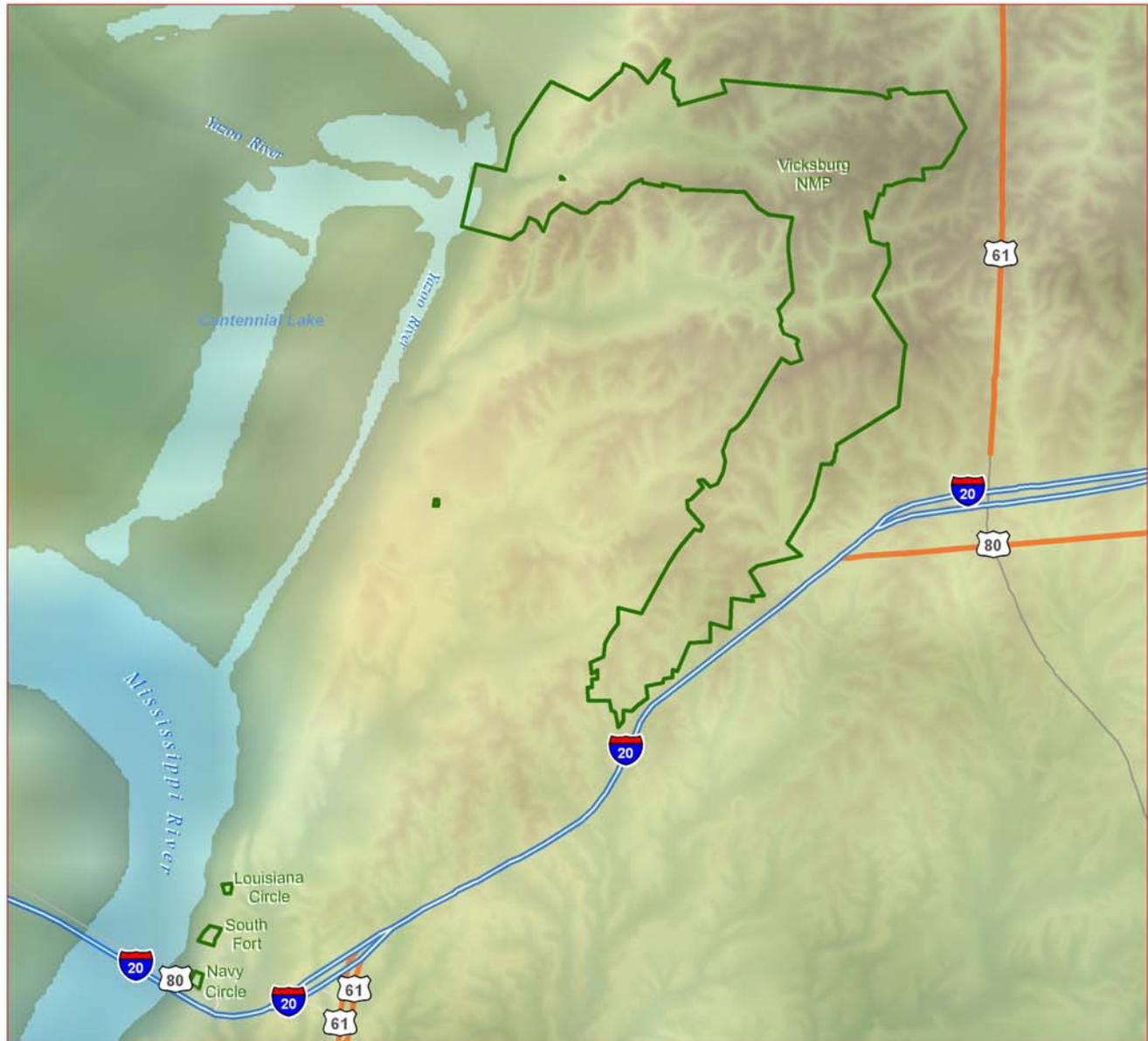
Natural Resource Technical Report NPS/GULN/NRTR—2010/404



The natural resources at Vicksburg are an integral component of the park's cultural landscape.



# Vicksburg National Military Park



Vicksburg National Military Park was established in 1899 to commemorate one of the most decisive battles of the American Civil War: the campaign, siege, and defense of the City of Vicksburg. During the Civil War, Vicksburg's landscape was mostly unforested. During the 1930's, the Civilian Conservation Corps planted trees in the park to alleviate a severe erosion problem. A second-generation forest is now established within the park, and provides habitat for a variety of wildlife species. Park Managers are challenged with balancing conflicting historic and natural perspectives. Some emphasize the re-creation of historic vistas by cutting lines-of-site through dense wooded areas, while others value the extant landscape.



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The Broadhead skink, *Eumeces laticeps* is among the species monitored at VICK.

Black racers, *Couler constrictor priapus*, is a frequent find under coverboards at VICK.



The Southern dusky salamander, *Desmognathus auriculatus*, is a common sight at VICK.

**ON THE COVER:** Vicksburg National Military Park was set aside in 1899 to preserve and interpret the siege and defense lines of a crucial Civil War battle. The natural resources at Vicksburg are an integral component of the park's cultural landscape. NPS photo.

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The National Park Service, Natural Resource Program Center publishes a range of reports that address natural resource topics of interest and applicability to a broad audience in the National Park Service and others in natural resource management, including scientists, conservation and environmental constituencies, and the public.

The Natural Resource Data Series is intended for the timely release of basic data sets and data summaries. Care has been taken to assure accuracy of raw data values, but a thorough analysis and interpretation of the data has not been completed. Consequently, the initial analyses of data in this report are provisional and subject to change.

All manuscripts in the series receive the appropriate level of peer review to ensure that the information is scientifically credible, technically accurate, appropriately written for the intended audience, and designed and published in a professional manner.

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This report is available from the Gulf Coast Network Inventory and Monitoring Program website: <http://science.nature.nps.gov/im/units/guln/networkhome/reports.cfm> and the Natural Resource Publications Management website (<http://www.nature.nps.gov/publications/NRPM/>).

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# Introduction

Park managers are directed by federal law and National Park Service (NPS) policies to know the status and trends in the condition of natural resources under their stewardship in order to fulfill the NPS mission of conserving parks unimpaired. The National Park Service established the Inventory and Monitoring Program (I&M) in 1992 to provide funding, technical assistance, and coordination for more than 270 parks to complete 12 basic natural resource inventories and to begin monitoring the status and trend of park natural resources. As part of this effort, the I&M Program's Gulf Coast Network (GULN) completed several inventories of the vertebrate species and vascular plants at Vicksburg National Military Park (VICK). These efforts included cataloging all existing data, followed up by additional field investigations. The primary purpose of these inventories was to document the presence of resources in parks, and to assess and document the current condition and knowledge of natural resources in the parks. This report provides a summary of results. Results are also briefly discussed within the context of future inventory efforts, long-term monitoring, and management.

A natural resource **inventory** is an extensive point-in-time effort to document the presence, location or condition of a resource, including the status of plants, animals, and abiotic components such as water, soils, landforms, and climate. **Monitoring** differs from an inventory in adding the dimension of time, with the general purpose of detecting changes or trends in a resource over time.

# Methods

Prior to the initiation of any field investigation, an effort was made to assemble extant data on species occurrence at VICK. This included searches of reference databases and vouchers, as well as a site visit to the park. Based on these investigations, inventories for several vertebrate and vascular plant groups at VICK were determined to be incomplete. Consequently, new field inventories of fish (Dibble 2003), mammals (Linehan 2006), birds (Twedt and Hunt 2001) and amphibians and reptiles (Keiser 2002) were conducted on the park.

NPSpecies is the National Park Service's master database for documenting the occurrence and status of species in more than 270 national park units containing significant natural resources.

Data gathered from the initial reviews at VICK

and recent inventories were organized and entered in NPSpecies. Organism names were linked to the available evidence (reference, observation and/or voucher), quality checked, and made ready for review by individuals with expertise in the various taxa groups. The purpose of these reviews was to assign a park status (e.g., Present in Park, Probably Present, False Report, etc.) and complete a series of checklist fields for each organism (i.e., abundance, residency, nativity and cultivation). Upon completion of this step, data were considered certified and uploaded to a master, online version of NPSpecies on the NPS resource management application website (<http://NRInfo.gov>). This site is currently restricted to NPS users and contractors, and records flagged as "sensitive" are not visible to users without edit permissions.

Recent inventory reports for VICK are available on the GULN website at <http://science.nature.nps.gov/im/units/guln/>.

## Results and Discussion

Searches for past data and completion of recent inventory efforts resulted in 17 references, 525 vouchers, and 815 observations being entered into NPSpecies for VICK. Based on a review of this evidence, 618 organisms were categorized as Present in Park or Probably Present (Table 1). An additional 23 organisms were categorized as Unconfirmed or Encroaching. Unconfirmed organisms were included on the park list primarily due to historic and/or weak evidence supporting its existence on the park. Encroaching species includes those organisms known to occur in the region, but that are unlikely to occur on the park, at least presently.

Currently 470 of the parks total 646 organisms are documented as Present in Park. Additionally, the percentage of total organisms Present in Park is 73%. However, if both categories, Present in Park and Probably Present are combined, then the number of documented organisms rises to 618. The percentage of Present in Park and Probably Present of total organisms is 96%. Thus, based on current data, the percentage of documented organisms occurring in VICK is likely between 73 and 96%. The I&M goal was to document as many organisms occurring in the park as possible, be them previously unidentified, encroaching, possibly present, or Present in Park. .

**Table 1.** Count of organisms by Park Status categories at VICK (NPSpecies 2009)

Park Status <sup>1</sup>	Bird	Fish	Mammal	Amphibian	Reptile	Vascular Plant	Total
Present in Park	65	18	37	17	27	306	<b>470</b>
Probably Present	121	-	2	10	15	-	<b>148</b>
Encroaching	-	-	-	5	-	-	<b>5</b>
Unconfirmed	1	8	5	-	1	3	<b>18</b>
Historical	2	-	-	-	-	-	<b>2</b>
False Report	2	-	1	-	-	-	<b>3</b>

<sup>1</sup> Refer to Appendix A for definitions of Park Status categories.

Of the 646 organisms documented, reviewers assigned a general abundance category (e.g. Abundant, Common, Uncommon, Rare, and Occasional) to 464 (72%) (Table 2). Reviewers believed additional information was needed before an abundance category could be assigned to the remaining 182(28%) organisms (e.g. Unknown, Not Accounted for).

**Table 2.** Count of organisms by Abundance categories at VICK (NPSpecies 2009)

<b>Abundance Category<sup>1</sup></b>	<b>Bird</b>	<b>Fish</b>	<b>Mammal</b>	<b>Amphibian</b>	<b>Reptile</b>	<b>Vascular Plant</b>	<b>Total</b>
Abundant	24	-	6	11	8	134	<b>183</b>
Common	22	9	14	4	16	144	<b>209</b>
Uncommon	18	3	5	2	1	21	<b>50</b>
Rare	-	5	12	-	-	3	<b>20</b>
Occasional	1	1	-	-	-	-	<b>2</b>
Unknown	-	-	-	-	2	4	<b>6</b>
Not Accounted for	126	8	8	15	16	3	<b>176</b>

<sup>1</sup> Refer to Appendix A for definitions of Abundance categories.

Residency values (e.g. Breeder, Resident, Migrant, and Vagrant) were assigned for 141 organisms with the exception of 505 organisms that were categorized as unknown or not accounted for (126 birds, 26 fish, 11 mammals, 16 amphibians, and 17 reptiles). Unknown and Not Accounted For residency values were assigned primarily because it was unclear as to whether or not the organism bred on the park. Also, residency was not established for the 309 vascular plants because residency values do not apply to vascular plants.

**Table 3.** Count of organisms by Residency categories at VICK (NPSpecies 2009)

<b>Residency Category</b>	<b>Bird</b>	<b>Fish</b>	<b>Mammal</b>	<b>Amphibian</b>	<b>Reptile</b>	<b>Vascular Plant</b>	<b>Total</b>
Breeder	46	-	30	14	26	-	<b>116</b>
Resident	9	-	4	2	-	-	<b>15</b>
Migratory	9	-	-	-	-	-	<b>9</b>
Vagrant	1	-	-	-	-	-	<b>1</b>
Unknown	-	18	3	1	1	-	<b>23</b>
Not Accounted for	126	8	8	15	16	309	<b>482</b>

<sup>1</sup> Refer to Appendix A for definitions of Residency categories.

VICK's local list includes 93 non-native organisms (i.e., 13% of total). Of the 93 non-native organisms there are 2 birds, 1 fish, 7 mammals, and 83 vascular plants. Four vascular plants were assigned a nativity of unknown due to a park status of unconfirmed and false reports regarding these four vascular plants.

**Table 4.** Count of organisms by Nativity categories at VICK (NPSpecies 2009)

<b>Nativity Category<sup>1</sup></b>	<b>Bird</b>	<b>Fish</b>	<b>Mammal</b>	<b>Amphibian</b>	<b>Reptile</b>	<b>Vascular Plant</b>	<b>Total</b>
Native	189	25	38	32	43	222	<b>549</b>
Non-Native	2	1	7	-	-	83	<b>93</b>
Unknown	-	-	-	-	-	4	<b>4</b>
Not Accounted for	-	-	-	-	-	-	<b>-</b>

<sup>1</sup> Refer to Appendix A for definitions of Nativity categories.

NatureServe, in cooperation with The Nature Conservancy and NPS, developed a protocol to rank the impact of non-native invasive vascular plants (Morse et al. 2004). Through a series of standardized questions, non-native species are evaluated and assigned an Invasive Species Impact Rank (I-Rank) based on impact to native species and natural biodiversity. I-Ranks are categorized as high, high/medium, high/low, medium, medium/low, medium/insignificant, low, low/insignificant, or insignificant. Nine of the non-native vascular plants on VICK's local list received an overall I-Rank score from NatureServe containing high (Table 5). All are known to occur in the park (i.e., Present in Park).

**Table 5.** Non-native plants occurring at Vicksburg National Military Park with an Invasive Species Impact Rank (I-Rank). NatureServe 2009.

Common Names	Species	Overall I-Rank	Ecological Impact 1	Management Difficulty 2	I-Rank Summary
tallowtree	<i>Triadica sebifera</i>	High	High	High/Medium	Aggressive weed tree of the southeastern U.S. and also spreading in California. Capable of transforming important natural communities ranging from coastal prairies, marshes, and bottomland forests, into monospecific Chinese tallow forests. Alters soil chemistry such that the species may be self-perpetuating once established.
meadow fescue, meadow ryegrass	<i>Lolium pratense</i>	High/Low	Medium/Low	High/Low	<i>Lolium pratense</i> occurs in every U.S. state except Hawaii. It is a tall coarse perennial grass that grows in heavy clumps and often forms dense stands that may crowd out native species. It produces allelopathic substances that inhibit the growth of competing plants. <i>Lolium pratense</i> is planted for pasture, hay, and erosion control. It has established in abandoned fields, meadows, pastures, roadsides, grazed woods, levees, stream banks, and in open natural communities such as prairies and glades. Apparently it usually occurs in disturbed areas and has negative impacts on biodiversity in a small portion of the area it has invaded but more information is needed. <i>Lolium pratense</i> is slow to establish but once the clumps are formed it is difficult to eradicate. Mechanical methods are virtually useless in controlling it because of the thick root system and vegetative reprofing.
heavenly bamboo, nanten, sacred bamboo	<i>Nandina domestica</i>	High/Low	High/Medium	Unknown	<i>Nandina domestica</i> , or Heavenly Bamboo, is a common garden ornamental that is escaping from cultivation in the southeastern United States and invading natural areas. This species has invaded states along the Atlantic coast from Virginia south to Florida and west to Texas. It has invaded natural areas in Florida, Alabama, Georgia and Texas. This small shrub is reported to be forming dense groves in some parts of Florida where it is displacing native vegetation including two rare native species. It does appear to be spreading at least locally in Florida and Texas. <i>N. domestica</i> produces many bright red berries that are attractive to birds that disperse the seeds. Overall, this species appears to be quite problematic in Florida; however, throughout much of its generalized range it doesn't appear as aggressive. It should certainly be watched given that it occurs in both wet and drier habitats, including floodplains and woodlands.

Common Names	Species	Overall I-Rank	Ecological Impact 1	Management Difficulty 2	I-Rank Summary
English ivy	<i>Hedera helix</i>	High/Medium	Medium	Medium/Low	<i>Hedera helix</i> is shown to negatively affect forest biodiversity, especially in the Pacific Northwest. It is also a popular landscaping plant. There is no guaranteed method for either keeping <i>H. helix</i> out of natural areas or removing it once it has established.
Asian bittersweet, Asiatic bittersweet, oriental bittersweet	<i>Celastrus orbiculatus</i>	High/Medium	Medium/Low	Medium	<i>Celastrus orbiculatus</i> reduces system-wide light levels and alters community structure and composition by overtopping existing vegetation and shading lower layers. It is reported invasive in much of its range and listed as a noxious weed in Vermont. It invades a number of habitat types including at least beach dunes, meadows, forest edges, and disturbed forests. Experts believe the range is expanding. Seeds are dispersed by birds. The species is used for ornamental purposes, further contributing to its spread. A long-lived seed bank increases overall management difficulty; control may therefore take over five years to achieve. May contribute to the decline of the native <i>C. scandens</i> through competition and, potentially, hybridization; the extent of natural hybridization between these two species requires further investigation.
Japanese stiltgrass, Nepalese browntop	<i>Microstegium vimineum</i>	High/Medium	Medium	High/Medium	<i>Microstegium vimineum</i> is established in most eastern states; it occurs from New York to Illinois south to Florida and Texas. <i>M. vimineum</i> is slow to invade undisturbed vegetation but spreads quickly and forms dense monocultures in areas with natural or human-caused disturbance. Its habitats include stream banks, river bluffs, floodplains, emergent and forested wetlands, moist woodlands and forests, early successional fields, woodland thickets, and rights-of-way. <i>M. vimineum</i> grows very well under low light conditions such as under a forest canopy. <i>M. vimineum</i> can displace native vegetation in a few years and also impacts ground nesting birds. <i>M. vimineum</i> may also impact ecosystems by altering soil conditions. <i>M. vimineum</i> produces 100-1000 seeds per plant. Seeds remain viable in the soil for at least 3-5 years. Once established, the removal of <i>M. vimineum</i> requires major eradication and restoration efforts.

Common Names	Species	Overall I-Rank	Ecological Impact 1	Management Difficulty 2	I-Rank Summary
aleppo milletgrass, herbe de Cuba, Johnson grass, Johnsongrass, sorgho d'Alep, sorgo de alepo, zacate Johnson	<i>Sorghum halepense</i>	High/Medium	Medium/Low	High/Medium	Johnson grass has been shown to severely inhibit pioneer grass species which normally appear in abandoned fields and can persist in almost pure stands for many years. The massive size (up to 3 m tall) of this plant creates difficulties for the establishment of other plants and rapid growth of rhizomes also provides the plant with a competitive edge over other species. It is one of the most frequently listed noxious weeds in the U.S. and occurs throughout the entire southern half of the country. The plant is self-pollinated, aggressive, and wind dispersed though humans often disperse it during field cultivation. Although it can colonize undisturbed sites as a pioneer species, it is often found in old fields or previously cultivated areas. Control is difficult and costly and, although some selective herbicides have been developed, such treatment usually impacts natives.
Chinese honeysuckle, Japanese honeysuckle	<i>Lonicera japonica</i>	High/Medium	Medium	High/Medium	<i>Lonicera japonica</i> can have extremely negative consequences for forest communities and forest structure. Few effective control methods known.
Chinese privet, common chinese privet	<i>Ligustrum sinense</i>	High/Medium	Medium	Low	<i>Ligustrum sinense</i> alters community structure and composition by creating a dense shrub layer that shades plant species in lower layers (Batcher et al. 2000). It threatens the globally rare and federally endangered plant Schweintz's sunflower ( <i>Helianthus schweinitzii</i> ) (Urbatsch 2000) . It is reported as invasive in six Southeastern states (Miller et al. 2003), where it can infest pinelands, hammocks, river and stream floodplains, lake shores, edges of swamps and marshes, bottomland forests, and woodlands (CAIP; Batcher et al. 2000; Campbell and Fenderson 1995). <i>L. sinense</i> produces large quantities of fruit, which are eaten by birds (Batcher et al. 2000; Urbatsch 2000). It may be controlled in three to five years using a combination of mechanical and chemical treatments (Batcher et al. 2000).
shepardspurse, shepherd's purse, shepherd's-purse, shepherdspurse	<i>Capsella bursa-pastoris</i>	Insignificant	Insignificant	High/Low	This plant is mostly a problem in disturbed areas and only rarely occurs in conservation areas.

Common Names	Species	Overall I-Rank	Ecological Impact 1	Management Difficulty 2	I-Rank Summary
rescue brome, rescue grass, rescuegras, rescuegrass	<i>Bromus catharticus</i>	Insignificant	Unknown	Unknown	Bromus catharticus is found in waste places, open, generally disturbed places, lawns, gardens, roadsides, ditchbanks, and small grain winter crops. Labeled as a plant species that spreads in or near disturbed areas and are not presently considered a threat to native plant communities.
Bahia grass, bahiagrass	<i>Paspalum notatum</i>	Insignificant	Unknown	Unknown	Persists as a dense mat of vegetation in abandoned pastures, which prevents the successful restoration of pastures to native sandhill or forest communities. But does not appear to spread from pastures into adjacent forested areas or any other natural area. (Violi 2000)
peach	<i>Prunus persica</i>	Insignificant	Insignificant	Medium/Insignificant	This widely cultivated plant is established outside of cultivation in much of the northeast, southeast, and scattered in the west. It has no reported ecological impacts, and has no management difficulty.
paper mulberry, wauke	<i>Broussonetia papyrifera</i>	Insignificant	unknown	unknown	Introduced and now widely naturalized in the eastern U.S. according to FNA but does not occur in conservation areas or native species habitat. Only occurs in waste areas and disturbed thickets.
beefsteak, beefsteak mint, beefsteakplant, Purple mint	<i>Perilla frutescens</i>	Low	Low/Insignificant	Low	This is a ruderal species in the eastern U.S. It escapes and naturalizes in pastures, roadsides, disturbed urban and suburban areas, and other lower quality habitats. It does not appear to seriously impact any higher quality native species habitats.
nettle-leaf goosefoot, nettleleaf goosefoot	<i>Chenopodium murale</i>	Low/Insignificant	Insignificant	Unknown	While this species has no reported ecological impact, it is widely distributed across the US and has proven that it can tolerate arid environmental extremes.
red clover	<i>Trifolium pratense</i>	Low/Insignificant	Low/Insignificant	Insignificant	This species occurs in every state in a variety of environments and is planted for forage (livestock and bees) thus many occurrences are probably on private lands. It is a nitrogen fixer but not considered to cause major alterations since it typically occurs in fields, roadsides, disturbed areas, prairies, open forest, forest edges, paths, gardens, and lawns. In crowded areas the species will stand upright competing for sun otherwise it sprawls on the ground, but can tolerate shade and wet soil. Said to be short-lived with slow initial growth unless there is ample moisture. Seed can persist and it has a thick, deep taproot. No mention of long-term problems with this species and it does not appear to be persistent so control and management would appear to be relatively easy.

Common Names	Species	Overall I-Rank	Ecological Impact 1	Management Difficulty 2	I-Rank Summary
India mockstrawberry, Indian strawberry	<i>Duchesnea indica</i>	Low/Insignificant	Insignificant	Low	An herbaceous perennial ground cover species native to Asia, <i>Duchesnea indica</i> has become well-established in the mid-Atlantic and southeastern states, with scattered establishment to the north and west of this area as well as in the west coast states. It is commercially available as a ground cover for landscaping and sometimes escapes into native habitats. It predominantly invades disturbed open areas, but is shade-tolerant and is also frequently found in woodland and woodland edges, and is rarely found in more intact habitats such as rockhouses and native prairies. Impacts include formation of a dense ground cover, which can be especially problematic for small native perennials. Management by pulling or herbicide is relatively straightforward.
Kentucky bluegrass	<i>Poa pratensis</i>	Medium	Medium	Medium/Low	<i>Poa pratensis</i> is an invasive that spreads aggressively and readily outcompetes native vegetation, especially in prairie habitats.
Chinese wisteria	<i>Wisteria sinensis</i>	Medium	Medium/Low	Low	An aggressive woody vine that commonly invades disturbed areas but can also invade high quality native species habitats. A problem plant in native plant communities throughout the Southeast, Midatlantic, and Hawaii.
ailanthus, copal tree, tree of heaven, tree-of-heaven	<i>Ailanthus altissima</i>	Medium	Medium/Low	Medium/Low	A widespread species, this appears to be primarily invasive on disturbed sites with low habitat quality but with some ability to invade higher quality sites. It appears if infestions are caught early and treated diligently, the species can be eradicated
cocksfoot, orchard grass, orchardgrass	<i>Dactylis glomerata</i>	Medium/Insignificant	Low/Insignificant	Medium/Low	Occuring in every state in the U.S. the species is not linked to any signigicant ecosystem or community effects.
crapemyrtle	<i>Lagerstroemia indica</i>	Medium/Insignificant	Low/Insignificant	Unknown	It is unknown if this taxon is present in natural areas. It does spread from original plantings in cultivated situations, suggesting the probability that the taxon occurs outside of cultivation. However, it is not associated with significant negative effects, either at an ecosystem level or by a high current range.
Bermudagrass, chiendent, pied-de-poule, common bermudagrass, devilgrass, grama-seda, manienie, motie molulu	<i>Cynodon dactylon</i>	Medium/Low	Medium/Low	High/Medium	A circumglobal species, <i>Cynodon dactylon</i> is limited in distribution in the US to areas with warm temperatures. Locally able to invade disturbed sites, areas with persistent native vegetation are probably not under threat by this taxon.

Common Names	Species	Overall I-Rank	Ecological Impact 1	Management Difficulty 2	I-Rank Summary
golden bamboo	<i>Phyllostachys aurea</i>	Medium/Low	Medium/Low	Medium/Low	A popular species used as an ornamental and to create privacy fences, golden bamboo is now naturalized in nearly all southeastern states and possibly also in California and Oregon. Also recently reported as naturalized on Oahu. Likely to be restricted from most as-yet uninvaded states by cold and/or aridity. Appears to be locally problematic at scattered sites, having significant impacts on biodiversity when large established stands occur in relatively natural habitats such as secondary forests, floodplain forests, and riparian areas. Where well-established, the species can form dense stands up to 12-15 m tall that displace native species; stands also produce copious leaf litter which may impact litter-feeding stream invertebrates. Spreads predominantly via rhizomes; disturbance tends to promote spread. Management is complicated by the species' ability to resprout, but can be accomplished with perseverance via repeated cutting/mowing or cutting and herbiciding.
Dutch clover, ladino clover, white clover	<i>Trifolium repens</i>	Medium/Low	Medium/Low	Medium/Insignificant	<i>Trifolium repens</i> (white clover) is extremely widespread in the United States. It was introduced c. 1700 and has high economic importance as a forage plant, in addition to other uses such as erosion control, cover cropping, and wildlife plantings. Although establishing best in disturbed and open sites, it can invade a variety of native species habitats, including grasslands/meadows, heathlands, deciduous woodlands, boreal forest, riparian areas, and coastal beaches. <i>T. repens</i> is a nitrogen-fixing species, but it should not significantly alter nutrient cycling because of its preference for fertile soils and low biomass per area. Its greatest impacts likely result from its stoloniferous, mat-forming habit, which may interfere with establishment of native species, potentially including at least one endangered species (running buffalo clover, <i>Trifolium stoloniferum</i> ).

Common Names	Species	Overall I-Rank	Ecological Impact 1	Management Difficulty 2	I-Rank Summary
multiflora rose	<i>Rosa multiflora</i>	Medium/Low	Low	Low	Multiflora rose has a large current distribution and is continuing to spread locally in the west. It is relatively easy to manage, and has a low ecological impact on biodiversity. It is mainly an agricultural weed, but it may create dense thickets, sometimes monocultures that crowd out native species in open woodlands, forest edges, prairies, and savannas. It has the ability to become the dominant vegetation in old fields, and in savannas and prairies that have been subjected to land disturbance. Individual rose plants may take time to become established and may not thrive initially once they invade a relatively undisturbed habitat such as along a stream corridor. And they may never become a dominant component of that environment. However, when conditions do become more favorable, these individual plants will grow to disperse seeds to new habitat, continuing the spread.
chinaberry, Chinaberry tree, Chinaberrytree, Indian lilac, lelah, paraiso, pride of India, white cedar	<i>Melia azedarach</i>	Medium/Low	Medium/Low	Medium/Low	<i>Melia azedarach</i> used to be widely planted for ornamental or for harvest for its medicinal properties. It has since escaped and naturalized which has caused at least one state (FL) to ban it, although it is still sold elsewhere in the US. It appears most often on disturbed soils, however it can invade floodplain and marsh communities, and can crowd out native species.
Japanese privet	<i>Ligustrum japonicum</i>	Medium/Low	Medium/Low	High/Low	<i>Ligustrum japonicum</i> is a tall shrub that is widely planted as a hedge, particularly in the south. It is apparently having fewer impacts than some other privets in the U.S. but has become established in scattered locations in the southeastern states and California. It can form dense thickets and outcompete native plants. Habitats it invades include river bottoms, open woods, bluffs, and disturbed sites. It is still available for sale and has very abundant seeds. It resprouts readily when damaged. Control is moderately difficult.
princess tree, princesstree, royal paulownia	<i>Paulownia tomentosa</i>	Medium/Low	Medium/Low	Low	An aggressive invader of many types of disturbed areas in the eastern U.S. that is apparently able to infest some high-quality native species habitats.
kudzu	<i>Pueraria Montana</i> <i>var. lobata</i>	Not Yet Assessed			

<sup>1</sup> A subcategory of Overall I-Rank score that addresses organism's negative impacts on native plant and animal populations and communities.

<sup>2</sup> A subcategory of Overall I-Rank score that addresses difficulty of control.

If information (as evidenced by protocol questions answered) is sufficient to eliminate at least two of the four possible I-Ranks, but insufficient to narrow the I-Rank to a single value, a range I-Rank (e.g. High/Medium) is assigned.

A total of 8 organisms (Table 6) on VICK's local list currently meet at least one of the following criteria:

- Listed on Mississippi Department of Wildlife, Fisheries and Parks (MDWFP) list of rare biota (<http://www.mdwfp.com/museum/downloads/tandelist.pdf>)
- Listed by the U.S. Fish and Wildlife Service under the auspices of the U.S. Endangered Species Act of 1973, as amended
- Ranked as Critically Imperiled or Imperiled at the global level by NatureServe and its network of member programs

**Table 6.** Organisms on the park's local list which possess a designated conservation status (State Status, State Rank, Federal Status or TNC Global Rank).

Common Name	Scientific Name	Park Status <sup>1</sup>	State Status <sup>2</sup>	State Rank <sup>3</sup>	Federal Status <sup>4</sup>	TNC Global Rank <sup>5</sup>
<b>BIRDS</b>						
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Probably Present	E	S1B, S2N	T	G4
Wood Stork	<i>Mycteria americana</i>	Probably Present	E	SZN	E	G4
Peregrine Falcon	<i>Falco peregrinus</i>	Probably Present	E	SZN	E	G4
Bewick's Wren	<i>Thryomanes bewickii</i>	Historic	E	S2S3B, SZN		G5
America White Pelican	<i>Pelecanus erythrorhynchos</i>	Probably Present				G3
<b>FISH</b>						
Southern Redbelly Dace	<i>Phoxinus erythrogaster</i>	Unconfirmed	E	S2		G5
Sicklefin Chub	<i>Macrhybopsis meeki</i>	Unconfirmed				G3
<b>VASCULAR PLANTS</b>						
Prairienymph	<i>Herbertia lahue ssp. caerulea</i>	Present in Park				
Maidenhair Tree	<i>Ginkgo biloba</i>	Present in Park				G1

<sup>1</sup> Refer to the Appendix for definitions of Park Status categories.

<sup>2</sup> The official endangerment status the state heritage program has assigned to this species.

**T** – Threatened : Any species or subspecies that is likely to become an endangered species within the foreseeable future.

**E** – Endangered : Animal: Any species or subspecies of wildlife whose prospects of survival or recruitment within the state are in jeopardy or are likely to become so within the foreseeable future.

**LE** – endangered : A species which is in danger of extinction throughout all or a significant portion of its range.

**D** - Deemed in Need of Management : Any species or subspecies of nongame wildlife which should be investigated in order to develop information relating to populations, distribution, habitat needs, limiting factors, and other biological and ecological data to determine management measures necessary for their continued ability to sustain themselves successfully.

**SP** - Species Protected : It shall be unlawful to take, capture, kill, or attempt to take, capture or kill; possess, sell, trade for anything of monetary value, or offer to sell or trade for anything of monetary value, the following nongame wildlife species (or any parts or reproductive products of such species) without a scientific collection permit or written permit from the Commissioner, Department of Conservation and Natural Resources, which shall specifically state what the permittee may do with regard to said species.

**S** - Special concern : any species or subspecies that is uncommon, or has unique or highly specific habitat requirements or scientific value and therefore requires careful monitoring of its status.

<sup>3</sup> State Rank

**S1**– Extremely rare and critically imperiled in the state with five or fewer occurrences, or very few remaining individuals, or because of some special condition where the species is particularly vulnerable to extirpation.

**S2**– Very rare and imperiled within the state, six to twenty occurrences and less than 3000 individuals, or few remaining individuals, or because of some factor(s) making it vulnerable to extirpation.

**S3**– Rare and uncommon in the state, from 21 to 100 occurrences.

**S4**– Widespread, abundant, and apparently secure within the state, though it may be quite rare in parts of its range, especially at the periphery, and is of long-term concern.

**SH**– Of historical occurrence, i.e., known to occur in the past, with the expectation that it may be rediscovered.

<sup>4</sup>U.S. Endangered Species Act: Current status of the taxon as designated or proposed by the U.S. Fish and Wildlife Service (USFWS) or the U.S. National Marine Fisheries Service, and as reported in the U.S. Federal Register in accordance with the U.S. Endangered Species Act of 1973, as amended.

**E– Listed endangered**, denotes a taxon that is threatened by extinction throughout all or a significant portion of its range.

**T– Listed threatened**, denotes a taxon that is likely to become an endangered species in the foreseeable future.

**DM– Delisted taxon**, recovered, being monitored for first five years.

<sup>5</sup>The rounded NatureServe conservation status, developed by NatureServe and its network of member programs, of a species from a global (i.e., rangewide) perspective, characterizing the relative imperilment of the species. G1=Critically Imperiled, G2=Imperiled, G3=Vulnerable, G4=Apparently Secure, G5=Secure. Refer to <<http://www.natureserve.org/explorer/ranking.htm>> for additional information on ranks.

## **Discussion**

It is recognized that a species list will never be 100% complete and accurate any given time. Because most inventories are “point in time” surveys, not every species present may be found during the inventory. However, these new inventories, combined with historical observations give a reasonably complete list of species currently found on the park. In addition, the inventories resulted in the documentation of many new species and will provide baseline information that may of management significance.

The recent mammal inventory from Linehan 2006 was the first official attempt at documenting mammals in the park by collecting voucher specimens, photographs, or tracks. Sixteen species of small mammals from Orders Insectivora and Rodentia were collected and vouchered. In addition, fourteen species of meso and large mammals were documented by photograph or tracks including a large population of feral dogs and cats, which has already been identified as a potential problem for the park. The inventory also documented a rather diverse bat population of seven species residing within the park including the Hoary bat, which is considered uncommon throughout most of the eastern U.S.

The fish inventory was the result of data collected periodically from 1995-2003 by Eric Dibble. Fishes and macroinvertebrates were collected during, and reported for a six year period. A total of 2,884 fish, constituting 18 different species and 9,558 macroinvertebrates constituting 31 taxa were recorded in the streams within the park. A survey to assess presence of vascular aquatic plants within the wetted portion of the streams was initiated, but no aquatic vascular plants were observed during the survey. Twenty-four families of plants were found growing in the riparian zone of the streams. No rare, threatened, or endangered species were observed in the wetted portion of the streams. However, an invasive species, fat head minnow, was documented in Mint Springs Creeks with recommendations for removal from the system to restore historic conditions.

## **Monitoring**

GULN’s current list of high priority vital signs to be monitored at Vicksburg National Military Park includes several that related directly to the vascular plant and vertebrate species documented in these recent inventories. These include terrestrial vegetative communities, amphibian communities, and water quality. Water quality relates directly to the vegetative communities, amphibians, and fish communities. Although the fish communities are not included in the list of vital signs currently under development, water quality data collected by the network will provide important information if the fish inventory is repeated in the future. Due to their ties with both aquatic and terrestrial environments, and sensitivity to environmental stresses, amphibians are considered good indicators of general ecosystem health. Consequently, amphibians have been selected as a high priority group to monitor in all Gulf Coast Network parks. The baseline inventories have allowed the network to target long-term monitoring protocols to the species of interest on each park.

The potential impact of climate change on park resources has recently become a focus for the National Park Service. Although the impacts are difficult to predict, all of the vital signs that will be monitored at VICK are very sensitive to changes in precipitation (timing, amount, and/or frequency) and temperature. The GULN will compile available weather data to use for placing monitoring results in context of changing weather and climate.

## **Management**

Recent inventories have revealed that VICK supports a diverse array of vascular plants and vertebrates. As noted, the data have been consolidated into NPSpecies for use in park planning and management decisions. An additional step to be taken with these data is identification of management priority species. This would likely include sensitive or rare species, and highly invasive exotics, among others. Additional management recommendations can be found in the specific inventory reports for VICK.

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## Appendix A. NPSpecies Data Dictionary

Park Status	The current status of each species in each park.	Applicable only to organisms with the <i>Local List</i> checkbox checked. The possible values reflect a combination of confidence, and availability and currency of verifiable evidence in NPSpecies.
Present in Park	Species' occurrence in park is documented and assumed to be extant.	Extremely high confidence that the species is currently in the park. A current, verifiable reference, voucher or observation is included in NPSpecies.
Probably Present	Park is within species' range and contains appropriate habitat. Documented occurrences of the species in the adjoining region of the park give reason to suspect that it probably occurs within the park. The degree of probability may vary within this category, including species that range from common to rare.	Very high confidence that the organism is currently in the park. Verifiable evidence may exist in NPSpecies, but is not considered current enough to elevate the status to Present in Park. Efforts should be made to obtain current, verifiable evidence in NPSpecies to elevate the Park Status to "Present in Park". If reasonable efforts to obtain current, verifiable evidence are unsuccessful, then the Park Status should be changed to Unconfirmed, Historic, Encroaching or False Report as applicable.
Unconfirmed	Included for the park based on weak ("unconfirmed record") or no evidence, giving minimal indication of the species' occurrence in the park.	Any confidence from very low to high that the organism is currently in the park. Verifiable evidence may exist in NPSpecies, but it is not considered sufficient enough to elevate the status to Probably Present, nor current enough to elevate the status to Present. Efforts should be made to obtain current, verifiable evidence in NPSpecies to elevate the Park Status to "Present in Park". If reasonable efforts to obtain current, verifiable evidence are unsuccessful, then the Park Status should be changed to Historic, Encroaching or False Report as applicable.
Encroaching	The species is not documented in the park, but is documented as being adjacent to the park and has potential to occur in the park.	Extremely low confidence that the organism is currently in the park, but extremely high confidence that the organism is currently adjacent to the park. Verifiable evidence may exist in NPSpecies documenting the occurrence in the park, but it is not current. Potential invasive organisms are good candidates for this Park Status designation, either before they enter a park or after they have been eliminated from a park.
Historic	Species' historical occurrence in the park is documented, but recent investigations indicate that the species is now probably absent.	Extremely low confidence that the organism is currently in the park. Verifiable evidence exists in NPSpecies, but is not current. Extinct, extirpated or eliminated species are candidates for a Historic <i>Park Status</i> designation.

False Report	Species previously reported to occur within the park, but current evidence indicates that the report was based on a misidentification, a taxonomic concept no longer accepted, or some other similar problem of interpretation.	Extremely low confidence that the organism is currently in the park. Evidence exists in NPSpecies, but it cannot be sufficiently verified.
NA	Not Applicable - Park-Status does not apply to the scientific name for the park.	The NA value prevents null values from appearing in NPSpecies and applies to 2 primary situations: <ul style="list-style-type: none"> <li>1) An outdated scientific name that is not used in the locale of the park for an organism, but is in NPSpecies for a park because of the inclusion of vouchers, observations or names linked to references. Note that outdated names are reconciled in NPSpecies with the LOCAL CLASSIFICATION system.</li> <li>2) Vouchers, observations or names linked to references have not been identified at the species level or lower, but are included in NPSpecies with the name of a higher taxonomic rank than the species level. The names of these higher level taxonomic ranks will disappear from NPSpecies if the evidence of the respective name are identified to the species level or lower, and are changed appropriately in NPSpecies.</li> </ul>
<b>Abundance</b>	The current abundance of each organism in each park.	Applicable only to organisms with the <i>Local List</i> checkbox checked and a <i>Park Status</i> of "Present". The values attempt to balance abundance with suitable habitat, and temporal/behavioral considerations. In practice, the entered value should apply (although there are numerous exceptions) to the abundance in the most suitable habitat of the organism, and at the time that the organism is engaged in it's principle behavior in (e.g. breeding, migrating, hibernating, etc.), or most important behavior to, the park. A future generation of NPSpecies will address the coding of <i>Abundance</i> (and associated <i>Residency</i> ) to separate out the temporal and behavioral aspects. The Data Source field for Abundance is available to provide a citation that specifically addresses abundance in more detail.
Abundant	<b>Animals:</b> May be seen daily, in suitable habitat and season, and counted in relatively large numbers. <b>Plants:</b> Large number of individuals; wide ecological amplitude or occurring in habitats covering a large portion of the park.	
Common	<b>Animals:</b> May be seen daily, in suitable habitat and season, but not in large numbers. <b>Plants:</b> Large numbers of individuals predictably occurring in commonly encountered habitats but not those covering a large portion of the park.	

Uncommon	<b>Animals:</b> Likely to be seen monthly in appropriate season/habitat. May be locally common. <b>Plants:</b> Few to moderate numbers of individuals; occurring either sporadically in commonly encountered habitats or in uncommon habitats.	
Rare	<b>Animals:</b> Present, but usually seen only a few times each year. <b>Plants:</b> Few individuals, usually restricted to small areas of rare habitat.	
Occasional	<b>Animals:</b> Occurs in the park at least once every few years, but not necessarily every year. <b>Plants:</b> Not applicable.	
Unknown	Abundance unknown.	
NA	Not Applicable – Abundance does not apply to the scientific name in the park.	All names on a park's list that do not have a <i>Park Status</i> of Present should have a <i>Residency</i> of NA.
<b>Residency</b>	Current residency classification for each ANIMAL species in each park.	Applicable only to ANIMALS with the <i>Local List</i> checkbox checked and a <i>Park Status</i> of "Present". The values attempt to balance temporal and behavioral considerations. In practice, the entered value should apply (although there are numerous exceptions) to the residency of the organism at the time that the organism is engaged in its principle behavior (e.g. breeding, migrating, hibernating, etc.) in, or most important behavior to, the park. A future generation of NPSpecies will address the coding of Residency (and associated Abundance) to separate out the temporal and behavior aspects. The Data Source field for Residency is available to provide a citation that specifically addresses Residency in more detail.
Breeder	Population reproduces in the park.	
Resident	A significant population is maintained in the park for more than two months each year, but it is not known to breed there.	
Migratory	Migratory species that occurs in park approximately two months or less each year and does not breed there.	
Vagrant	Park is outside of the species' usual range.	
Unknown	Residency status in park is unknown.	
NA	Not Applicable – Residency does not apply to the scientific name in the park.	All names on a park's list that do not have a <i>Park Status</i> of Present should have a <i>Residency</i> of NA.
<b>Nativity</b>	Nativity classification for each organism for each park.	Applicable only to organisms with the <i>Local List</i> checkbox checked. If the park-status of an organism is not "Present in Park", then nativity represents the nativity if the organism were eventually confirmed in the park.
Native	The organism is native, or would be native, to the park (either endemic or indigenous).	

Non-Native	The organism is not native, or would not be native, to the park (neither endemic nor indigenous).	Cultivated organisms as defined under the <i>Cultivation</i> field are also considered non-native.
Unknown	Nativity is unknown relative to the park.	
NA	Not Applicable	Applies to names that do not represent organism names for the locale of the park.
<b>Cultivation</b>	Cultivation classification for each non-native organism in each park.	Applicable only to organisms with the <i>Local List</i> checkbox checked, a <i>Park Status</i> of "Present" or "Probably Present" and a <i>Nativity</i> of Non-Native. Cultivation is intended to distinguish between non-native organisms that were introduced as part of a park's mission, and non-native organisms that occur in the park naturally. Cultivation was not intended to apply to organisms that are cultivated for landscape purposes and have not persisted into the natural environment, for example plants in gardens or terrariums, or animals in enclosures. In general, NPSpecies was not intended to include controlled, "domestic" organisms.
Cultivated	A non-native species that is currently cultivated in the park.	
Persistent	A non-native species that persists in the park (either reproducing or non-reproducing) from a previous cultivation in the park.	
Not Cultivated	A non-native species that is not currently cultivated in the park.	
Unknown	A non-native species for which the cultivation in the park is currently unknown.	
NA	Not Applicable – Cultivation does not apply to the non-native scientific name in the park.	All names on a park's list that do not have a <i>Park Status</i> of Present or Probably Present and a <i>Nativity</i> of Non-native should have a Cultivation of NA.

## Appendix B. Vicksburg National Military Park (VICK) Local List (NPSpecies 12/15/2009).

Scientific Name	Common Name	Park Status <sup>1</sup>
<b>Amphibians</b>		
<i>Bufo americanus</i>	American Toad	PIP
<i>Bufo fowleri</i>	Fowler's Toad	PIP
<i>Bufo quercicus</i>	Oak Toad	E
<i>Bufo terrestris</i>	Southern Toad	E
<i>Acris crepitans</i>	Northern Cricket Frog	PIP
<i>Acris gryllus</i>	Southern Cricket Frog	PP
<i>Hyla avivoca</i>	Bird-voiced Treefrog	PP
<i>Hyla chrysoscelis</i>	Cope's Gray Treefrog	PIP
<i>Hyla cinerea</i>	Green Tree Frog, Green Treefrog	PIP
<i>Hyla femoralis</i>	Pine Woods Treefrog	E
<i>Hyla gratiosa</i>	Barking Treefrog	E
<i>Hyla squirella</i>	Squirrel Treefrog	PP
<i>Hyla versicolor</i>	Gray Treefrog	PIP
<i>Pseudacris crucifer crucifer</i>	Northern Spring Peeper	PIP
<i>Pseudacris feriarum</i>	Southeastern Chorus Frog, Upland Chorus Frog	PP
<i>Gastrophryne carolinensis</i>	Eastern Narrow-mouthed Toad	PIP
<i>Rana areolata</i>	Crawfish Frog	E
<i>Rana catesbeiana</i>	American Bullfrog, Bullfrog	PIP
<i>Rana clamitans clamitans</i>	Bronze Frog	PIP
<i>Rana palustris</i>	Pickerel Frog	PP
<i>Rana sphenoccephala utricularia</i>	Southern Leopard Frog	PIP
<i>Scaphiopus holbrookii</i>	Eastern Spadefoot	PIP
<i>Ambystoma maculatum</i>	Spotted Salamander	PIP
<i>Ambystoma opacum</i>	Marbled Salamander	PP
<i>Ambystoma talpoideum</i>	Mole Salamander	PIP

<i>Desmognathus fuscus conanti</i>	Spotted Dusky Salamander	PIP
<i>Eurycea cirrigera</i>	Southern Two-lined Salamander	PP
<i>Eurycea longicauda guttolineata</i>	Three-lined Salamander	PIP
<i>Eurycea quadridigitata</i>	Dwarf Salamander	PP
<i>Plethodon mississippi</i>	Mississippi Slimy Salamander	PIP
<i>Pseudotriton ruber</i>	Red Salamander	PP
<i>Notophthalmus viridescens</i>	Eastern Newt	PP
Scientific Name	Common Name	Park Status <sup>1</sup>
<b>Birds</b>		
<i>Aix sponsa</i>	Wood Duck	PIP
<i>Anas americana</i>	American Wigeon	PP
<i>Anas clypeata</i>	Northern Shoveler	PP
<i>Anas crecca</i>	Green-winged Teal	PP
<i>Anas discors</i>	Blue-winged Teal	PP
<i>Anas platyrhynchos</i>	Mallard	PIP
<i>Anas strepera</i>	Gadwall	PP
<i>Anser albifrons</i>	Greater White-fronted Goose	PP
<i>Aythya affinis</i>	Lesser Scaup	PP
<i>Aythya collaris</i>	Ring-necked Duck	PP
<i>Branta canadensis</i>	Canada Goose	PP
<i>Chen caerulescens</i>	Snow Goose	PP
<i>Lophodytes cucullatus</i>	Hooded Merganser	PP
<i>Oxyura jamaicensis</i>	Ruddy Duck	PP
<i>Chaetura pelagica</i>	Chimney Swift	PP
<i>Archilochus colubris</i>	Ruby-throated Hummingbird	PIP
<i>Accipiter cooperii</i>	Cooper's Hawk	PP
<i>Accipiter striatus</i>	Sharp-shinned Hawk	H

<i>Aquila chrysaetos</i>	Golden Eagle	U
<i>Buteo jamaicensis</i>	Red-tailed Hawk	PIP
<i>Buteo lineatus</i>	Red-shouldered Hawk	PP
<i>Buteo platypterus</i>	Broad-winged Hawk	PIP
<i>Circus cyaneus</i>	Northern Harrier	PP
<i>Elanoides forficatus</i>	American Swallow-tailed Kite, Swallow-tailed Kite	PP
<i>Haliaeetus leucocephalus</i>	Bald Eagle	PP
<i>Ictinia mississippiensis</i>	Mississippi Kite	PP
<i>Pandion haliaetus</i>	Osprey	PP
<i>Anhinga anhinga</i>	Anhinga	PP
<i>Ardea alba</i>	Great Egret	PP
<i>Ardea herodias</i>	Great Blue Heron	PP
<i>Bubulcus ibis</i>	Cattle Egret	PP
<i>Butorides virescens</i>	Green Heron	PP
<i>Egretta caerulea</i>	Little Blue Heron	PP
<i>Egretta thula</i>	Snowy Egret	PP
<i>Egretta tricolor</i>	Tricolored Heron	PP
<i>Nyctanassa violacea</i>	Yellow-crowned Night-Heron	PP
<i>Charadrius vociferus</i>	Killdeer	PP
<i>Cathartes aura</i>	Turkey Vulture	PIP
<i>Coragyps atratus</i>	Black Vulture	PP
<i>Mycteria americana</i>	Wood Stork	PP
<i>Falco columbarius</i>	Merlin	PP
<i>Falco peregrinus</i>	Peregrine Falcon	PP
<i>Falco sparverius</i>	American Kestrel	PP
<i>Larus argentatus</i>	Herring Gull	PP
<i>Larus delawarensis</i>	Ring-billed Gull	PP
<i>Larus philadelphia</i>	Bonaparte's Gull	PP
<i>Sterna antillarum</i>	Least Tern	PP
<i>Sterna caspia</i>	Caspian Tern	PP
<i>Sterna forsteri</i>	Forster's Tern	PP
<i>Pelecanus erythrorhynchos</i>	American White Pelican	PP
<i>Phalacrocorax auritus</i>	Double-crested Cormorant	PP

<i>Podilymbus podiceps</i>	Pied-billed Grebe	FR
<i>Calidris melanotos</i>	Pectoral Sandpiper	PP
<i>Gallinago gallinago</i>	Common Snipe	PP
<i>Scolopax minor</i>	American Woodcock	PP
<i>Eudocimus albus</i>	White Ibis	PP
<i>Columba livia</i>	Rock Dove	PP
<i>Zenaida macroura</i>	Mourning Dove	PIP
<i>Ceryle alcyon</i>	Belted Kingfisher	PP
<i>Coccyzus americanus</i>	Yellow-billed Cuckoo	PIP
<i>Coccyzus erythrophthalmus</i>	Black-billed Cuckoo	PP
<i>Colinus virginianus</i>	Northern Bobwhite	PP
<i>Aramus guarana</i>	Limpkin	FR
<i>Fulica americana</i>	American Coot	PP
<i>Eremophila alpestris</i>	Horned Lark	PP
<i>Bombcilla cedrorum</i>	Cedar Waxwing	PP
<i>Certhia americana</i>	Brown Creeper	PP
<i>Poliophtila caerulea</i>	Blue-gray Gnatcatcher	PIP
<i>Thryomanes bewickii</i>	Bewick's Wren	H
<i>Thryothorus ludovicianus</i>	Carolina Wren	PIP
<i>Troglodytes aedon</i>	House Wren	PP
<i>Troglodytes troglodytes</i>	Winter Wren	PP
<i>Corvus brachyrhynchos</i>	American Crow	PIP
<i>Corvus ossifragus</i>	Fish Crow	PIP
<i>Cyanocitta cristata</i>	Blue Jay	PIP
<i>Agelaius phoeniceus</i>	Red-winged Blackbird	PIP
<i>Calcarius lapponicus</i>	Lapland Longspur	PP
<i>Cardinalis cardinalis</i>	Northern Cardinal	PIP
<i>Carduelis pinus</i>	Pine Siskin	PP
<i>Carduelis tristis</i>	American Goldfinch	PP
<i>Carpodacus mexicanus</i>	House Finch	PP
<i>Carpodacus purpureus</i>	Purple Finch	PP
<i>Coccothraustes vespertinus</i>	Evening Grosbeak	PP
<i>Dendroica castanea</i>	Bay-breasted Warbler	PP

<i>Dendroica cerulea</i>	Cerulean Warbler	PP
<i>Dendroica coronata</i>	Yellow-rumped Warbler	PIP
<i>Dendroica dominica</i>	Yellow-throated Warbler	PP
<i>Dendroica fusca</i>	Blackburnian Warbler	PP
<i>Dendroica magnolia</i>	Magnolia Warbler	PP
<i>Dendroica pensylvanica</i>	Chestnut-sided Warbler	PP
<i>Dendroica petechia</i>	Yellow Warbler	PP
<i>Dendroica pinus</i>	Pine Warbler	PP
<i>Dendroica striata</i>	Blackpoll Warbler	PP
<i>Dendroica virens</i>	Black-throated Green Warbler	PIP
<i>Dolichonyx oryzivorus</i>	Bobolink	PP
<i>Euphagus carolinus</i>	Rusty Blackbird	PP
<i>Geothlypis trichas</i>	Common Yellowthroat	PIP
<i>Guiraca caerulea</i>	Blue Grosbeak	PIP
<i>Helmitheros vermivorus</i>	Worm-eating Warbler	PIP
<i>Icteria virens</i>	Yellow-breasted Chat	PIP
<i>Icterus galbula</i>	Baltimore Oriole, Northern Oriole	PP
<i>Icterus spurius</i>	Orchard Oriole	PIP
<i>Junco hyemalis</i>	Dark-eyed Junco	PP
<i>Limnithlypis swainsonii</i>	Swainson's Warbler	PIP
<i>Melospiza georgiana</i>	Swamp Sparrow	PP
<i>Melospiza lincolni</i>	Lincoln's Sparrow	PIP
<i>Melospiza melodia</i>	Song Sparrow	PIP
<i>Mniotilta varia</i>	Black-and-white Warbler	PIP
<i>Molothrus ater</i>	Brown-headed Cowbird	PIP
<i>Oporornis formosus</i>	Kentucky Warbler	PIP
<i>Parula americana</i>	Northern Parula	PIP
<i>Passerculus sandwichensis</i>	Savannah Sparrow	PP
<i>Passerella iliaca</i>	Fox Sparrow	PP
<i>Passerina ciris</i>	Painted Bunting	PP
<i>Passerina cyanea</i>	Indigo Bunting	PIP
<i>Pheucticus ludovicianus</i>	Rose-breasted Grosbeak	PP
<i>Pipilo erythrophthalmus</i>	Eastern Towhee, Rufous-sided Towhee	PIP

<i>Piranga ludoviciana</i>	Western Tanager	PP
<i>Piranga olivacea</i>	Scarlet Tanager	PP
<i>Piranga rubra</i>	Summer Tanager	PIP
<i>Poocetes gramineus</i>	Vesper Sparrow	PP
<i>Protonotaria citrea</i>	Prothonotary Warbler	PIP
<i>Quiscalus quiscula</i>	Common Grackle	PIP
<i>Seiurus aurocapillus</i>	Ovenbird	PP
<i>Seiurus motacilla</i>	Louisiana Waterthrush	PP
<i>Seiurus noveboracensis</i>	Northern Waterthrush	PP
<i>Setophaga ruticilla</i>	American Redstart	PP
<i>Spiza americana</i>	Dickcissel	PIP
<i>Spizella passerina</i>	Chipping Sparrow	PP
<i>Spizella pusilla</i>	Field Sparrow	PIP
<i>Sturnella magna</i>	Eastern Meadowlark	PP
<i>Vermivora celata</i>	Orange-crowned Warbler	PP
<i>Vermivora chrysoptera</i>	Golden-winged Warbler	PP
<i>Vermivora peregrina</i>	Tennessee Warbler	PIP
<i>Vermivora pinus</i>	Blue-winged Warbler	PIP
<i>Vermivora ruficapilla</i>	Nashville Warbler	PP
<i>Wilsonia canadensis</i>	Canada Warbler	PP
<i>Wilsonia citrina</i>	Hooded Warbler	PIP
<i>Zonotrichia albicollis</i>	White-throated Sparrow	PIP
<i>Zonotrichia leucophrys</i>	White-crowned Sparrow	PP
<i>Hirundo rustica</i>	Barn Swallow	PIP
<i>Petrochelidon pyrrhonota</i>	Cliff Swallow	PP
<i>Progne subis</i>	Purple Martin	PIP
<i>Riparia riparia</i>	Bank Swallow	PP
<i>Stelgidopteryx serripennis</i>	Northern Rough-winged Swallow	PP
<i>Tachycineta bicolor</i>	Tree Swallow	PP
<i>Lanius ludovicianus</i>	Loggerhead Shrike	PP
<i>Catharus fuscescens</i>	Veery	PIP
<i>Catharus guttatus</i>	Hermit Thrush	PIP
<i>Catharus minimus</i>	Gray-cheeked Thrush	PP
<i>Catharus ustulatus</i>	Swainson's Thrush	PIP

<i>Hylocichla mustelina</i>	Wood Thrush	PIP
<i>Sialia sialis</i>	Eastern Bluebird	PIP
<i>Turdus migratorius</i>	American Robin	PP
<i>Baeolophus bicolor</i>	Tufted Titmouse	PP
<i>Poecile carolinensis</i>	Carolina Chickadee	PP
<i>Passer domesticus</i>	House Sparrow	PP
<i>Regulus calendula</i>	Ruby-crowned Kinglet	PIP
<i>Regulus satrapa</i>	Golden-crowned Kinglet	PP
<i>Sitta canadensis</i>	Red-breasted Nuthatch	PP
<i>Sitta carolinensis</i>	White-breasted Nuthatch	PP
<i>Dumetella carolinensis</i>	Gray Catbird	PIP
<i>Mimus polyglottos</i>	Northern Mockingbird	PIP
<i>Sturnus vulgaris</i>	European Starling	PP
<i>Toxostoma rufum</i>	Brown Thrasher	PIP
<i>Contopus virens</i>	Eastern Wood-Pewee	PIP
<i>Empidonax virescens</i>	Acadian Flycatcher	PIP
<i>Myiarchus crinitus</i>	Great Crested Flycatcher	PIP
<i>Sayornis phoebe</i>	Eastern Phoebe	PIP
<i>Tyrannus forficatus</i>	Scissor-tailed Flycatcher	PP
<i>Tyrannus tyrannus</i>	Eastern Kingbird	PP
<i>Vireo flavifrons</i>	Yellow-throated Vireo	PIP
<i>Vireo gilvus</i>	Warbling Vireo	PP
<i>Vireo griseus</i>	White-eyed Vireo	PIP
<i>Vireo olivaceus</i>	Red-eyed Vireo	PIP
<i>Vireo philadelphicus</i>	Philadelphia Vireo	PP
<i>Vireo solitarius</i>	Blue-headed Vireo, Solitary Vireo	PP
<i>Colaptes auratus</i>	Northern Flicker	PIP
<i>Dryocopus pileatus</i>	Pileated Woodpecker	PIP
<i>Melanerpes carolinus</i>	Red-bellied Woodpecker	PIP
<i>Melanerpes erythrocephalus</i>	Red-headed Woodpecker	PIP
<i>Picoides pubescens</i>	Downy Woodpecker	PIP
<i>Picoides villosus</i>	Hairy Woodpecker	PP
<i>Sphyrapicus varius</i>	Yellow-bellied Sapsucker	PP

<i>Caprimulgus carolinensis</i>	Chuck-will's-widow	PP
<i>Caprimulgus vociferus</i>	Whip-poor-will	PP
<i>Chordeiles minor</i>	Common Nighthawk	PP
<i>Bubo virginianus</i>	Great Horned Owl	PIP
<i>Otus asio</i>	Eastern Screech-Owl	PP
<i>Strix varia</i>	Barred Owl	PIP
<i>Tyto alba</i>	Barn Owl, Common Barn-Owl	PP
Scientific Name	Common Name	Park Status <sup>1</sup>
<b>Fish</b>		
<i>Campostoma anomalum</i>	central stoneroller	PIP
<i>Cyprinella whipplei</i>	steelcolor shiner	U
<i>Cyprinus carpio</i>	common carp, European carp	PIP
<i>Hybognathus nuchalis</i>	Mississippi silvery minnow	PIP
<i>Macrhybopsis meeki</i>	sicklefin chub	U
<i>Notemigonus crysoleucas</i>	golden shiner	PIP
<i>Notropis atherinoides</i>	emerald shiner	PIP
<i>Phoxinus erythrogaster</i>	southern redbelly dace	U
<i>Pimephales notatus</i>	bluntnose minnow	PIP
<i>Pimephales promelas</i>	fathead minnow	PIP
<i>Semotilus atromaculatus</i>	creek chub	PIP
<i>Gambusia affinis</i>	mosquitofish, western mosquitofish	PIP
<i>Hiodon alosoides</i>	goldeye	U
<i>Enneacanthus gloriosus</i>	bluespotted sunfish	U
<i>Lepomis cyanellus</i>	green sunfish	PIP
<i>Lepomis gulosus</i>	warmouth	PIP
<i>Micropterus salmoides</i>	largemouth bass	PIP
<i>Etheostoma asprigene</i>	mud darter	PIP
<i>Etheostoma chlorosomum</i>	bluntnose darter	PIP
<i>Etheostoma fusiforme</i>	swamp darter	PIP
<i>Aphredoderus sayanus</i>	pirate perch	PIP
<i>Ichthyomyzon unicuspis</i>	silver lamprey	U
<i>Lepisosteus oculatus</i>	shortnose gar, spotted gar	U
<i>Lepisosteus spatula</i>	Alligator Gar	U
<i>Ameiurus melas</i>	black bullhead	PIP

<i>Ameiurus natalis</i>	yellow bullhead	PIP
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Scientific Name	Common Name	Park Status <sup>1</sup>
<b>Mammals</b>		
<i>Odocoileus virginianus</i>	white-tailed deer	PIP
<i>Canis familiaris</i>	domestic dog, domestic dog (feral)	PIP
<i>Canis latrans</i>	coyote	PIP
<i>Urocyon cinereoargenteus</i>	common gray fox, gray fox	PIP
<i>Vulpes vulpes</i>	red fox	PIP
<i>Felis catus</i>	Domestic cat	PIP
<i>Lynx rufus</i>	bobcat	PIP
<i>Mephitis mephitis</i>	striped skunk	PIP
<i>Spilogale putorius</i>	eastern spotted skunk, spotted skunk	U
<i>Mustela frenata</i>	long-tailed weasel	PIP
<i>Mustela vison</i>	American mink, mink	U
<i>Procyon lotor</i>	common raccoon, northern raccoon, raccoon	PIP
<i>Tadarida brasiliensis</i>	Brazilian free-tailed bat	PIP
<i>Eptesicus fuscus</i>	big brown bat	PIP
<i>Lasiurus borealis</i>	eastern red bat, red bat	PIP
<i>Lasiurus cinereus</i>	hoary bat	PIP
<i>Lasiurus seminolus</i>	Seminole bat	PIP
<i>Nycticeius humeralis</i>	evening bat	PIP
<i>Pipistrellus subflavus</i>	eastern pipistrelle	PIP
<i>Didelphis virginiana</i>	Virginia opossum	PIP
<i>Blarina brevicauda</i>	mole shrew, northern short-tailed shrew, short-tailed shrew	FR
<i>Blarina carolinensis</i>	southern short-tailed shrew	PIP

<i>Cryptotis parva</i>	bee shrew, least shrew, little short-tailed shrew, small short-tailed shrew	PIP
<i>Sorex longirostris</i>	southeastern shrew	PIP
<i>Scalopus aquaticus</i>	eastern mole, topos	PIP
<i>Sylvilagus aquaticus</i>	swamp rabbit	PIP
<i>Sylvilagus floridanus</i>	eastern cottontail	PIP
<i>Castor canadensis</i>	american beaver, beaver	PIP
<i>Myocastor coypus</i>	coypu, nutria	PIP
<i>Microtus pinetorum</i>	pine vole, woodland vole	PIP
<i>Mus musculus</i>	house mouse	PIP
<i>Neotoma floridana</i>	eastern woodrat	PIP
<i>Ochrotomys nuttalli</i>	golden mouse	U
<i>Oryzomys palustris</i>	marsh rice rat	U
<i>Peromyscus gossypinus</i>	cotton mouse	PIP
<i>Peromyscus leucopus</i>	white-footed mouse	PIP
<i>Rattus norvegicus</i>	Norway rat	PP
<i>Rattus rattus</i>	black rat	PP
<i>Reithrodontomys humulis</i>	eastern harvest mouse	PIP
<i>Sigmodon hispidus</i>	hispid cotton rat	PIP
<i>Glaucomys volans</i>	southern flying squirrel	PIP
<i>Sciurus carolinensis</i>	eastern gray squirrel, gray squirrel	U
<i>Sciurus niger</i>	eastern fox squirrel, fox squirrel	PIP
<i>Tamias striatus</i>	eastern chipmunk	PIP
<i>Dasyurus novemcinctus</i>	long-nosed armadillo, nine-banded armadillo	PIP
Scientific Name	Common Name	Park Status <sup>1</sup>
<b>Reptiles</b>		
<i>Carphophis amoenus helenae</i>	Midwest Worm Snake	PIP
<i>Cemophora coccinea</i>	Scarlet Snake	PP
<i>Coluber constrictor latrunculus</i>	Black-masked Racer	PIP
<i>Diadophis punctatus stictogenys</i>	Mississippi Ringneck Snake	PIP
<i>Elaphe guttata</i>	Corn Snake, Cornsnake	PIP

<i>Elaphe spiloides</i>	Gray Ratsnake	PIP
<i>Heterodon platirhinos</i>	Eastern Hog-nosed Snake	PP
<i>Lampropeltis calligaster</i>	Prairie Kingsnake, Yellow-bellied Kingsnake	PP
<i>Lampropeltis getula holbrooki</i>	Speckled Kingsnake	PIP
<i>Lampropeltis triangulum</i>	Milk Snake, Milksnake	PP
<i>Masticophis flagellum</i>	Coachwhip	PP
<i>Nerodia erythrogaster flavigaster</i>	Yellow-bellied Water Snake	PIP
<i>Nerodia sipedon pleuralis</i>	Midland Water Snake	PIP
<i>Opheodrys aestivus</i>	Rough Green Snake, Rough Greensnake	PIP
<i>Storeria dekayi</i>	Brown Snake, Dekay's Brown Snake, DeKay's Brownsnake	PP
<i>Storeria occipitomaculata obscura</i>	Florida Redbelly Snake	PIP
<i>Tantilla coronata</i>	Southeastern Crowned Snake	PP
<i>Thamnophis proximus</i>	Western Ribbon Snake	PP
<i>Thamnophis sirtalis</i>	Common Garter Snake	PIP
<i>Virginia striatula</i>	Rough Earth Snake, Rough Earthsnake	PP
<i>Virginia valeriae</i>	Smooth Earth Snake, Smooth Earthsnake	PP
<i>Anolis carolinensis</i>	Green Anole	PIP
<i>Eumeces fasciatus</i>	Five-lined Skink	PIP
<i>Eumeces laticeps</i>	Broad-headed Skink	PIP
<i>Scincella lateralis</i>	Ground Skink, Little Brown Skink	PIP
<i>Agkistrodon contortrix contortrix</i>	Southern Copperhead	PIP
<i>Agkistrodon piscivorus leucostoma</i>	Western Cottonmouth	PIP
<i>Crotalus horridus</i>	Timber Rattlesnake	PIP
<i>Chelydra serpentina serpentina</i>	Common Snapping Turtle	PIP
<i>Macrolemys temminckii</i>	alligator snapping turtle	PIP
<i>Chrysemys picta dorsalis</i>	Southern Painted Turtle	PIP
<i>Deirochelys reticularia</i>	Chicken Turtle	PP
<i>Graptemys kohnii</i>	Mississippi Map Turtle	U

<i>Graptemys ouachitensis</i>	Ouachita Map Turtle	PIP
<i>Graptemys pseudogeographica</i>	False Map Turtle	PIP
<i>Pseudemys concinna</i>	River Cooter	PIP
<i>Terrapene carolina triunguis</i>	Three-toed Box Turtle	PIP
<i>Trachemys scripta elegans</i>	Red-eared Slider	PIP
<i>Kinosternon subrubrum</i>	common mud turtle, Eastern Mud Turtle	PP
<i>Sternotherus carinatus</i>	Razor-backed Musk Turtle	PP
<i>Sternotherus odoratus</i>	Common Musk Turtle	PIP
<i>Apalone mutica</i>	Smooth Softshell, smooth softshell turtle	PP
<i>Apalone spinifera</i>	Spiny Softshell, spiny softshell turtle	PP
<b>Scientific Name</b>	<b>Common Name</b>	<b>Park Status<sup>1</sup></b>
<b>Vascular Plants</b>		
<i>Cryptotaenia canadensis</i>	Canadian honewort, honewort	PIP
<i>Hydrocotyle verticillata</i>	whorled marsh pennywort, whorled marshpennywort, whorled pennyroyal	PIP
<i>Torilis arvensis</i>	Canada hedgeparsley, hedge parsley, hedgeparsley, spreading hedgeparsley	PIP
<i>Trepocarpus aethusae</i>	aethusae, whitenymph	PIP
<i>Hedera helix</i>	English ivy	PIP
<i>Arisaema dracontium</i>	green dragon, greendragon	PIP
<i>Arisaema triphyllum</i>	Indian jack in the pulpit, Jack in the pulpit, Jack-in-the-pulpit	PIP
<i>Lemna valdiviana</i>	pale duckweed, valdivia duckweed, Valdivia's duckweed	PIP
<i>Spirodela punctata</i>	dotted duckmeat, dotted duckweed	PIP
<i>Aristolochia serpentaria</i>	Virginia dutchmanspipe, Virginia snakeroot	PIP
<i>Achillea millefolium</i>	bloodwort, carpenter's weed, common yarrow, hierba de las cortaduras, milfoil, plumajillo, western yarrow, yarrow (common)	PIP

<i>Ageratina altissima</i> var. <i>altissima</i>	white snakeroot	U
<i>Ambrosia artemisiifolia</i>	annual ragweed, common ragweed, low ragweed, ragweed, Roman wormwood, short ragweed, small ragweed	PIP
<i>Ambrosia trifida</i>	blood ragweed, giant ragweed, great ragweed, horseweed, perennial ragweed (great), tall ragweed	PIP
<i>Aster drummondii</i>	Drummond's aster	PIP
<i>Aster lanceolatus</i>	white panicle aster	PIP
<i>Aster pilosus</i>	white heath aster, white oldfield aster	PIP
<i>Baccharis halimifolia</i>	eastern baccharis	PIP
<i>Bidens bipinnata</i>	Spanish needles, spanish-needles	PIP
<i>Bidens tripartita</i>	three-lobe beggarticks, threelobe beggarticks	PIP
<i>Cirsium altissimum</i>	roadside thistle, tall thistle	PIP
<i>Cirsium horridulum</i>	yellow thistle	PIP
<i>Conoclinium coelestinum</i>	blue mistflower	PIP
<i>Dracopis amplexicaulis</i>	clasping coneflower, clasping-coneflower	PIP
<i>Eclipta prostrata</i>	eclipta, false daisy, yerba de tajo, yerba de tajo	PIP
<i>Elephantopus carolinianus</i>	Carolina elephantsfoot, leafy elephantfoot	PIP
<i>Elephantopus nudatus</i>	naked elephantfoot, smooth elephantsfoot	PIP
<i>Erigeron philadelphicus</i>	Philadelphia daisy, Philadelphia fleabane	PIP
<i>Eupatorium incarnatum</i>	pink thoroughwort	PIP
<i>Eupatorium rugosum</i>	richweed, snakeroot, white snakeroot	PIP
<i>Helenium autumnale</i>	bitterweed, common sneezeweed, fall sneezeweed, false sunflower	PIP
<i>Krigia caespitosa</i>	weedy dwarf dandelion	PIP
<i>Lactuca canadensis</i>	Canada lettuce, Florida blue lettuce, wild lettuce	PIP
<i>Lactuca floridana</i>	Florida lettuce, woodland lettuce	PIP

<i>Mikania scandens</i>	climbing hempvine, climbing hempweed	PIP
<i>Pluchea camphorata</i>	camphor pluchea, camphor weed	PIP
<i>Pyrrhopappus carolinianus</i>	Carolina desert chicory, Carolina desert-chicory, Carolina false dandelion, Carolina false-dandelion	PIP
<i>Senecio glabellus</i>	butterweed, cressleaf, cressleaf groundsel	PIP
<i>Solidago canadensis</i>	Canada goldenrod, Canadian goldenrod, common goldenrod	PIP
<i>Sonchus asper</i>	perennial sowthistle, prickly sowthistle, spiny sowthistle, spiny-leaf sow-thistle	PIP
<i>Taraxacum officinale</i>	blowball, common dandelion, dandelion, faceclock	PIP
<i>Verbesina alternifolia</i>	wingstem	PIP
<i>Vernonia gigantea</i>	giant ironweed, tall ironweed	PIP
<i>Tillandsia usneoides</i>	Spanish moss	PIP
<i>Lobelia siphilitica</i>	great blue lobelia	PIP
<i>Triodanis biflora</i>	Clasping Venus-looking-glass	PIP
<i>Triodanis perfoliata</i>	clasping bellwort, clasping Venus' looking-glass, clasping Venus' lookingglass, clasping venuslookingglass, clasping-leaf venus'-looking-glass, common Venus' lookingglass, roundleaved triodanis, Venus lookingglass	PIP
<i>Capsella bursa-pastoris</i>	shepardspurse, shepherd's purse, shepherd's-purse, shepherdspurse	PIP
<i>Cardamine hirsuta</i>	hairy bittercress	PIP
<i>Sisymbrium officinale</i>	hairypod hedgemustard, hedge mustard, hedge tumbledustard, hedge-mustard, hedgemustard, hedgeweed, wild mustard	PIP
<i>Cerastium pumilum</i>	European chickweed	PIP
<i>Cerastium viscosum</i>	sticky chickweed	PIP
<i>Sagina decumbens</i>	beach pearlwort, trailing pearlwort	PIP
<i>Chenopodium murale</i>	nettle-leaf goosefoot, nettleleaf goosefoot	PIP
<i>Chenopodium standleyanum</i>	Standley's goosefoot	PIP

<i>Phytolacca americana</i>	American pokeweed, common pokeweed, inkberry, pigeonberry, poke, pokeberry, pokeweed	PIP
<i>Ilex decidua</i>	possumhaw	PIP
<i>Ilex opaca</i>	American holly	PIP
<i>Celastrus orbiculatus</i>	Asian bittersweet, Asiatic bittersweet, oriental bittersweet	PIP
<i>Celastrus scandens</i>	American bittersweet, staffvine, waxwork	PIP
<i>Euonymus americanus</i>	American strawberry-bush	PIP
<i>Commelina communis</i>	Asiatic dayflower, common dayflower	PIP
<i>Commelina virginica</i>	Virginia dayflower	PIP
<i>Tradescantia occidentalis</i>	prairie spiderwort, spiderwort	PIP
<i>Tradescantia ohiensis</i>	bluejacket, Ohio spiderwort	PIP
<i>Cornus drummondii</i>	roughleaf dogwood	PIP
<i>Cornus florida</i>	flowering dogwood	PIP
<i>Carex albicans</i>	whiteninge sedge	PIP
<i>Carex amphibola</i>	amphibious sedge, eastern narrowleaf sedge	PIP
<i>Carex austrina</i>	southern sedge	PIP
<i>Carex blanda</i>	bland sedge, eastern woodland sedge, woodland sedge	PIP
<i>Carex cephalophora</i>	oval-leaf sedge, oval-leaved sedge, ovalleaf sedge	PIP
<i>Carex cherokeensis</i>	Cherokee sedge	PIP
<i>Carex oxylepis</i>	sharp-scale sedge	PIP
<i>Carex retroflexa</i>	reflexed sedge	PIP
<i>Cyperus echinatus</i>	globe flatsedge	PIP
<i>Cyperus erythrorhizos</i>	red-root flat sedge, redroot flatsedge, redroot nutgrass	PIP
<i>Cyperus esculentus</i>	Chufa flatsedge	PIP
<i>Cyperus rotundus</i>	chaguan humatag, cocoglass, kili'o'opu, nutgrass, pakopako, purple nutsedge	PIP
<i>Eleocharis montevidensis</i>	sand spikerush	PIP
<i>Eleocharis rostellata</i>	beaked spike-rush, beaked spikerush, beaked spikesedge	PIP
<i>Andropogon glomeratus</i>	bushy bluestem	PIP

<i>Andropogon virginicus</i>	broomsedge, broomsedge bluestem, yellow bluestem	PIP
<i>Aristida longispica</i>	slimspike threeawn	U
<i>Arundinaria gigantea</i>	giant cane	PIP
<i>Brachiaria eruciformis</i>	sweet signalgrass	PIP
<i>Bromus catharticus</i>	rescue brome, rescue grass, rescuegras, rescuegrass	PIP
<i>Bromus secalinus</i>	bromegrass, cheat, chess, chess brome, rye brome, ryebrome	PIP
<i>Cynodon dactylon</i>	Bermudagrass, chiendent pied-de-poule, common bermudagrass, devilgrass, grama-seda, manienie, motie molulu	PIP
<i>Dactylis glomerata</i>	cocksfoot, orchard grass, orchardgrass	PIP
<i>Dichanthelium laxiflorum</i>	openflower rosette grass	PIP
<i>Digitaria filiformis</i>	slender crabgrass	PIP
<i>Digitaria ischaemum</i>	small crabgrass, smooth crab grass, smooth crabgrass	PIP
<i>Elymus virginicus</i>	Virginia wild rye, Virginia wildrye	PIP
<i>Glyceria striata</i>	fowl manna grass, fowl mannagrass	PIP
<i>Hordeum pusillum</i>	little barley, little wildbarley	PIP
<i>Leersia oryzoides</i>	rice cut grass, rice cutgrass	PIP
<i>Lolium perenne</i>	italian ryegrass, perennial rye grass, perennial ryegrass	PIP
<i>Lolium pratense</i>	meadow fescue, meadow ryegrass	PIP
<i>Microstegium vimineum</i>	Japanese stiltgrass, Nepalese browntop	PIP
<i>Oplismenus setarius</i>	shortleaf basketgrass	PIP
<i>Paspalum notatum</i>	Bahia grass, bahiagrass	PIP
<i>Pennisetum glaucum</i>	Ornamental Millet	PIP
<i>Phyllostachys aurea</i>	golden bamboo	PIP
<i>Poa pratensis</i>	Kentucky bluegrass	PIP
<i>Poa sylvestris</i>	woodland bluegrass	PIP
<i>Sorghum halepense</i>	aleppo milletgrass, herbe de Cuba, Johnson grass, Johnsongrass, sorgho d'Alep, sorgo de alepo, zacate Johnson	PIP

<i>Tridens flavus</i>	Purpletop, purpletop tridens	PIP
<i>Vulpia octoflora</i>	eight-flower six-weeks grass, pullout grass, sixweeks fescue, sixweeks grass	PIP
<i>Lonicera japonica</i>	Chinese honeysuckle, Japanese honeysuckle	PIP
<i>Lonicera sempervirens</i>	trumpet honeysuckle	PIP
<i>Sambucus canadensis</i>	american elder	PIP
<i>Viburnum prunifolium</i>	blackhaw	PIP
<i>Viburnum rufidulum</i>	rusty blackhaw, rusty viburnum	PIP
<i>Valerianella radiata</i>	beaked cornsalad	PIP
<i>Diospyros virginiana</i>	common persimmon, eastern persimmon, Persimmon	PIP
<i>Sideroxylon lycioides</i>	buckthorn bully	PIP
<i>Equisetum hyemale var. affine</i>	scouringrush horsetail, stout scouringrush, tall scouring-rush	PIP
<i>Acalypha rhomboidea</i>	Virginia threeseed mercury	PIP
<i>Acalypha virginica</i>	mercuryweed, threeseeded mercury, Virginia copperleaf, Virginia threeseed mercury, wax balls	PIP
<i>Chamaesyce nutans</i>	eyebane, nodding spurge, spotted sandmat, spotted spurge	PIP
<i>Triadica sebifera</i>	tallowtree	PIP
<i>Albizia julibrissin</i>	mimosa, mimosa tree, powderpuff tree, silk tree, silktree	PIP
<i>Cercis canadensis</i>	eastern redbud, Redbud	PIP
<i>Desmodium perplexum</i>	perplexed ticktrefoil	PIP
<i>Gleditsia triacanthos</i>	common honeylocust, Honey locust, honey-locust, honeylocust, honeylocusts	PIP
<i>Medicago arabica</i>	spotted burclover, spotted medick	PIP
<i>Pueraria lobata</i>	kudzu, kudzu vine	PIP
<i>Robinia pseudo-acacia</i>	black locust	PIP
<i>Sesbania exaltata</i>	bigpod sesbania, hemp sesbania	PIP
<i>Trifolium campestre</i>	Field (Big-hop) clover, field clover, large hop clover, lesser hop clover, low hop clover	PIP
<i>Trifolium incarnatum</i>	crimson clover	PIP
<i>Trifolium pratense</i>	red clover	PIP

<i>Trifolium repens</i>	Dutch clover, ladino clover, white clover	PIP
<i>Trifolium resupinatum</i>	Persian clover, reversed clover	PIP
<i>Vicia ludoviciana ssp. leavenworthii</i>	leavenworth vetch, Leavenworth's vetch	PIP
<i>Vicia sativa</i>	Common Vetch, garden vetch, narrowleaf vetch, sweetpea (garden vetch)	PIP
<i>Vicia villosa</i>	hairy vetch, winter vetch, woolly vetch, wooly vetch	PIP
<i>Wisteria sinensis</i>	Chinese wisteria	PIP
<i>Carpinus caroliniana</i>	American hornbeam, american hornbeam	PIP
<i>Fagus grandifolia</i>	American beech	PIP
<i>Quercus alba</i>	white oak	PIP
<i>Quercus falcata</i>	southern red oak	PIP
<i>Quercus muehlenbergii</i>	chinkapin oak	PIP
<i>Quercus nigra</i>	water oak	PIP
<i>Quercus pagoda</i>	cherrybark oak, texas oak	PIP
<i>Quercus rubra</i>	northern red oak	PIP
<i>Quercus shumardii</i>	shumard oak, Shumard's oak	PIP
<i>Quercus velutina</i>	black oak	PIP
<i>Quercus virginiana</i>	live oak	PIP
<i>Matelea gonocarpos</i>	angularfruit milkvine	PIP
<i>Impatiens capensis</i>	jewelweed, spotted touch-me-not	PIP
<i>Geranium carolinianum</i>	Carolina crane's-bill, Carolina geranium	PIP
<i>Geranium dissectum</i>	cutleaf geranium	PIP
<i>Oxalis rubra</i>	Oxalis rubra, windowbox woodsorrel	PIP
<i>Oxalis stricta</i>	common yellow oxalis, erect woodsorrel, sheep sorrel, sourgrass, toad sorrel, upright yellow wood-sorrel, upright yellow woodsorrel, yellow woodsorrel	PIP
<i>Ginkgo biloba</i>	common ginkgo, maidenhair tree	PIP
<i>Hamamelis virginiana</i>	American witchhazel, witch-hazel, witchhazel	PIP
<i>Liquidambar styraciflua</i>	sweetgum	PIP

<i>Platanus occidentalis</i>	American sycamore, sycamore	PIP
<i>Carya cordiformis</i>	bitternut hickory	PIP
<i>Carya illinoensis</i>	pecan	PIP
<i>Juglans nigra</i>	black walnut	PIP
<i>Juncus tenuis</i>	field rush, path rush, poverty rush, slender rush, slender yard rush, wiregrass	PIP
<i>Luzula echinata</i>	hedghog woodrush	PIP
<i>Cynoglossum virginianum</i>	blue houndstongue, wild comfrey	PIP
<i>Myosotis verna</i>	spring forget me not, spring forget-me-not	PIP
<i>Lamium amplexicaule</i>	common henbit, giraffehead, henbit, henbit deadnettle	PIP
<i>Lamium purpureum</i>	purple deadnettle, red deadnettle	PIP
<i>Mentha spicata</i>	bush mint (spearmint), spearmint	PIP
<i>Perilla frutescens</i>	beefsteak, beefsteak mint, beefsteakplant, Purple mint	PIP
<i>Salvia lyrata</i>	lyreleaf sage	PIP
<i>Callicarpa americana</i>	American beautyberry	PIP
<i>Phryma leptostachya</i>	American lopseed, lopseed	PIP
<i>Phyla lanceolata</i>	frog fruit, lanceleaf fogfruit, lanceleaf frog fruit, northern fogfruit	PIP
<i>Verbena brasiliensis</i>	Brazilian vervain	PIP
<i>Verbena rigida</i>	tuberous vervain	PIP
<i>Lindera benzoin</i>	northern spicebush, spicebush	PIP
<i>Sassafras albidum</i>	sassafras	PIP
<i>Yucca rupicola</i>	Texas yucca	PIP
<i>Herbertia lahue ssp. caerulea</i>	prairienymph	PIP
<i>Sisyrinchium angustifolium</i>	blue eyegrass, blue-eyed grass, common blue eyedgrass, common blue-eyedgrass, narrowleaf blue-eyed grass	PIP
<i>Sisyrinchium langloisii</i>	roadside blue-eyed grass, roadside blueeyed grass	PIP
<i>Sisyrinchium rosulatum</i>	annual blue-eyed grass, annual blueeyed grass	PIP
<i>Allium ampeloprasum</i>	broadleaf wild leek	PIP

<i>Allium canadense</i>	Canada garlic, meadow garlic, meadow onion, wild onion	PIP
<i>Allium oleraceum</i>	field garlic	PIP
<i>Lycoris radiata</i>	red spider lily	PIP
<i>Muscari neglectum</i>	starch grape hyacinth, starch grapehyacinth	PIP
<i>Nothoscordum bivalve</i>	crowpoison	PIP
<i>Polygonatum biflorum</i>	king Solomon's seal, King Solomon's-seal, smooth Solomon's seal, Solomon's seal	PIP
<i>Trillium sessile</i>	toadshade	PIP
<i>Smilax bona-nox</i>	saw greenbrier	PIP
<i>Smilax smallii</i>	lanceleaf greenbrier, small greenbrier	PIP
<i>Smilax tamnoides</i>	bristly greenbrier	PIP
<i>Asimina triloba</i>	pawpaw	PIP
<i>Liriodendron tulipifera</i>	tulip poplar, tuliptree, yellow poplar, yellow-poplar	PIP
<i>Magnolia grandiflora</i>	southern magnolia	PIP
<i>Magnolia X soulangiana</i>	Chinese magnolia	PIP
<i>Modiola caroliniana</i>	Carolina bristlemallow, Carolina modiola	PIP
<i>Firmiana simplex</i>	Chinese parasoltree	PIP
<i>Tilia americana</i>	American basswood	PIP
<i>Lagerstroemia indica</i>	crapemyrtle	PIP
<i>Oenothera speciosa</i>	pinkladies, Showy evening primrose, showy eveningprimrose	PIP
<i>Botrychium biternatum</i>	sparselobe grapefern	PIP
<i>Botrychium virginianum</i>	rattlesnake fern	PIP
<i>Ophioglossum petiolatum</i>	longstem adderstongue	PIP
<i>Spiranthes lacera var. gracilis</i>	northern slender ladies'-tresses, northern slender ladiestresses	PIP
<i>Tipularia discolor</i>	crippled cranefly	PIP
<i>Juniperus virginiana</i>	eastern red-cedar, eastern redcedar, red cedar juniper	PIP
<i>Thuja occidentalis</i>	arborvitae, eastern white cedar, northern white cedar, northern white-cedar, swamp cedar	PIP
<i>Pinus strobus</i>	easter white pine, eastern white pine, northern white pine, soft pine, weymouth pine, white pine	PIP

<i>Pinus taeda</i>	loblolly pine	PIP
<i>Taxodium distichum</i>	bald cypress, baldcypress	PIP
<i>Plantago rugelii</i>	black-seed plantain, blackseed plantain, Rugel's plantain	PIP
<i>Plantago virginica</i>	paleseed Indianwheat, Virginia plantain	PIP
<i>Polygonum hydropiperoides</i>	swamp smartweed	PIP
<i>Polygonum pensylvanicum</i>	Pennsylvania knotweed, Pennsylvania smartweed, pinkweed, pinweed	PIP
<i>Polygonum scandens</i>	climbing false buckwheat, climbing knotweed	PIP
<i>Polygonum virginianum</i>	jumpseed, Virginia smartweed	PIP
<i>Asplenium platyneuron</i>	ebony spleenwort	PIP
<i>Cystopteris protrusa</i>	lowland bladderfern	PIP
<i>Polystichum acrostichoides</i>	Christmas fern	PIP
<i>Woodsia obtusa</i>	blunt-lobe woodsia, bluntlobe cliff fern	PIP
<i>Adiantum pedatum</i>	maidenfern, maidenhair, maidenhair fern, northern maidenhair	PIP
<i>Pteris multifida</i>	spider brake	PIP
<i>Macrothelypteris torresiana</i>	swordfern	PIP
<i>Thelypteris kunthii</i>	Kunth's maiden fern	PIP
<i>Samolus floribundus</i>	water pimpernel	PIP
<i>Samolus valerandi ssp. parviflorus</i>	seaside brookweed, smallflower water pimpernel, water brookweed	U
<i>Nandina domestica</i>	heavenly bamboo, nanten, sacred bamboo	PIP
<i>Cocculus carolinus</i>	Carolina coralbead, Carolina snailseed, redberry moonseed	PIP
<i>Anemone berlandieri</i>	tenpetal thimbleweed	PIP
<i>Clematis virginiana</i>	devil's darning needles, devil's-darning-needles, virgin's bower, Virginia bower	PIP
<i>Ranunculus muricatus</i>	spinyfruit buttercup	PIP
<i>Ranunculus parviflorus</i>	smallflower buttercup, sticktight buttercup	PIP

<i>Ranunculus recurvatus</i>	blisterwort, littleleaf buttercup	PIP
<i>Berchemia scandens</i>	Alabama supplejack	PIP
<i>Rhamnus caroliniana</i>	Carolina buckthorn	PIP
<i>Ampelopsis arborea</i>	peppervine	PIP
<i>Parthenocissus quinquefolia</i>	American ivy, fiveleaved ivy, Virginia creeper, woodbine	PIP
<i>Vitis cinerea</i>	graybark grape, sweet grape	PIP
<i>Vitis rotundifolia</i>	muscadine, muscadine grape	PIP
<i>Vitis vulpina</i>	fox grape, frost grape, wild grape	PIP
<i>Hydrangea arborescens</i>	smooth hydrangea, wild hydrangea	PIP
<i>Hydrangea quercifolia</i>	oakleaf hydrangea	PIP
<i>Duchesnea indica</i>	India mockstrawberry, Indian strawberry	PIP
<i>Geum canadense</i>	white avens	PIP
<i>Prunus angustifolia</i>	Chickasaw plum	PIP
<i>Prunus caroliniana</i>	Carolina laurelcherry	PIP
<i>Prunus persica</i>	peach	PIP
<i>Prunus serotina</i>	black cherry, black chokecherry	PIP
<i>Rosa multiflora</i>	multiflora rose	PIP
<i>Rubus argutus</i>	prickly Florida blackberry, sawtooth blackberry	PIP
<i>Diodia virginiana</i>	Virginia buttonweed	PIP
<i>Galium aparine</i>	bedstraw, catchweed bedstraw, cleavers, cleaverwort, goose grass, scarthgrass, sticky-willy, stickywilly, white hedge	PIP
<i>Houstonia pusilla</i>	tiny bluet	PIP
<i>Sherardia arvensis</i>	blue field-madder, blue fieldmadder, field madder	PIP
<i>Populus deltoides</i>	common cottonwood, cottonwood, eastern cottonwood, plains cottonwood	PIP
<i>Salix nigra</i>	black willow	PIP
<i>Phoradendron serotinum</i>	American mistletoe	PIP
<i>Acer barbatum</i>	florida maple, hammock maple, southern sugar maple	PIP
<i>Acer negundo</i>	ashleaf maple, box elder, boxelder, boxelder maple, california boxelder, manitoba	PIP

	maple, western boxelder	
<i>Acer rubrum</i>	red maple	PIP
<i>Rhus glabra</i>	smooth sumac	PIP
<i>Toxicodendron radicans</i>	eastern poison ivy, poison ivy, poisonivy	PIP
<i>Melia azedarach</i>	chinaberry, Chinaberry tree, Chinaberrytree, Indian lilac, lelah, paraiso, pride of India, white cedar	PIP
<i>Poncirus trifoliata</i>	hardy orange	PIP
<i>Ailanthus altissima</i>	ailanthus, copal tree, tree of heaven, tree-of-heaven	PIP
<i>Ruellia humilis</i> var. <i>humilis</i>	fringeleaf wild petunia	PIP
<i>Bignonia capreolata</i>	cross vine, crossvine	PIP
<i>Campsis radicans</i>	common trumpetcreeper, cow-itch, trumpet creeper	PIP
<i>Fraxinus americana</i>	white ash	PIP
<i>Ligustrum japonicum</i>	Japanese privet	PIP
<i>Ligustrum sinense</i>	Chinese privet, common chinese privet	PIP
<i>Linaria canadensis</i>	Canada toadflax	PIP
<i>Mazus pumilus</i>	Japanese mazus	PIP
<i>Mimulus alatus</i>	sharpwing monkeyflower	PIP
<i>Paulownia tomentosa</i>	princess tree, princesstree, royal paulownia	PIP
<i>Veronica arvensis</i>	common speedwell, corn speedwell, rock speedwell, wall speedwell	PIP
<i>Veronica peregrina</i>	neckweed, purslane speedwell	PIP
<i>Veronica persica</i>	bird-eye speedwell, birdeye speedwell, birdseye speedwell, Persian speedwell, winter speedwell	PIP
<i>Ipomoea hederacea</i>	Ivyleaf Morning-glory	PIP
<i>Ipomoea lacunosa</i>	pitted morningglory, white morningglory, whitestar	PIP
<i>Nemophila triloba</i>	small-flower baby-blue-eyes	PIP
<i>Physalis mollis</i>	field groundcherry	PIP
<i>Physalis pubescens</i>	groundcherry, husk tomato, husk-	PIP

	tomato	
<i>Solanum nigrum</i>	black nightshade, deadly nightshade, garden nightshade	PIP
<i>Solanum sarrachoides</i>	hairy nightshade, hoe nightshade, nightshade	PIP
<i>Hypericum punctatum</i>	spotted St. Johnswort	PIP
<i>Broussonetia papyrifera</i>	paper mulberry, wauke	PIP
<i>Maclura pomifera</i>	bois d'arc, osage orange, osage-orange, osageorange	PIP
<i>Morus rubra</i>	red mulberry	PIP
<i>Celtis laevigata</i>	sugar berry, sugar hackberry, sugarberry	PIP
<i>Ulmus alata</i>	winged elm	PIP
<i>Ulmus americana</i>	American elm	PIP
<i>Ulmus rubra</i>	slippery elm	PIP
<i>Boehmeria cylindrica</i>	small-spike false nettle, smallspike false nettle, smallspike falsenettle	PIP
<i>Pilea fontana</i>	lesser clearweed	PIP
<i>Pilea pumila</i>	Canada clearweed, Canadian clearweed	PIP
<i>Urtica chamaedryoides</i>	heartleaf nettle, slim stingingnettle	PIP
<i>Passiflora incarnata</i>	purple passionflower	PIP
<i>Passiflora lutea</i>	passionflower, yellow passionflower	PIP
<i>Viola rafinesquei</i>	field pansy	PIP
<i>Viola sagittata</i>	arrow-leaved violet, arrowleaf violet	PIP
<i>Viola walteri</i>	prostrate blue violet	PIP
<i>Canna flaccida</i>	bandanna of the Everglades	PIP

<sup>1</sup>Park Status refers to the current status of the organism in the park, where PIP=Present in Park, PP=Probably Present, E=Encroaching, U=Unconfirmed, N/A=Not Available, H=Historic.

The U.S. Department of the Interior (DOI) is the nation's principal conservation agency, charged with the mission "*to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian tribes and our commitments to island communities.*" More specifically, Interior protects America's treasures for future generations, provides access to our nation's natural and cultural heritage, offers recreation opportunities, honors its trust responsibilities to American Indians and Alaska Natives and its responsibilities to island communities, conducts scientific research, provides wise stewardship of energy and mineral resources, fosters sound use of land and water resources, and conserves and protects fish and wildlife. The work that we do affects the lives of millions of people; from the family taking a vacation in one of our national parks to the children studying in one of our Indian schools.

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**National Park Service**  
**U.S. Department of the Interior**



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