

Prepared in cooperation with the U.S. Fish and Wildlife Service

# **A Comprehensive List and Photographic Collection of the Vascular Flora of Caddo Lake National Wildlife Refuge, Texas, March 2011–March 2012**



Data Series 854



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By Larry Allain

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Data Series 854

**U.S. Department of the Interior  
U.S. Geological Survey**

**U.S. Department of the Interior**  
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## Conversion Factors

Inch/Pound to SI

<b>Multiply</b>	<b>By</b>	<b>To obtain</b>
	Length	
mile (mi)	1.609	kilometer (km)

SI to Inch/Pound

<b>Multiply</b>	<b>By</b>	<b>To obtain</b>
	Area	
hectare (ha)	2.471	acre

# A Comprehensive List and Photographic Collection of the Vascular Flora of Caddo Lake National Wildlife Refuge, Texas, March 2011–March 2012

By Larry Allain

## Abstract

A floristics inventory was conducted to identify and photograph the vascular plants occurring at Caddo Lake National Wildlife Refuge (NWR), Texas, from March 2011 to March 2012 by the U.S. Geological Survey in cooperation with the U.S. Fish and Wildlife Service. This research resulted in the identification of 511 taxa of vascular plants representing 111 families and 317 genera. Despite the degree of development of the refuge at the time it was transferred to the U.S. Fish and Wildlife Service, plant diversity was high. Of the 511 species identified in this study, 346 species are new records for Harrison County, and 3 species are new discoveries for Texas. Caddo Lake NWR is primarily forested with 55 tree species and 35 shrub species identified in this study. Of the species identified, 289 are associated with wetlands having a wetland classification of facultative or wetter, possibly reflecting the proximity of Caddo Lake to the refuge and the three streams that intersect the refuge. Sixty-two of the species found on the refuge are introduced. Chinese tallow tree (*Triadica sebifera*) is one of the more common invasive tree species on the refuge and is actively controlled by refuge staff. Chinese privet (*Ligustrum sinense*), sacred bamboo (*Nandina domestica*), and King's Ranch bluestem (*Bothriochloa ischaemum* var. *songarica*) are present on the refuge and have the potential to become invasive. More than 10,000 photographs were taken of the plants found on the refuge in an effort to document general appearance and capture diagnostic characters of each plant species. Photographs were also taken of many of the animals and landscapes encountered during the project. Select images of each of the plants and animals are included in the collection of more than 1,600 photographs (all photographs by Larry Allain).

## Introduction

The National Wildlife Refuge System was established to manage lands and waters in the United States for conservation and restoration of fish, wildlife, and plant resources. There

are 560 national wildlife refuges in all, covering 61 million hectares nationwide (U.S. Fish and Wildlife Service, 2013). Individual refuges are unique and established for a variety of purposes including the protection of endangered species; the preservation of habitat for plants and animals threatened by development or overutilization; the creation of habitat connections and corridors within landscapes for migratory animals; use as a recreational destination for hunting, fishing, wildlife observation, and photography; facilitating environmental education and interpretation; and restoring lands and waters that have been damaged by past use. Most national wildlife refuges have become general refuges for every kind of wildlife that can appropriately be sheltered in that environment. Maintaining and improving habitat quality require that the biological integrity, diversity, and environmental health of refuge resources be conserved.

To achieve these goals, each refuge is required by the National Wildlife Refuge System Administration Act of 1997 to develop a 15-year comprehensive conservation plan. Implementation of these plans requires the use of adaptive management that relies on surveys, inventory and monitoring of resources, management practices, and experiments. The information gained is then used to alter and refine management practices. A critical component of this process includes the development of a comprehensive list of the vascular plant species that occur on a refuge. Management goals are affected when endangered species are identified. Managing and restoring habitat require knowledge of existing plant communities and the species they contain. Monitoring invasive plant populations is necessary for their control or eradication, and controlling new invasive plant problems is most efficient when they are detected early in the invasion cycle. Plant monitoring is performed by refuge personnel, partners, and cooperators as budgets allow and is greatly facilitated by a comprehensive plant list.

In addition to a plant list, refuge personnel often seek plant information that would assist them in meeting their management goals. Useful plant information might include wildlife use, wetland affinity, and key characters that allow differentiating species in the field. These data can be compiled from existing publications.

## 2 A Comprehensive List and Photographic Collection of the Vascular Flora of Caddo Lake National Wildlife Refuge, Texas

From March 2011 to March 2012, the U.S. Geological Survey in cooperation with the U.S. Fish and Wildlife Service collected, identified, and photographed the vascular plants occurring at Caddo Lake National Wildlife Refuge (NWR), Texas. The goal of this project was to identify all vascular plant species occurring at Caddo Lake NWR and to take original photographs of each species while synthesizing information on field identification traits and wildlife use.

### Description of Study Area

Caddo Lake NWR is located in Harrison County, Tex., on lands transferred in October 2000 from the Department of Defense, formerly the Longhorn Army Ammunition Plant (fig. 1). The refuge was established on the less contaminated portions of the retired munitions facility for the purpose of converting the site to habitat for birds, fish, and other wildlife. The 3,440-hectare refuge is divided by three drainages, Goose Prairie Creek, Central Creek, and Harrison Bayou, that flow north and east into Caddo Lake (U.S. Fish and Wildlife Service, 2012). It is located in the pineywoods vegetation area of northeast Texas (Hatch and others, 1990). A rolling ridge and swale landscape, created by these drainages, provides a variety of forest types and wetlands in this ancient drowned river valley.

Caddo Lake, a 10,850-hectare cypress swamp, borders the refuge on its eastern boundary (fig. 1). The soils are primarily sandy loams with clay-loam occurring in the drain bottoms. Forest types range from baldcypress (*Taxodium distichum* var. *distichum*) in the lower parts of Harrison Bayou to mixed pine-hardwoods on the slopes and pine-dominated uplands. Shortleaf pine (*Pinus echinata*) savanna is thought to have been the dominant plant community on the highest elevations of the refuge, but these areas have largely been reforested with loblolly pine (*Pinus taeda*). Refuge management goals include restoring shortleaf pine savanna by selective logging of loblolly pine and hardwoods.

### Methods

Field trips were made monthly from March 2011 to March 2012. Areas with variable hydrology, slope, elevation,

and history were identified from maps and interviews with refuge personnel to select prospective sites for floristic surveys. Selected areas were explored during each sampling trip along with additional areas as time allowed. Individual plants were photographed in the field, and plant specimens were collected for laboratory inspection when identity was uncertain. Voucher specimens are housed at the U.S. Geological Survey National Wetlands Research Center Herbarium in Lafayette, Louisiana. Plant identifications were validated by using Correll and Johnston (1979), Flora of North America Editorial Committee (1993+), and various other manuals. Whether or not a species had been recorded for Harrison County, Tex., was based on collection location maps in the U.S. Department of Agriculture (USDA) PLANTS database (<http://plants.usda.gov/>). Plant morphological characters found to be diagnostic in field identification were photographed for illustration purposes (fig. 2). Images were organized and labeled by species scientific names based on the Integrated Taxonomic Information System (<http://www.itis.gov/>). Animals were photographed when encountered. Animal images were cataloged by scientific name when known and by common name when not. Insect identification was accomplished by using Arnett (1993) and BugGuide (2012).

### Results

In the course of this study, 792 plant specimens were collected, identified, and labeled. More than 10,000 plant photographs and 622 animal photographs were taken at the refuge. The photograph collection in this report includes more than 1,600 select plant, animal, and landscape images (all photographs by Larry Allain).

This floristic inventory resulted in the identification of 511 taxa of vascular plants representing 111 families and 317 genera (table 1 at end of report). Phylogenetic families representing the greatest species count or diversity were the Asteraceae with 68, Poaceae with 62, Fabaceae with 43, Cyperaceae with 30, Rosaceae with 16, Rubiaceae with 14, Euphorbiaceae with 12, Lamiaceae with 12, Onagraceae with 12, Apiaceae with 10, and Scrophulariaceae with 9 species. The genera with the most species were *Carex* with 13, *Juncus* with 9, *Quercus* with 8, *Ludwigia* with 7, *Paspalum* with 7, and *Polygonum* with 6 species.



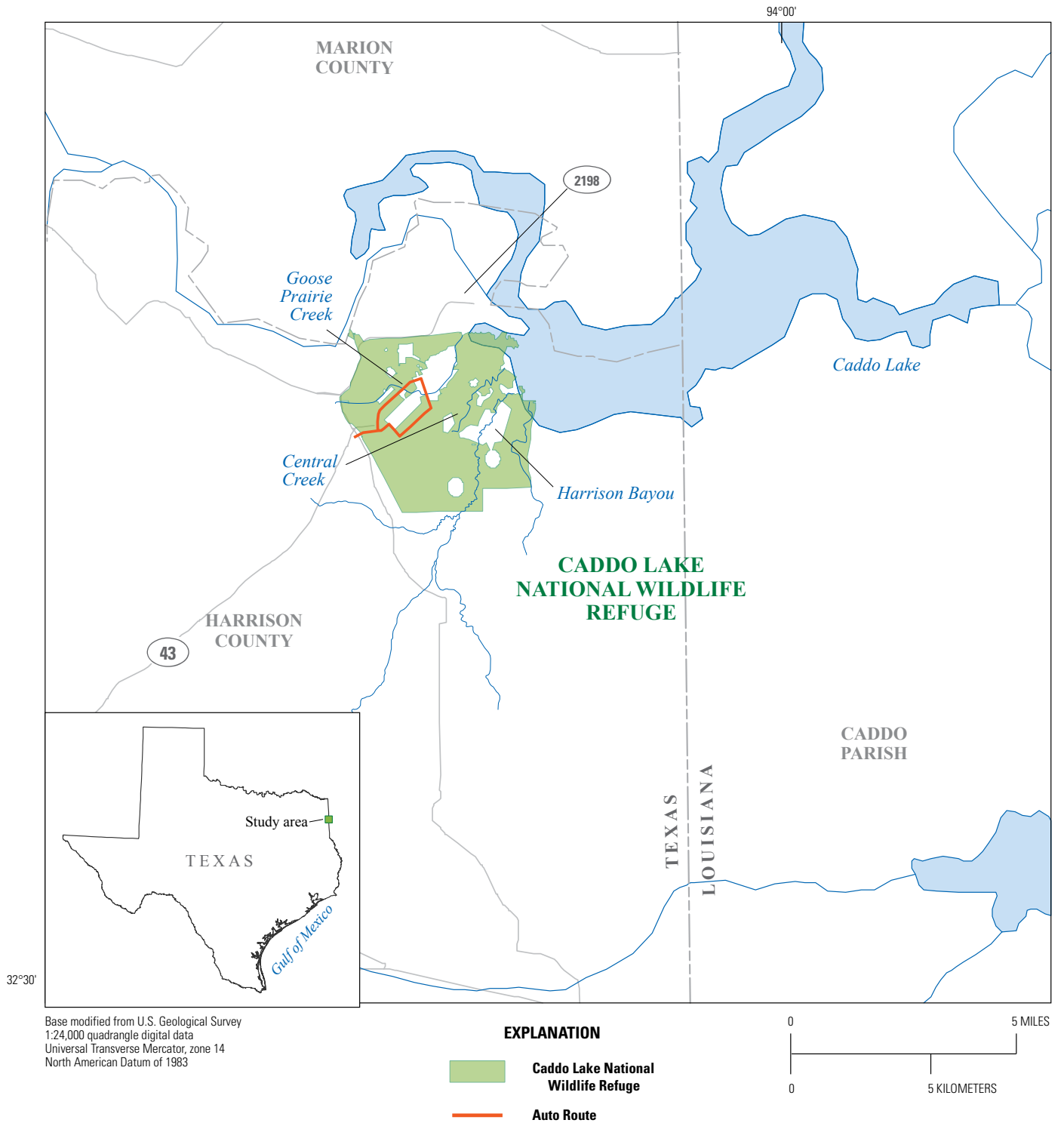
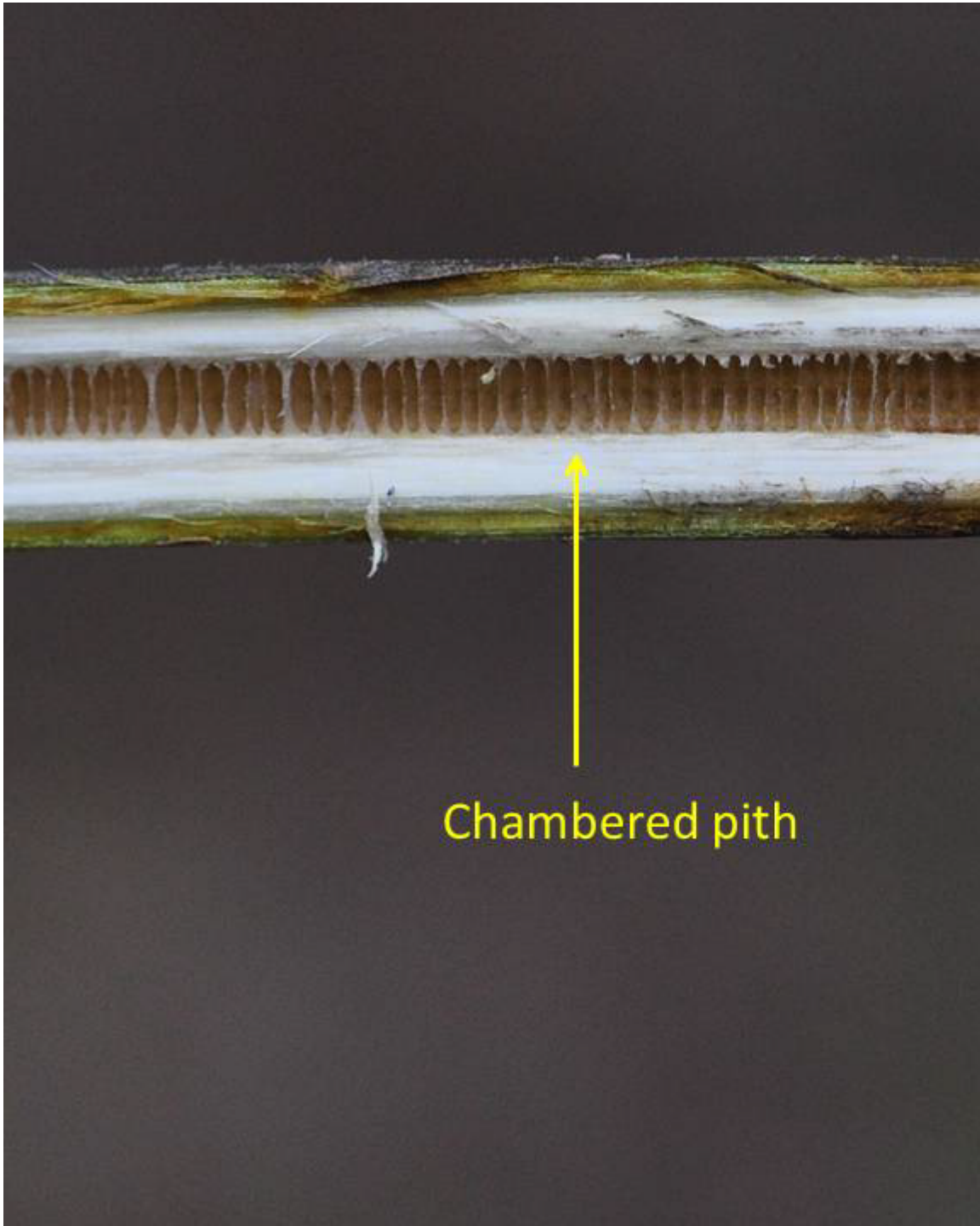


Figure 1. Location of Caddo Lake National Wildlife Refuge, Texas.



**Figure 2.** Chambered pith of black walnut (*Juglans nigra*), an example of diagnostic plant characters photographed during this project at Caddo Lake National Wildlife Refuge, Texas. Compound leaves of this tree are similar to leaves of hickories (*Carya* spp.), which can be distinguished by having solid pith in their twigs.

Of the 511 species identified in this study, 346 are new records for Harrison County. According to the USDA PLANTS database, three species, peelbark St. Johnswort (*Hypericum fasciculatum*), changing forget-me-not (*Myosotis discolor*), and pond cypress (*Taxodium distichum* var. *imbricarium*) (fig. 3), are new to Texas. One species, *Scleria ciliata* var. *ciliate*, is listed for Texas by Hatch and others (1990) and one species, *Pyrus calleryana*, by Correll and Johnston (1979), but no locations are listed in the USDA PLANTS database for these two species.

Most of Caddo Lake NWR is forested with 56 tree species and 33 shrub species identified in this study. Forest types vary from pine forests on ridge tops to baldcypress swamp flooded forests in creek bottoms and within the frequently flooded sites near Caddo Lake. Pine-hardwood forest dominates on slopes and much of the upland and well-drained areas of Caddo Lake NWR (fig. 4). In pine-hardwood forest, loblolly and shortleaf pine occur in association with such hardwood species as southern red oak (*Quercus falcata*), post oak (*Quercus stellata*), sweetgum (*Liquidambar styraciflua*), water oak (*Quercus nigra*), willow oak (*Quercus phellos*), white oak (*Quercus alba*), sugarberry (*Celtis laevigata*), blackgum (*Nyssa sylvatica*), and winged elm (*Ulmus alata*). Common understory shrub species in pine-hardwood forest include hawthorns (*Crataegus* sp.), American holly (*Ilex opaca*), waxmyrtle (*Morella cerifera*), farkleberry (*Vaccinium arboreum*), red buckeye (*Aesculus pavia*), flowering dogwood (*Cornus florida*), eastern redbud (*Cercis canadensis*), sassafras (*Sassafras albidum*), southern

sugar maple (*Acer barbatum*), and American beautyberry (*Callicarpa americana*). Those species most common in ground cover vegetation are sedges (*Carex* spp. and *Cyperus* spp.), tick trefoil (*Desmodium* spp.), elephantsfoot (*Elephantopus* spp.), woodoats (*Chasmanthium* spp.), and panicums (*Panicum* spp. and *Dichantheium* spp.). On the forest edge, vines predominate, with peppervine (*Ampelopsis arborea*), Virginia creeper (*Parthenocissus quinquefolia*), Alabama supplejack (*Berchemia scandens*), greenbriars (*Smilax* spp.), poison ivy (*Toxicodendron radicans*), and grapes (*Vitis* spp.) being most common.

Tree species that occurred in low areas along creek drainages and in frequently flooded parts of the refuge include baldcypress, overcup oak (*Quercus lyrata*), water oak, willow oak, green ash (*Fraxinus pennsylvanica*), bitter pecan (*Carya aquatica*), and sweetgum (fig. 5). Common smaller trees and shrubs include planertree (*Planera aquatica*), swamp privet (*Forestiera acuminata*), water locust (*Gleditsia aquatic*), buttonbush (*Cephalanthus occidentalis*), and possumhaw (*Ilex decidua*). Herbaceous ground cover in wet areas included mostly sedges, rushes (*Juncus* spp.), smartweeds (*Persicaria* spp.), heliotrope (*Heliotropium indicum*), camphorweeds (*Pluchea* spp.), lizard's tail (*Saururus cernuus*), primrose-willows (*Ludwigia* spp.), and rosemallow (*Hibiscus moscheutos* ssp. *lasiocarpos*). Vines most common in these areas were climbing hempvine (*Mikania scandens*), buckwheat vine (*Brunnichia ovata*), and climbing dogbane (*Thyrsanthella difformis*).



**Figure 3.** The differences in leaf form of two varieties of *Taxodium distichum* occurring on Caddo Lake National Wildlife Refuge, Texas. A, *Taxodium distichum* var. *imbricarium*, a new taxon for Texas, has scale-like leaflets on upward oriented leaves. B, *Taxodium distichum* var. *distichum* has descending leaves and linear leaflets.

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**Figure 4.** Pine-hardwood forest predominant on slopes and other well-drained sites in Caddo Lake National Wildlife Refuge, Texas.



**Figure 5.** Bottomland hardwoods dominated by baldcypress (*Taxodium distichum* var. *distichum*) along drainages and in frequently flooded parts of Caddo Lake National Wildlife Refuge, Texas.

Many of the vascular plants that occur in shortleaf pine understory were present on the refuge, but most were uncommon. Grasses, growing mostly on roadsides and that are associated with savanna understory, include splitbeard bluestem (*Andropogon ternarius*), woodoats, little bluestem (*Schizachyrium scoparium*), switchgrass (*Panicum virgatum*), prairie panicgrass (*Panicum brachyanthum*), brownseed paspalum (*Paspalum plicatulum*), eastern gamagrass (*Tripsacum dactyloides*), purpletop (*Tridens flavus*), arrowfeather three-awn (*Aristida purpurascens*), and rosette grasses (*Dichanthelium* spp.). Several conservative species usually confined to undisturbed shortleaf pine understory and prairies were identified, including nodding lady's tresses (*Spiranthes cernua*), dwarf sundew (*Drosera brevifolia*), and pinkscale blazing star (*Liatris elegans*). Other wildflowers of pine savanna occurred in small populations such as sidebeak pencilflower (*Stylosanthes biflora*), diamond flowers (*Stenaria nigricans*), multibloom hoarypea (*Tephrosia onobrychoides*), roughleaf coneflower (*Rudbeckia grandiflora*), hairyflower spiderwort (*Tradescantia hirsutiflora*), Carolina anemone (*Anemone caroliniana*), groovestem Indian plantain (*Arnoglossum plantagineum*), and butterfly milkweed (*Asclepias tuberosa*).

Wetland indicator status (Lichvar, 2013) of the taxa identified in this study indicated that most of the species are wetland plants, possibly reflecting the proximity of Caddo Lake and the three streams that intersect the refuge. While 222 species were categorized as upland or facultative upland plants, 289 are associated with wetlands with 122 facultative, 78 facultative wet, and 82 obligate wetland species.

Of the 511 taxa identified in this study, 62 were introduced (table 2 at end of report). Most nonnative species have become naturalized and make up a small part of the flora, although several are invasive and pose a risk to native vegetation and wildlife habitat quality. Chinese tallow tree (*Triadica sebifera*) is highly invasive and is a management priority for refuge staff (figs. 6 and 7). Other nonnative trees including flowering pear (*Pyrus calleryana*), silk tree (*Albizia julibrissin*), and Chinaberry tree (*Melia azedarach*) are



**Figure 6.** Chinese tallow tree (*Triadica sebifera*), an invasive nonnative species that is currently controlled by refuge management at Caddo Lake National Wildlife Refuge, Texas. Pictured here in the fall of the year is a branch bearing white seeds and leaves beginning to turn colors.

present but do not appear to pose a risk of becoming invasive. Chinese privet (*Ligustrum sinense*) is present and has not yet become invasive at Caddo Lake NWR. Elsewhere in east Texas forests, Chinese privet has become a nuisance invader in forest understory. Another understory shrub with a history of invasion, sacred bamboo (*Nandina domestica*), was rare on the refuge but should be part of an active eradication program (fig. 8). While numerous nonnative forbs and grasses bloom on the roadsides of Caddo Lake NWR, one grass species is problematic. King's Ranch bluestem or KR bluestem (*Bothriochloa ischaemum* var. *songarica*) has spread eastward and northward from south Texas along roadsides in the past 15–20 years colonizing disturbed grasslands, roadsides, and old agricultural fields. Mowing may speed its spread, and it has the potential to exclude other species. Without a control strategy, the diverse and colorful variety of wildflowers lining the roads at Caddo Lake NWR may become a monoculture of KR bluestem.



**Figure 7.** Staff of Caddo Lake National Wildlife Refuge, Texas, using herbicide to treat small Chinese tallow trees (*Triadica sebifera*) before these nonnative, highly invasive trees can bear seeds and colonize additional area.



**Figure 8.** An invasive understory shrub, sacred bamboo (*Nandina domestica*), that was collected on a small outholding of Caddo Lake National Wildlife Refuge, Texas, north of Texas Farm to Market Road 2198 (FM 2198).

Giant salvinia (*Salvinia molesta*), considered one of the world's worst aquatic pests (Oliver, 1993), has become a major problem in Caddo Lake (fig. 9). A native of Brazil (Everitt and others, 2007), giant salvinia impedes navigation and reduces sunlight and oxygen, killing beneficial plants, insects, and fish. It can clog agricultural irrigation ditches



**Figure 9.** Giant salvinia (*Salvinia molesta*), considered one of the world's worst aquatic pests. It has become a major problem on Caddo Lake at Caddo Lake National Wildlife Refuge, Texas.

and impair electrical generation (Holm and others, 1977). Experimental research is being conducted by the Caddo Lake Institute in cooperation with Caddo Lake NWR to investigate the use of a beetle (*Cyrtobagous salviniae*) for biological control of this aggressive weed.

In addition to wild species, planted species were also collected and photographed during this project. A live oak tree (*Quercus virginiana*) apparently planted as a landscape specimen near the refuge office was the only individual of that species occurring on the refuge. Indian paintbrush (*Castilleja indivisa*) and firewheel (*Gaillardia pulchella*) growing on the roadside at the entrance of the refuge are commonly planted on roadsides in Texas and were not found elsewhere on the refuge. A combination of plant species including Illinois bundleflower (*Desmanthus illinoensis*), plains snakecotton (*Froelichia floridana*), and Maximilian sunflower (*Helianthus maximiliani*) dominated the road median in front of the refuge office and was reported to be the results of a grassland planting conducted by Texas Parks and Wildlife Department (Jason Roesner, assistant refuge manager, oral commun., 2011). Plant species thought to have been planted are labeled in table 1.

## Discussion

Despite the developed nature of the Longhorn Army Ammunition Plant at the time it was transferred to the U.S. Fish and Wildlife Service, considerable plant diversity can be found at the refuge. Forest types range from pine-hardwood on ridges to cypress-dominated bottomland hardwoods along the three drainages and the lake margin. Diverse communities of herbaceous plant species on roadsides and in forest clearings include remnant species common in predevelopment plant communities, as well as ruderal species.

In the wettest areas of the refuge, plants such as smartweeds (*Persicaria* spp.) and primrose willows (*Ludwigia* spp.) provide food for overwintering waterfowl (table 3 at end of report). Diverse grassy areas provide quality habitat for grassland species. Occasional deer, wild turkeys, northern bobwhite (*Colinus virginianus*), eastern cottontail (*Sylvilagus floridanus*), coyote (*Canis* spp.), gray (*Sciurus carolinensis*) and fox (*Sciurus niger*) squirrels, and numerous other animals can be glimpsed along the Auto Route (a 6-mile-long auto tour through a small portion of the refuge; fig. 1). At the western end of their range at Caddo Lake NWR, three-toed box turtles (*Terrapene carolina triunguis*) can sometimes be seen in open forest or on roadsides, especially during their March and April breeding season (fig. 10).



**Figure 10.** A three-toed box turtle (*Terrapene carolina triunguis*), so named because of the number of toes on the back feet, at Caddo Lake National Wildlife Refuge, Texas. Their range extends from east Texas to the Florida Panhandle.

Numerous species of birds reside year-round or migrate through the refuge during spring and fall including eastern bluebird (*Sialia sialis*), American woodcock (*Scolopax minor*), yellow-breasted chat (*Icteria virens*), rufous-sided towhee (*Pipilo erythrophthalmus*), and white-throated sparrow (*Zonotrichia albicollis*). Butterflies and numerous other insects can be seen along the roadsides in spring and fall (fig. 11). Widening of grassy areas along the refuge's Auto Route and other interior roads could provide additional habitat for native pollinators and other grassland insect species.

Roadsides within the refuge provide a colorful show of wildflowers. Trees, with their leaf, flower, and seed displays, create a vivid natural experience for visitors. Many of the species listed as constituents of shortleaf pine understory are present on the refuge and could be restored as part of the refuge's goal of restoring shortleaf pine savanna. Such a restoration strategy would enhance the value of these forests for wildlife, as well as create a more rewarding experience for refuge visitors.



**Figure 11.** American lady butterfly (*Vanessa virginiensis*) nectaring on the flowers of groovestem Indian plantain (*Arnoglossum plantagineum*) on a roadside along the Auto Route in Caddo Lake National Wildlife Refuge, Texas. A wide variety of butterflies and skippers occur on the refuge.



## Summary

From March 2011 to March 2012, vascular plants were collected and photographed at Caddo Lake National Wildlife Refuge (NWR), Texas, to produce a floristic inventory. The goal of this project was to create both a comprehensive list of the refuge's vascular flora and a photographic record of each plant species. This plant inventory resulted in the identification of 511 taxa of vascular plants representing 111 families and 317 genera. Of the species identified in this study, 346 are new records for Harrison County. Caddo Lake NWR is primarily forested with 56 tree species and 33 shrub species identified in this study. Of the plant species identified, 289 are associated with wetlands having a wetland classification of facultative or wetter. Sixty-two of the species found on the refuge are introduced, including the invasive Chinese tallow tree (*Triadica sebifera*), Chinese privet (*Ligustrum sinense*), sacred bamboo (*Nandina domestica*), and King's Ranch bluestem (*Bothriochloa ischaemum* var. *songarica*). More than 10,000 photographs were taken of plants found on the refuge in an effort to document general appearance, as well as the diagnostic characters of each plant species. Photographs were also taken of wildlife encountered during the collective field trips. Of the photographs taken, more than 1,600 select digital images of plants, animals, and landscapes are included in the photograph collection (all photographs by Larry Allain).

## Acknowledgments

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**12 A Comprehensive List and Photographic Collection of the Vascular Flora of Caddo Lake National Wildlife Refuge, Texas**

**Table 1.** Comprehensive list of vascular plants identified at Caddo Lake National Wildlife Refuge, Texas, March 2011–March 2012.

[E, exotic species; P, planted species; N, new record for Harrison County, Texas. Wetland classifications (Lichvar, 2013) are listed as follows: OBL, obligate wetland; FACW, facultative wetland; FAC, facultative; FACU, facultative upland; UP, obligate upland]

Family	Scientific name and authority [wetland classification]	Common name
Ferns		
Aspleniaceae	<i>Asplenium platyneuron</i> (L.) Britton, Sterns & Poggenb. [FACU]	ebony spleenwort
Dennstaedtiaceae	<i>Pteridium aquilinum</i> (L.) Kuhn [FACU]	western brackenfern
Dryopteridaceae	<i>Onoclea sensibilis</i> L. [FACW]	sensitive fern
	<i>Polystichum acrostichoides</i> (Michx.) Schott [FACU]	Christmas fern
	<i>Woodsia obtusa</i> (Spreng.) Torr. [UPL]	bluntlobe cliff fern
Ophioglossaceae	<i>Botrychium virginianum</i> (L.) Sw. [FACU]	rattlesnake fern
Polypodiaceae	<i>Pleopeltis polypodioides</i> (L.) E.G. Andrews & Windham [FAC]	resurrection fern
Salviniaceae	<i>Salvinia molesta</i> D.S. Mitch. [E, N, OBL]	kariba-weed
Gymnosperms		
Cupressaceae	<i>Juniperus virginiana</i> L. [FACU]	eastern redcedar
	<i>Taxodium distichum</i> var. <i>imbricarium</i> (Nutt.) Croom [N, OBL]	pond cypress
	<i>Taxodium distichum</i> var. <i>distichum</i> (L.) Rich. [OBL]	baldecypress
Pinaceae	<i>Pinus echinata</i> Mill. [UPL]	shortleaf pine
	<i>Pinus palustris</i> Mill. [P, N, FAC]	longleaf pine
	<i>Pinus taeda</i> L. [FAC]	loblolly pine
Monocots		
Alismataceae	<i>Echinodorus cordifolius</i> (L.) Griseb. [OBL]	creeping burhead
	<i>Sagittaria platyphylla</i> (Engelm.) J.G. Sm. [N, OBL]	delta arrowhead
Amaryllidaceae	<i>Allium canadense</i> var. <i>mobileense</i> (Regel) Ownbey [N, FACU]	Mobile meadow garlic
	<i>Lycoris radiata</i> (L'Hér.) Herb. [E, P, N, UPL]	red spider lily
	<i>Narcissus jonquilla</i> L. [E, P, N, UPL]	jonquil
	<i>Nothoscordum bivalve</i> (L.) Britton [N, FACU]	crowpoison
Arecaceae	<i>Sabal minor</i> (Jacq.) Pers. [N, FACW]	dwarf palmetto
Araceae	<i>Arisaema dracontium</i> (L.) Schott [FACW]	green dragon
	<i>Spirodela polyrrhiza</i> (L.) Schleid. [OBL]	common duckmeat
	<i>Wolffia columbiana</i> H. Karst. [OBL]	Columbian watermeal

**Table 1.** Comprehensive list of vascular plants identified at Caddo Lake National Wildlife Refuge, Texas, March 2011–March 2012.  
—Continued

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Family	Scientific name and authority [wetland classification]	Common name
Monocots—Continued		
Asparagaceae	<i>Yucca louisianensis</i> Trel. [N, UPL]	Gulf Coast yucca
Bromeliaceae	<i>Tillandsia usneoides</i> (L.) L. [FAC]	Spanish moss
Commelinaceae	<i>Commelina communis</i> L. [E, N, FAC]	Asiatic dayflower
	<i>Commelina virginica</i> L. [N, FACW]	Virginia dayflower
	<i>Tradescantia hirsutiflora</i> Bush [N, UPL]	hairyflower spiderwort
	<i>Tradescantia ohiensis</i> Raf. [N, FAC]	bluejacket
Cyperaceae	<i>Carex blanda</i> Dewey [N, FAC]	eastern woodland sedge
	<i>Carex caroliniana</i> Schwein. [N, FACW]	Carolina sedge
	<i>Carex cephalophora</i> Muhl. ex Willd. [N, FAC]	oval-leaf sedge
	<i>Carex cherokeensis</i> Schwein. [N, FACW]	Cherokee sedge
	<i>Carex complanata</i> Torr. & Hook. [FAC]	blue sedge
	<i>Carex hyalinolepis</i> Steud. [N, OBL]	shoreline sedge
	<i>Carex longii</i> Mack. [N, OBL]	Long's sedge
	<i>Carex lupulina</i> Muhl. ex Willd. [N, OBL]	hop sedge
	<i>Carex lurida</i> Wahlenb. [OBL]	shallow sedge
	<i>Carex oxylepis</i> Torr. & Hook. [N, FACW]	sharpscale sedge
	<i>Carex reniformis</i> (L.H. Bailey) Small [N, FACW]	kidneyshape sedge
	<i>Carex triangularis</i> Boeckeler [FACW]	eastern fox sedge
	<i>Carex vulpinoidea</i> Michx. [FACW]	fox sedge
	<i>Cyperus acuminatus</i> Torr. & Hook. ex Torr. [N, OBL]	tapertip flatsedge
	<i>Cyperus echinatus</i> (L.) Alph. Wood [FAC]	globe flatsedge
	<i>Cyperus odoratus</i> L. [N, FACW]	fragrant flatsedge
	<i>Cyperus pseudovegetus</i> Steud. [FACW]	marsh flatsedge
	<i>Cyperus retrorsus</i> Chapm. [N, FACU]	pine barren flatsedge
	<i>Cyperus strigosus</i> L. [N, FACW]	strawcolored flatsedge
	<i>Cyperus virens</i> Michx. [N, FACW]	green flatsedge
	<i>Eleocharis macrostachya</i> Britton [N, OBL]	pale spikerush
	<i>Eleocharis obtusa</i> (Willd.) Schult. [OBL]	blunt spikerush
	<i>Fimbristylis vahlii</i> (Lam.) Link [OBL]	Vahl's fimbry
	<i>Isolepis carinata</i> Hook. & Arn. ex Torr. [OBL]	keeled bulrush
	<i>Rhynchospora caduca</i> Elliott [N, OBL]	anglestem beaksedge
	<i>Rhynchospora corniculata</i> (Lam.) A. Gray [N, OBL]	shortbristle horned beaksedge
	<i>Rhynchospora harveyi</i> W. Boott [N, FACW]	Harvey's beaksedge
	<i>Scirpus cyperinus</i> (L.) Kunth [N, OBL]	woolgrass
	<i>Scleria ciliata</i> var. <i>ciliata</i> Michx. [N, FAC]	fringed nutrush
	<i>Scleria oligantha</i> Michx. [FAC]	littlehead nutrush
Iridaceae	<i>Iris albicans</i> J. Lange [E, N, UPL]	cemetery iris
	<i>Sisyrinchium atlanticum</i> E.P. Bicknell [N, FACW]	eastern blue-eyed grass
	<i>Sisyrinchium langloisii</i> Greene [N, UPL]	roadside blue-eyed grass

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Family	Scientific name and authority [wetland classification]	Common name
Monocots—Continued		
Juncaceae		
	<i>Juncus bufonius</i> L. [FACW]	toad rush
	<i>Juncus dichotomus</i> Elliott [FACW]	forked rush
	<i>Juncus diffusissimus</i> Buckley [FACW]	slimpod rush
	<i>Juncus effusus</i> L. [N, OBL]	common rush
	<i>Juncus interior</i> Wiegand [N, FACU]	inland rush
	<i>Juncus marginatus</i> Rostk. [FACW]	grassleaf rush
	<i>Juncus polycephalus</i> Michx. [N, OBL]	manyhead rush
	<i>Juncus tenuis</i> Willd. [N, FAC]	poverty rush
	<i>Juncus validus</i> Coville [N, FACW]	roundhead rush
Orchidaceae		
	<i>Spiranthes cernua</i> (L.) Rich. [N, FACW]	nodding lady's tresses
Poaceae		
	<i>Agrostis hyemalis</i> (Walter) Britton, Sterns & Poggenb. [N, FAC]	winter bentgrass
	<i>Andropogon glomeratus</i> (Walter) Britton, Sterns & Poggenb. [FACW]	bushy bluestem
	<i>Andropogon ternarius</i> Michx. [FACU]	splitbeard bluestem
	<i>Andropogon virginicus</i> L. [FAC]	broomsedge bluestem
	<i>Aristida oligantha</i> Michx. [UPL]	prairie threeawn
	<i>Aristida purpurascens</i> Poir. [N, FACW]	arrowfeather three-awn grass
	<i>Arundinaria gigantea</i> (Walter) Muhl. [FACW]	giant cane
	<i>Axonopus fissifolius</i> (Raddi) Kuhlm. [N, FACW]	common carpetgrass
	<i>Bothriochloa ischaemum</i> var. <i>songarica</i> (Rupr. ex Fisch. & Meyen) Celarier & J.R. Harlan [E, N, UPL]	King's Ranch bluestem
	<i>Briza minor</i> L. [E, FAC]	little quakinggrass
	<i>Bromus catharticus</i> Vahl [E, N, UPL]	rescuegrass
	<i>Chasmanthium latifolium</i> (Michx.) H.O. Yates [FAC]	Indian woodoats
	<i>Chasmanthium laxum</i> ssp. <i>laxum</i> (L.) H.O. Yates [FACW]	slender woodoats
	<i>Chasmanthium laxum</i> ssp. <i>sessiliflorum</i> (Poir.) L.G. Clark [N, FAC]	longleaf woodoats
	<i>Coleataenia anceps</i> (Michx.) Soreng [FAC]	beaked panicgrass
	<i>Coleataenia longifolia</i> ssp. <i>rigidula</i> (Bosc ex Nees) Soreng [FACW]	redtop panicgrass
	<i>Cynodon dactylon</i> (L.) Pers. [E, N, FACU]	Bermudagrass
	<i>Dichantherium aciculare</i> (Desv. ex Poir.) Gould & C.A. Clark [N, FACU]	needleleaf rosette grass
	<i>Dichantherium acuminatum</i> (Sw.) Gould & C.A. Clark [FAC]	tapered rosette grass
	<i>Dichantherium commutatum</i> (Schult.) Gould [N, FAC]	variable panicgrass
	<i>Dichantherium scoparium</i> (Lam.) Gould [FACW]	velvet panicum
	<i>Dichantherium sphaerocarpon</i> (Elliott) Gould [FACU]	roundseed panicgrass
	<i>Digitaria ciliaris</i> (Retz.) Koeler [N, FACU]	southern crabgrass
	<i>Digitaria ischaemum</i> (Schreb.) Muhl. [E, N, UPL]	smooth crabgrass
	<i>Digitaria sanguinalis</i> (L.) Scop. [E, N, FACU]	hairy crabgrass
	<i>Digitaria violascens</i> Link [E, N, FACU]	violet crabgrass
	<i>Eleusine indica</i> (L.) Gaertn. [E, FACU]	goosegrass
	<i>Elymus virginicus</i> L. [E, FAC]	Virginia wildrye
	<i>Eragrostis hypnoides</i> (Lam.) Britton, Sterns & Poggenb. [OBL]	teal lovegrass
	<i>Eragrostis spectabilis</i> (Pursh) Steud. [FACU]	purple lovegrass

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—Continued

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Family	Scientific name and authority [wetland classification]	Common name
Monocots—Continued		
	<i>Hordeum pusillum</i> Nutt. [N, FACU]	little barley
	<i>Leersia lenticularis</i> Michx. [OBL]	catchfly grass
	<i>Leersia oryzoides</i> (L.) Sw. [OBL]	rice cutgrass
	<i>Lolium perenne</i> L. [E, N, FACU]	perennial ryegrass
	<i>Melica mutica</i> Walter [UPL]	twoflower melicgrass
	<i>Oplismenus hirtellus</i> (L.) P. Beauv. [FAC]	basketgrass
	<i>Panicum brachyanthum</i> Steud. [N, FAC]	prairie panicgrass
	<i>Panicum dichotomiflorum</i> Michx. [N, FACW]	fall panicgrass
	<i>Panicum virgatum</i> L. [FAC]	switchgrass
	<i>Paspalum dilatatum</i> Poir. [E, N, FAC]	dallisgrass
	<i>Paspalum floridanum</i> Michx. [FACW]	Florida paspalum
	<i>Paspalum notatum</i> Alain ex Flügge [E, FACU]	bahiagrass
	<i>Paspalum plicatulum</i> Michx. [N, FAC]	brownseed paspalum
	<i>Paspalum repens</i> P.J. Bergius [N, OBL]	horsetail paspalum
	<i>Paspalum setaceum</i> Michx. [FAC]	thin paspalum
	<i>Paspalum urvillei</i> Steud. [E, FAC]	Vasey's grass
	<i>Phalaris caroliniana</i> Walter [N, FACW]	Carolina canarygrass
	<i>Phanopyrum gymnocarpon</i> (Elliott) Nash [N, OBL]	savannah-panicgrass
	<i>Poa annua</i> L. [E, N, FACU]	annual bluegrass
	<i>Poa autumnalis</i> Muhl. ex Elliott [N, FAC]	autumn bluegrass
	<i>Saccharum baldwinii</i> Spreng. [OBL]	narrow plumegrass
	<i>Sacciolepis striata</i> (L.) Nash [N, OBL]	American cupscale
	<i>Setaria parviflora</i> (Poir.) Kerguelen [FAC]	marsh bristlegrass
	<i>Sorghum halepense</i> (L.) Pers. [E, FACU]	Johnsongrass
	<i>Sporobolus pyramidatus</i> (Lam.) Hitchc. [N, FAC]	whorled dropseed
	<i>Steinchisma hians</i> (Elliott) Nash [N, OBL]	gaping grass
	<i>Tridens flavus</i> (L.) Hitchc. [N, FACU]	purpletop tridens
	<i>Tridens strictus</i> (Nutt.) Nash [FACW]	longspike tridens
	<i>Tripsacum dactyloides</i> (L.) L. [FAC]	eastern gamagrass
	<i>Urochloa platyphylla</i> (Munro ex C. Wright) R.D. Webster [N, FAC]	broadleaf signalgrass
	<i>Vulpia octoflora</i> (Walter) Rydb. [FACU]	sixweeks fescue
	<i>Zizaniopsis miliacea</i> (Michx.) Döll & Asch. [N, OBL]	giant cutgrass
Pontederiaceae	<i>Eichhornia crassipes</i> (Mart.) Solms [E, OBL]	common water hyacinth
Smilacaceae	<i>Smilax bona-nox</i> L. [N, FAC]	saw greenbrier
	<i>Smilax glauca</i> Walter [FAC]	cat greenbrier
	<i>Smilax rotundifolia</i> L. [FAC]	roundleaf greenbrier
	<i>Smilax smallii</i> Morong [N, FACU]	lanceleaf greenbrier
	<i>Smilax walteri</i> Pursh [N, OBL]	coral greenbrier
Typhaceae	<i>Typha latifolia</i> L. [N, OBL]	broadleaf cattail

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Family	Scientific name and authority [wetland classification]	Common name
Dicots		
Acanthaceae	<i>Justicia ovata</i> (Walter) Lindau [N, OBL] <i>Ruellia caroliniensis</i> (J.F. Gmel.) Steud. [N, FACU] <i>Ruellia humilis</i> Nutt. [N, FACU] <i>Ruellia pedunculata</i> Torr. ex A. Gray [UPL]	looseflower water-willow Carolina wild petunia fringeleaf wild petunia stalked wild petunia
Adoxaceae	<i>Sambucus nigra</i> ssp. <i>canadensis</i> (L.) R. Bolli [N, FACW]	American elderberry
Altingiaceae	<i>Liquidambar styraciflua</i> L. [FAC]	sweetgum
Amaranthaceae	<i>Alternanthera philoxeroides</i> (Mart.) Griseb. [E, N, OBL] <i>Froelichia floridana</i> (Nutt.) Moq. [N, UPL]	alligatorweed plains snakecotton
Anacardiaceae	<i>Rhus copallinum</i> L. [N, UPL] <i>Rhus glabra</i> L. [N, UPL] <i>Toxicodendron radicans</i> (L.) Kuntze [FAC]	winged sumac smooth sumac eastern poison ivy
Annonaceae	<i>Asimina parviflora</i> (Michx.) Dunal [N, FACU]	smallflower pawpaw
Apiaceae	<i>Chaerophyllum tainturieri</i> Hook. [N, FAC] <i>Cicuta maculata</i> L. [N, OBL] <i>Daucus carota</i> L. [N, UPL] <i>Eryngium yuccifolium</i> Michx. [N, FAC] <i>Limnoscadium pinnatum</i> (DC.) Mathias & Constance [N, FACW] <i>Ptilimnium capillaceum</i> (Michx.) Raf. [N, OBL] <i>Ptilimnium nuttallii</i> (DC.) Britton [N, FAC] <i>Sanicula canadensis</i> L. [N, FACU] <i>Trepocarpus aethusae</i> Nutt. ex DC. [FACW]	hairyfruit chervil spotted water hemlock Queen Anne's lace button eryngo tansy dogshade herbwilliam laceflower Canadian blacksnakeroot whitenymph
Apocynaceae	<i>Apocynum cannabinum</i> L. [N, FAC] <i>Asclepias tuberosa</i> L. [N, UPL] <i>Asclepias variegata</i> L. [FACU] <i>Asclepias verticillata</i> L. [N, FACU] <i>Asclepias viridis</i> Walter [N, UPL] <i>Matelea gonocarpos</i> (Walter) Shinnery [N, UPL] <i>Trachelospermum difforme</i> (Walter) A. Gray [N, FACW]	Indian hemp butterfly milkweed redring milkweed whorled milkweed green antelopehorn angularfruit milkvine climbing dogbane
Aquifoliaceae	<i>Ilex ambigua</i> (Michx.) Torr. [N, UPL] <i>Ilex decidua</i> Walter [FACW]	Carolina holly possumhaw

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Family	Scientific name and authority [wetland classification]	Common name
	Dicots—Continued	
	<i>Ilex opaca</i> Aiton [N, FAC]	American holly
	<i>Ilex vomitoria</i> Aiton [N, FAC]	yaupon
Araliaceae	<i>Aralia spinosa</i> L. [N, FAC]	devil's walkingstick
	<i>Hydrocotyle umbellata</i> L. [N, OBL]	manyflower marshpennywort
Asteraceae	<i>Achillea millefolium</i> L. [N, FACU]	common yarrow
	<i>Ambrosia artemisiifolia</i> L. [N, FACU]	annual ragweed
	<i>Ambrosia psilostachya</i> DC. [N, FAC]	Cuman ragweed
	<i>Ambrosia trifida</i> L. [N, FAC]	great ragweed
	<i>Arnoglossum plantagineum</i> Raf. [N, FACU]	groovestem Indian plantain
	<i>Baccharis halimifolia</i> L. [FAC]	eastern baccharis
	<i>Bidens aristosa</i> (Michx.) Britton [N, FACW]	bearded beggarticks
	<i>Bidens discoidea</i> (Torr. & A. Gray) Britton [N, FACW]	small beggarticks
	<i>Bidens laevis</i> (L.) Britton, Sterns & Poggenb. [N, OBL]	smooth beggarticks
	<i>Boltonia diffusa</i> Elliot [FAC]	smallhead doll's daisy
	<i>Carduus nutans</i> L. [N, UPL]	nodding plumeless thistle
	<i>Chrysopsis gossypina</i> ssp. <i>gossypina</i> (Michx.) Elliot [N, UPL]	soft goldenaster
	<i>Cirsium horridulum</i> Michx. [FAC]	yellow thistle
	<i>Cirsium texanum</i> Buckley [N, UPL]	Texas thistle
	<i>Conoclinium coelestinum</i> (L.) DC [N, FAC]	blue mistflower
	<i>Conyza canadensis</i> (L.) Cronquist [N, FACU]	Canadian horseweed
	<i>Coreopsis lanceolata</i> L. [N, UPL]	lanceleaf tickseed
	<i>Coreopsis tinctoria</i> Nutt. [FAC]	golden tickseed
	<i>Echinacea pallida</i> (Nutt.) Nutt. [N, UPL]	pale purple coneflower
	<i>Eclipta prostrata</i> (L.) L. [N, FACW]	false daisy
	<i>Elephantopus carolinianus</i> Raeusch. [N, FACU]	Carolina elephantsfoot
	<i>Elephantopus tomentosus</i> L. [N, UPL]	devil's grandmother
	<i>Erechtites hieracifolius</i> (L.) Raf. ex DC. [N, FAC]	fireweed
	<i>Erigeron philadelphicus</i> L. [N, FAC]	Philadelphia fleabane
	<i>Erigeron strigosus</i> Muhl. ex Willd. [FAC]	prairie fleabane
	<i>Eupatorium capillifolium</i> (Lam.) Small [N, FACU]	dogfennel
	<i>Eupatorium perfoliatum</i> L. [N, FACW]	common boneset
	<i>Eupatorium rotundifolium</i> L. [N, FAC]	roundleaf thoroughwort
	<i>Eupatorium semiserratum</i> DC. [N, FACW]	smallflower thoroughwort
	<i>Eupatorium serotinum</i> Michx. [N, FAC]	lateflowering thoroughwort
	<i>Euthamia gymnospermoides</i> Greene [N, FAC]	Texas goldentop
	<i>Euthamia leptcephala</i> (Torr. & A. Gray) Greene ex Porter & Britton [N, FACW]	bushy goldentop
	<i>Gaillardia pulchella</i> Foug. [N, P, UPL]	firewheel
	<i>Gamochaeta purpurea</i> (L.) Cabrera [N, UPL]	spoonleaf purple everlasting
	<i>Helenium amarum</i> (Raf.) H. Rock [N, FACU]	yellowdicks
	<i>Helenium flexuosum</i> Raf. [FACW]	purplehead sneezeweed
	<i>Helianthus angustifolius</i> L. [FACW]	swamp sunflower
	<i>Helianthus grosseserratus</i> M. Martens [N, FAC]	sawtooth sunflower
	<i>Helianthus hirsutus</i> Raf. [UPL]	hairy sunflower

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Family	Scientific name and authority [wetland classification]	Common name
	Dicots—Continued	
	<i>Helianthus maximiliani</i> Schrad. [N, P, UPL]	Maximilian sunflower
	<i>Heterotheca subaxillaris</i> (Lam.) Britton & Rusby [UPL]	camphorweed
	<i>Hymenopappus artemisifolius</i> DC. [N, UPL]	oldplainsman
	<i>Iva angustifolia</i> Nutt. ex DC. [N, UPL]	narrowleaf marsh elder
	<i>Iva annua</i> L. [N, FAC]	annual marsh elder
	<i>Krigia caespitosa</i> (Raf.) K.L. Chambers [N, FAC]	weedy dwarfdandelion
	<i>Lactuca canadensis</i> L. [N, FACU]	Canada lettuce
	<i>Liatris elegans</i> (Walter) Michx. [UPL]	pinkscale blazing star
	<i>Liatris pycnostachya</i> Michx. [N, FACU]	prairie blazing star
	<i>Mikania scandens</i> (L.) Willd. [FACW]	climbing hempvine
	<i>Packera glabella</i> (Poir.) C. Jeffrey [OBL]	butterweed
	<i>Parthenium integrifolium</i> L. [N, UPL]	wild quinine
	<i>Pityopsis graminifolia</i> var. <i>graminifolia</i> (Michx.) Nutt. [UPL]	narrowleaf silkgrass
	<i>Pluchea camphorata</i> (L.) DC [N, FACW]	camphor pluchea
	<i>Pluchea foetida</i> (L.) DC [N, OBL]	stinking camphorweed
	<i>Pluchea odorata</i> (L.) Cass. [N, FACW]	sweetscent
	<i>Pseudognaphalium obtusifolium</i> (L.) Hilliard & B.L. Burt [N, UPL]	rabbit-tobacco
	<i>Pyrrhopappus carolinianus</i> (Walter) DC. [UPL]	Carolina desert-chicory
	<i>Rudbeckia grandiflora</i> (D. Don) J.F. Gmel. ex DC. [UPL]	rough coneflower
	<i>Rudbeckia hirta</i> L. [FACU]	blackeyed Susan
	<i>Rudbeckia maxima</i> Nutt. [FAC]	great coneflower
	<i>Senecio ampullaceus</i> Hook. [N, UPL]	Texas ragwort
	<i>Silphium radula</i> Nutt. [N, UPL]	roughstem rosinweed
	<i>Solidago canadensis</i> L. [N, FACU]	Canada goldenrod
	<i>Solidago rugosa</i> Mill. [N, FAC]	wrinkleleaf goldenrod
	<i>Soliva sessilis</i> Ruiz & Pav. [E, FACU]	field burrweed
	<i>Symphotrichum lanceolatum</i> (Willd.) G.L. Nesom [N, FACW]	white panicle aster
	<i>Verbesina virginica</i> L. [N, FACU]	white crownbeard
	<i>Vernonia texana</i> (A. Gray) Small [UPL]	Texas ironweed
Berberidaceae		
	<i>Nandina domestica</i> Thunb. [E, N, UPL]	sacred bamboo
	<i>Podophyllum peltatum</i> L. [FACU]	mayapple
Betulaceae		
	<i>Carpinus caroliniana</i> Walter [N, FAC]	American hornbeam
	<i>Ostrya virginiana</i> (Mill.) K. Koch [N, FACU]	hophornbeam
Bignoniaceae		
	<i>Bignonia capreolata</i> L. [N, FAC]	crossvine
	<i>Campsis radicans</i> (L.) Seem. ex Bureau [N, FAC]	trumpet creeper
Boraginaceae		
	<i>Heliotropium curassavicum</i> L. [N, OBL]	salt heliotrope
	<i>Heliotropium indicum</i> L. [FAC]	Indian heliotrope
	<i>Myosotis discolor</i> Pers. [N, FACU]	changing forget-me-not



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—Continued

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Family	Scientific name and authority [wetland classification]	Common name
Dicots—Continued		
Brassicaceae	<i>Cardamine bulbosa</i> (Schreb. ex Muhl.) Britton, Sterns & Poggenb. [N, OBL]	bulbous bittercress
	<i>Cardamine hirsuta</i> L. [E, N, FACU]	hairy bittercress
	<i>Lepidium virginicum</i> L. [N, UPL]	Virginia pepperweed
	<i>Rorippa sessiliflora</i> (Nutt.) Hitchc. [N, OBL]	stalkless yellowcress
Campanulaceae	<i>Lobelia appendiculata</i> A. DC. [FAC]	pale lobelia
	<i>Triodanis perfoliata</i> ssp. <i>biflora</i> (Ruiz & Pav.) Lammers [UPL]	small Venus' looking-glass
	<i>Triodanis perfoliata</i> ssp. <i>perfoliata</i> (L.) Nieuwl. [FACU]	clasping Venus' looking-glass
Cannabaceae	<i>Celtis laevigata</i> Willd. [N, FACW]	sugarberry
Caprifoliaceae	<i>Lonicera japonica</i> Thunb. [E, N, FAC]	Japanese honeysuckle
Caryophyllaceae	<i>Cerastium glomeratum</i> Thuill. [N, FACU]	sticky chickweed
	<i>Stellaria media</i> (L.) Vill. [E, N, FACU]	common chickweed
Celastraceae	<i>Euonymus americanus</i> L. [N, FAC]	bursting-heart
Cistaceae	<i>Lechea mucronata</i> Raf. [UPL]	hairy pinweed
	<i>Lechea tenuifolia</i> Michx. [UPL]	narrowleaf pinweed
Convolvulaceae	<i>Cuscuta indecora</i> Choisy [N, UPL]	bigseed alfalfa dodder
	<i>Dichondra carolinensis</i> Michx. [FAC]	Carolina ponysfoot
	<i>Ipomoea hederacea</i> Jacq. [N, FAC]	ivy leaf morning-glory
	<i>Ipomoea lacunosa</i> L. [N, FAC]	whitestar
Cornaceae	<i>Cornus drummondii</i> C.A. Mey. [N, FAC]	roughleaf dogwood
	<i>Cornus florida</i> L. [FACU]	flowering dogwood
Cucurbitaceae	<i>Melothria pendula</i> L. [N, FACW]	Guadeloupe cucumber
Droseraceae	<i>Drosera brevifolia</i> Pursh [N, OBL]	dwarf sundew
Ebenaceae	<i>Diospyros virginiana</i> L. [N, FAC]	common persimmon

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Family	Scientific name and authority [wetland classification]	Common name
Dicots—Continued		
Ericaceae	<i>Vaccinium arboreum</i> Marsh [N, FACU]	farkleberry
Euphorbiaceae	<i>Acalypha gracilens</i> A. Gray [N, FAC]	slender threeseed mercury
	<i>Acalypha virginica</i> L. [N, FACU]	Virginia threeseed mercury
	<i>Cnidocolus texanus</i> (Müll. Arg.) Small [N, UPL]	Texas bullnettle
	<i>Croton capitatus</i> Michx. [N, UPL]	hogwort
	<i>Croton glandulosus</i> L. [N, UPL]	vente conmigo
	<i>Croton michauxii</i> G.L. Webster [N, UPL]	Michaux's croton
	<i>Croton monanthogynus</i> Michx. [N, UPL]	prairie tea
	<i>Euphorbia corollata</i> L. [N, UPL]	flowering spurge
	<i>Euphorbia nutans</i> Lag. [E, N, FACU]	eyebane
	<i>Euphorbia spathulata</i> Lam. [N, FACU]	warty spurge
	<i>Triadica sebifera</i> (L.) Small [E, N, FAC]	Chinese tallow
Fabaceae	<i>Albizia julibrissin</i> Durazz. [E, N, UPL]	silktree
	<i>Baptisia leucophaea</i> [N, UPL]	longbract wild indigo
	<i>Baptisia nuttalliana</i> Small [N, UPL]	Nuttall's wild indigo
	<i>Centrosema virginianum</i> (L.) Benth. [UPL]	spurred butterfly pea
	<i>Cercis canadensis</i> L. [N, FACU]	eastern redbud
	<i>Chamaecrista fasciculata</i> (Michx.) Greene var. <i>fasciculata</i> [FACU]	partridge pea
	<i>Clitoria mariana</i> L. [FACU]	Atlantic pigeonwings
	<i>Crotalaria sagittalis</i> L. [UPL]	arrowhead rattlebox
	<i>Desmanthus illinoensis</i> (Michx.) MacMill. ex B.L. Rob. & Fernald [N, P, FAC]	Illinois bundleflower
	<i>Desmodium ciliare</i> (Muhl. ex Willd.) DC. [UPL]	hairy small-leaf ticktrefoil
	<i>Desmodium glabellum</i> (Michx.) DC. [N, UPL]	Dillenius' ticktrefoil
	<i>Desmodium marilandicum</i> (L.) DC. [UPL]	smooth small-leaf ticktrefoil
	<i>Desmodium paniculatum</i> (L.) DC. [N, FACU]	panicleleaf ticktrefoil
	<i>Desmodium sessilifolium</i> (Torr.) Torr. & A. Gray [N, UPL]	sessileleaf ticktrefoil
	<i>Erythrina herbacea</i> L. [N, UPL]	redcardinal
	<i>Galactia volubilis</i> (L.) Britton [N, FACU]	downy milkpea
	<i>Gleditsia aquatica</i> Marshall [N, OBL]	water locust
	<i>Gleditsia triacanthos</i> L. [N, FAC]	honeylocust
	<i>Kummerowia striata</i> (Thunb.) Schindl. [E, FACU]	Japanese clover
	<i>Lespedeza cuneata</i> (Dum. Cours.) G. Don [E, FACU]	sericea lespedeza
	<i>Lespedeza repens</i> (L.) W.P.C. Barton [UPL]	creeping lespedeza
	<i>Lespedeza virginica</i> (L.) Britton [UPL]	slender lespedeza
	<i>Medicago arabica</i> (L.) Huds. [E, N, UPL]	spotted medick
	<i>Medicago polymorpha</i> L. [E, N, FACU]	burclover
	<i>Melilotus indicus</i> (L.) All. [E, N, FACU]	annual yellow sweetclover
	<i>Mimosa hystricina</i> (Small ex Britton & Rose) B.L. Turner [N, UPL]	porcupine mimosa
	<i>Mimosa strigillosa</i> Torr. & A. Gray [N, FAC]	powderpuff
	<i>Senna marilandica</i> (L.) Link [N, FAC]	Maryland senna
	<i>Sesbania vesicaria</i> (Jacq.) Elliott [FAC]	bagpod
	<i>Strophostyles helvola</i> (L.) Elliott [N, FAC]	amberique-bean

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Family	Scientific name and authority [wetland classification]	Common name
Dicots—Continued		
	<i>Strophostyles leiosperma</i> (Torr. & A. Gray) Piper [UPL]	slickseed fuzzybean
	<i>Strophostyles umbellata</i> (Muhl. ex Willd.) Britton [FAC]	pink fuzzybean
	<i>Stylosanthes biflora</i> (L.) Britton, Sterns & Poggenb. [UPL]	sidebeak pencilflower
	<i>Tephrosia onobrychoides</i> Nutt. [UPL]	multibloom hoarypea
	<i>Trifolium campestre</i> Schreb. [E, N, UPL]	field clover
	<i>Trifolium dubium</i> Sibth. [E, N, FACU]	suckling clover
	<i>Trifolium incarnatum</i> L. [E, UPL]	crimson clover
	<i>Trifolium pratense</i> L. [E, N, FACU]	red clover
	<i>Trifolium repens</i> L. [E, N, FACU]	white clover
	<i>Vicia minutiflora</i> D. Dietr. [N, FAC]	pygmyflower vetch
	<i>Vicia sativa</i> L. [E, N, FACU]	garden vetch
	<i>Vicia villosa</i> Roth [E, N, UPL]	winter vetch
	<i>Wisteria frutescens</i> (L.) Poir. [FACW]	American wisteria
Fagaceae		
	<i>Quercus alba</i> L. [N, FACU]	white oak
	<i>Quercus falcata</i> Michx. [N, FACU]	southern red oak
	<i>Quercus lyrata</i> Walter [N, OBL]	overcup oak
	<i>Quercus marilandica</i> Münchh. [N, UPL]	blackjack oak
	<i>Quercus nigra</i> L. [N, FAC]	water oak
	<i>Quercus phellos</i> L. [N, FACW]	willow oak
	<i>Quercus stellata</i> Wangenh. [N, UPL]	post oak
	<i>Quercus virginiana</i> Mill. [N, P, FACU]	live oak
Gentianaceae		
	<i>Sabatia campestris</i> Nutt. [N, FACU]	Texas star
Geraniaceae		
	<i>Geranium carolinianum</i> L. [N, UPL]	Carolina geranium
	<i>Geranium dissectum</i> L. [N, UPL]	cutleaf geranium
Hydrocharitaceae		
	<i>Hydrilla verticillata</i> (L. f.) Royle [E, N, OBL]	waterthyme
Hydroleaceae		
	<i>Hydrolea ovata</i> Nutt. ex Choisy [OBL]	ovate false fiddleleaf
	<i>Hydrolea uniflora</i> Raf. [OBL]	oneflower false fiddleleaf
Hypericaceae		
	<i>Hypericum drummondii</i> (Grev. & Hook.) Torr. & A. Gray [N, FACU]	nits and lice
	<i>Hypericum fasciculatum</i> Lam. [N, FACW]	peelbark St. Johnswort
	<i>Hypericum gymnanthum</i> Engelm. & A. Gray [N, FACW]	claspingleaf St. Johnswort
	<i>Hypericum hypericoides</i> (L.) Crantz [FAC]	St. Andrew's cross
	<i>Hypericum punctatum</i> Lam. [N, FAC]	spotted St. Johnswort
	<i>Triadenum walteri</i> (J.F. Gmel.) Gleason [N, OBL]	greater marsh St. Johnswort

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Family	Scientific name and authority [wetland classification]	Common name
Dicots—Continued		
Juglandaceae	<i>Carya aquatica</i> (F. Michx.) Elliott [N, OBL]	water hickory
	<i>Carya cordiformis</i> (Wangenh.) K. Koch [FAC]	bitternut hickory
	<i>Carya illinoensis</i> (Wangenh.) K. Koch [N, FACU]	pecan
	<i>Juglans nigra</i> L. [N, P, UPL]	black walnut
Lamiaceae	<i>Callicarpa americana</i> L. [N, FACU]	American beautyberry
	<i>Lamium amplexicaule</i> L. [E, N, UPL]	henbit deadnettle
	<i>Lycopus rubellus</i> Moench [OBL]	taperleaf water horehound
	<i>Monarda fistulosa</i> L. [FACU]	wild bergamot
	<i>Perilla frutescens</i> (L.) Britton [E, N, UPL]	beefsteak plant
	<i>Physostegia intermedia</i> (Nutt.) Engelm. & A. Gray [N, FACW]	slender false dragonhead
	<i>Prunella vulgaris</i> L. [FAC]	common selfheal
	<i>Pycnanthemum tenuifolium</i> Schrad. [N, FACW]	narrowleaf mountainmint
	<i>Salvia lyrata</i> L. [FACU]	lyreleaf sage
	<i>Scutellaria ovata</i> Hill [N, UPL]	heartleaf skullcap
	<i>Scutellaria parvula</i> Michx. [N, FACU]	small skullcap
	<i>Stachys tenuifolia</i> Willd. [N, FACW]	smooth hedgenettle
	<i>Teucrium canadense</i> L. [FACW]	Canada germander
Lauraceae	<i>Sassafras albidum</i> (Nutt.) Nees [N, FACU]	sassafras
Linaceae	<i>Linum medium</i> var. <i>texanum</i> (Planch.) Fernald [UPL]	stiff yellow flax
Lythraceae	<i>Ammannia coccinea</i> Rottb. [N, OBL]	valley redstem
	<i>Lythrum alatum</i> var. <i>lanceolatum</i> (Elliott) Torr. & A. Gray ex Rothr. [OBL]	winged lythrum
	<i>Rotala ramosior</i> (L.) Koehne [N, OBL]	lowland rotala
Malvaceae	<i>Hibiscus laevis</i> All. [OBL]	halberdleaf rosemallow
	<i>Hibiscus moscheutos</i> ssp. <i>lasiocarpus</i> (Cav.) O.J. Blanch. [OBL]	rosemallow
	<i>Sida rhombifolia</i> L. [N, FACU]	Cuban jute
Melastomataceae	<i>Rhexia mariana</i> L. [FACW]	Maryland meadowbeauty
Meliaceae	<i>Melia azedarach</i> L. [E, N, UPL]	Chinaberry tree
Menispermaceae	<i>Cocculus carolinus</i> (L.) DC. [N, FAC]	Carolina coralbead
Molluginaceae	<i>Mollugo verticillata</i> L. [E, FAC]	green carpetweed

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Family	Scientific name and authority [wetland classification]	Common name
Dicots—Continued		
Montiaceae	<i>Claytonia virginica</i> L. [N, FACU]	Virginia springbeauty
Moraceae	<i>Maclura pomifera</i> (Raf.) C.K. Schneid. [N, FACU] <i>Morus rubra</i> L. [N, FACU]	osage orange red mulberry
Myricaceae	<i>Morella cerifera</i> (L.) Small [FAC]	wax myrtle
Nelumbonaceae	<i>Nelumbo lutea</i> Willd. [N, OBL]	American lotus
Nymphaeaceae	<i>Nuphar lutea</i> (L.) Sm. [OBL]	yellow pond-lily
Nyssaceae	<i>Nyssa sylvatica</i> Marshall [FAC]	blackgum
Oleaceae	<i>Chionanthus virginicus</i> L. [FACU] <i>Forestiera acuminata</i> (Michx.) Poir. [N, OBL] <i>Fraxinus americana</i> L. [N, FACU] <i>Fraxinus pennsylvanica</i> Marsh. [FACW] <i>Ligustrum sinense</i> Lour. [E, N, UPL]	white fringetree eastern swampprivet white ash green ash Chinese privet
Onagraceae	<i>Oenothera filiformis</i> (Small) W.L. Wagner & Hoch [N, UPL] <i>Ludwigia alternifolia</i> L. [N, OBL] <i>Ludwigia decurrens</i> (DC.) Walter [N, OBL] <i>Ludwigia glandulosa</i> Walter [N, OBL] <i>Ludwigia leptocarpa</i> (Nutt.) H. Hara [N, OBL] <i>Ludwigia linearis</i> Walter [N, OBL] <i>Ludwigia palustris</i> (L.) Elliott [N, OBL] <i>Ludwigia peploides</i> (Kunth) P.H. Raven [N, OBL] <i>Oenothera biennis</i> L. [N, FACU] <i>Oenothera laciniata</i> Hill [N, FACU] <i>Oenothera linifolia</i> Nutt. [N, UPL] <i>Oenothera speciosa</i> Nutt. [E, N, UPL]	longflower beeblossom seedbox wingleaf primrose-willow cylindricfruit primrose-willow anglestem primrose-willow narrowleaf primrose-willow marsh seedbox floating primrose-willow common evening primrose cutleaf evening primrose threadleaf evening primrose pinkladies
Orobanchaceae	<i>Agalinis purpurea</i> (L.) Pennell [N, FACW] <i>Castilleja indivisa</i> Engelm. [N, P, FAC] <i>Parentucellia viscosa</i> (L.) Caruel [E, FAC]	purple false foxglove entireleaf Indian paintbrush yellow glandweed
Oxalidaceae	<i>Oxalis dillenii</i> Jacq. [N, FACU] <i>Oxalis stricta</i> L. [N, UPL] <i>Oxalis violacea</i> L. [N, UPL]	slender yellow woodsorrel common yellow oxalis violet woodsorrel

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Family	Scientific name and authority [wetland classification]	Common name
Dicots—Continued		
Passifloraceae	<i>Passiflora incarnata</i> L. [N, UPL]	purple passionflower
	<i>Passiflora lutea</i> L. [N, UPL]	yellow passionflower
Penthoraceae	<i>Penthorum sedoides</i> L. [OBL]	ditch stonecrop
Phytolaccaceae	<i>Phytolacca americana</i> L. [N, FACU]	American pokeweed
Plantaginaceae	<i>Callitriche heterophylla</i> Pursh [OBL]	twoheaded water-starwort
	<i>Callitriche terrestris</i> Raf. [N, FACW]	terrestrial water-starwort
	<i>Mecardonia acuminata</i> (Walter) Small [N, FACW]	axilflower
	<i>Nuttallanthus canadensis</i> (L.) D.A. Sutton [N, UPL]	Canada toadflax
	<i>Penstemon digitalis</i> Nutt. ex Sims [FAC]	talus slope penstemon
	<i>Plantago aristata</i> Michx. [UPL]	largebracted plantain
	<i>Plantago virginica</i> L. [FACU]	Virginia plantain
	<i>Veronica arvensis</i> L. [E, N, UPL]	corn speedwell
	<i>Veronica peregrina</i> L. [N, FAC]	neckweed
Platanaceae	<i>Platanus occidentalis</i> L. [N, FACW]	sycamore
Polemoniaceae	<i>Phlox pilosa</i> ssp. <i>pilosa</i> L. [N, FACU]	downy phlox
Polygalaceae	<i>Polygala mariana</i> Mill. [N, FACW]	Maryland milkwort
	<i>Polygala verticillata</i> L. [N, UPL]	whorled milkwort
Polygonaceae	<i>Brunnichia ovata</i> (Walter) Shinnery [FACW]	American buckwheat vine
	<i>Persicaria glabra</i> (Willd.) M. Gomez [N, OBL]	denseflower knotweed
	<i>Persicaria hydropiper</i> L. (Opiz) [E, N, OBL]	marshpepper knotweed
	<i>Persicaria hydropiperoides</i> (Michx.) Small [FACW]	swamp smartweed
	<i>Persicaria maculosa</i> Gray [E, N, FACW]	spotted ladythumb
	<i>Persicaria punctata</i> (Elliott) Small [N, OBL]	dotted smartweed
	<i>Persicaria setacea</i> (Baldw.) Small [N, OBL]	bog smartweed
	<i>Rumex hastatulus</i> Baldwin [FACU]	heartwing sorrel
	<i>Rumex crispus</i> L. [E, N, FAC]	curly dock
Primulaceae	<i>Anagallis arvensis</i> L. [E, N, FACU]	scarlet pimpernel
	<i>Hottonia inflata</i> Elliott [OBL]	American featherfoil

**Table 1.** Comprehensive list of vascular plants identified at Caddo Lake National Wildlife Refuge, Texas, March 2011–March 2012.  
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Family	Scientific name and authority [wetland classification]	Common name
Dicots—Continued		
Ranunculaceae	<i>Anemone caroliniana</i> Walter [N, UPL]	Carolina anemone
	<i>Clematis crispa</i> L. [N, FACW]	swamp leather flower
	<i>Delphinium carolinianum</i> Walter [N, UPL]	Carolina larkspur
	<i>Ranunculus pusillus</i> Poir. [N, FACW]	low spearwort
Rhamnaceae	<i>Berchemia scandens</i> (Hill) K. Koch [FAC]	Alabama supplejack
	<i>Rhamnus caroliniana</i> Walter [FACU]	Carolina buckthorn
Rosaceae	<i>Crataegus brachyacantha</i> Sarg. & Engelm. [OBL]	blueberry hawthorn
	<i>Crataegus crus-galli</i> L. [N, FAC]	cockspur hawthorn
	<i>Crataegus marshallii</i> Eggl. [FAC]	parsley hawthorn
	<i>Crataegus spathulata</i> Michx. [FAC]	littlehip hawthorn
	<i>Crataegus viridis</i> L. [FACW]	green hawthorn
	<i>Duchesnea indica</i> (Andrews) Focke [E. FACU]	Indian strawberry
	<i>Geum canadense</i> Jacq. [FAC]	white avens
	<i>Potentilla recta</i> L. [E, N, UPL]	sulphur cinquefoil
	<i>Prunus angustifolia</i> Marshall [N, UPL]	Chickasaw plum
	<i>Prunus serotina</i> Ehrh. [N, FACU]	black cherry
	<i>Prunus umbellata</i> Elliott [UPL]	hog plum
	<i>Pyrus calleryana</i> Decne. [E, N, UPL]	Callery pear
	<i>Rosa carolina</i> L. [FACU]	Carolina rose
	<i>Rubus argutus</i> Link [N, FAC]	sawtooth blackberry
	<i>Rubus flagellaris</i> Willd. [N, UPL]	northern dewberry
	<i>Rubus trivialis</i> Michx. [N, FACU]	southern dewberry
Rubiaceae	<i>Cephalanthus occidentalis</i> L. [N, OBL]	common buttonbush
	<i>Diodella teres</i> (Walter) Small [N, FACU]	poorjoe
	<i>Diodia virginiana</i> L. [N, FACW]	Virginia buttonweed
	<i>Galium aparine</i> L. [N, FACU]	catchweed bedstraw
	<i>Galium circaezans</i> Michx. [N, FACU]	licorice bedstraw
	<i>Galium obtusum</i> Bigelow [N, FACW]	bluntleaf bedstraw
	<i>Galium tinctorium</i> L. [N, FACW]	stiff marsh bedstraw
	<i>Houstonia micrantha</i> (Shinners) Terrell [N, UPL]	southern bluet
	<i>Houstonia pusilla</i> Schoepf [N, FACU]	tiny bluet
	<i>Houstonia rosea</i> (Raf.) Terrell [N, UPL]	rose bluet
	<i>Mitchella repens</i> L. [FACU]	partridgeberry
	<i>Sherardia arvensis</i> L. [E, N, UPL]	blue fieldmadder
	<i>Spermacoce glabra</i> Michx. [N, FACW]	smooth false buttonweed
	<i>Stenaria nigricans</i> (Lam.) Terrell [UPL]	diamondflowers
Rutaceae	<i>Zanthoxylum clava-herculis</i> L. [N, FAC]	Hercules' club

**Table 1.** Comprehensive list of vascular plants identified at Caddo Lake National Wildlife Refuge, Texas, March 2011–March 2012.  
—Continued

[E, exotic species; P, planted species; N, new record for Harrison County, Texas. Wetland classifications (Lichvar, 2013) are listed as follows: OBL, obligate wetland; FACW, facultative wetland; FAC, facultative; FACU, facultative upland; UP, obligate upland]

Family	Scientific name and authority [wetland classification]	Common name
Dicots—Continued		
Salicaceae	<i>Populus deltoides</i> W. Bartram ex Marshall [N, FAC] <i>Populus nigra</i> L. [E, P, N, UPL] <i>Salix nigra</i> Marshall [N, OBL]	eastern cottonwood Lombardy's poplar black willow
Santalaceae	<i>Phoradendron tomentosum</i> (DC.) Engelm. ex A. Gray [N, UPL]	Christmas mistletoe
Sapindaceae	<i>Acer saccharum</i> var. <i>saccharum</i> Marsh. [N, UPL] <i>Acer negundo</i> L. [N, FAC] <i>Acer rubrum</i> L. [N, FAC] <i>Aesculus pavia</i> L. [FACU]	southern sugar maple boxelder red maple red buckeye
Sapotaceae	<i>Sideroxylon lanuginosum</i> Michx. [FACU]	gum bully
Saururaceae	<i>Saururus cernuus</i> L. [N, OBL]	lizard's tail
Scrophulariaceae	<i>Verbascum thapsus</i> L. [E, N, FACU]	common mullein
Solanaceae	<i>Solanum carolinense</i> L. [N, FACU]	Carolina horsenettle
Styracaceae	<i>Styrax americanus</i> Lam. [FACW]	American snowbell
Symplocaceae	<i>Symplocos tinctoria</i> (L.) L'Hér. [FAC]	common sweetleaf
Tetrachondraceae	<i>Polypremum procumbens</i> L. [N, FACU]	juniper-leaf
Ulmaceae	<i>Planera aquatica</i> J.F. Gmel. [OBL] <i>Ulmus alata</i> Michx. [N, FACU] <i>Ulmus americana</i> L. [N, FAC]	planertree winged elm American elm
Urticaceae	<i>Boehmeria cylindrica</i> (L.) Sw. [FACW] <i>Pilea pumila</i> (L.) A. Gray [N, FAC] <i>Urtica chamaedryoides</i> Pursh [N, FAC]	smallspike false nettle Canadian clearweed heartleaf nettle
Valerianaceae	<i>Valerianella radiata</i> (L.) Duf. [N, FACU]	beaked cornsalad



**Table 1.** Comprehensive list of vascular plants identified at Caddo Lake National Wildlife Refuge, Texas, March 2011–March 2012.  
—Continued

[E, exotic species; P, planted species; N, new record for Harrison County, Texas. Wetland classifications (Lichvar, 2013) are listed as follows: OBL, obligate wetland; FACW, facultative wetland; FAC, facultative; FACU, facultative upland; UP, obligate upland]

Family	Scientific name and authority [wetland classification]	Common name
Dicots—Continued		
Verbenaceae	<i>Phyla lanceolata</i> (Michx.) Greene [N, OBL]	lanceleaf fogfruit
	<i>Verbena brasiliensis</i> Vell. [E, N, UPL]	Brazilian vervain
	<i>Verbena halei</i> Small [N, UPL]	Texas vervain
	<i>Verbena urticifolia</i> L. [N, FAC]	white vervain
Violaceae	<i>Viola bicolor</i> Pursh [N, FAC]	field pansy
	<i>Viola sororia</i> Willd. [FAC]	common blue violet
Vitaceae	<i>Ampelopsis arborea</i> (L.) Koehne [N, FAC]	peppervine
	<i>Ampelopsis cordata</i> Michx. [N, FAC]	heartleaf peppervine
	<i>Parthenocissus quinquefolia</i> (L.) Planch. [N, FACU]	Virginia creeper
	<i>Vitis aestivalis</i> Michx. [FACU]	summer grape
	<i>Vitis cinerea</i> (Engelm.) Engelm. ex Millard [N, FAC]	graybark grape
	<i>Vitis riparia</i> Michx. [N, FACW]	riverbank grape
	<i>Vitis rotundifolia</i> Michx. [N, FACW]	muscadine
	<i>Vitis vulpina</i> L. [N, FAC]	frost grape

**Table 2.** List of nonnative plant species occurring at Caddo Lake National Wildlife Refuge, Texas, March 2011–March 2012.

Scientific name	Common name	Family
<i>Albizia julibrissin</i>	silk tree	Fabaceae
<i>Alternanthera philoxeroides</i>	alligatorweed	Amaranthaceae
<i>Anagallis arvensis</i>	scarlet pimpernel	Primulaceae
<i>Bothriochloa ischaemum</i> var. <i>songarica</i>	King's Ranch bluestem	Poaceae
<i>Briza minor</i>	little quakinggrass	Poaceae
<i>Bromus catharticus</i>	rescuegrass	Poaceae
<i>Cardamine hirsuta</i>	hairy bittercress	Brassicaceae
<i>Cerastium glomeratum</i>	sticky chickweed	Caryophyllaceae
<i>Commelina communis</i>	Asiatic dayflower	Commelinaceae
<i>Cynodon dactylon</i>	Bermudagrass	Poaceae
<i>Digitaria ischaemum</i>	smooth crabgrass	Poaceae
<i>Digitaria sanguinalis</i>	hairy crabgrass	Poaceae
<i>Digitaria violascens</i>	violet crabgrass	Poaceae
<i>Duchesnea indica</i>	Indian strawberry	Rosaceae
<i>Eichhornia crassipes</i>	common water hyacinth	Pontederiaceae
<i>Eleusine indica</i>	goosegrass	Poaceae
<i>Euphorbia nutans</i>	eyebane	Euphorbiaceae
<i>Hydrilla verticillata</i>	waterthyme	Hydrocharitaceae
<i>Iris albicans</i>	cemetery iris	Iridaceae
<i>Kummerowia striata</i>	Japanese clover	Fabaceae
<i>Lamium amplexicaule</i>	henbit deadnettle	Lamiaceae
<i>Lespedeza cuneata</i>	sericea lespedeza	Fabaceae
<i>Ligustrum sinense</i>	Chinese privet	Oleaceae
<i>Lolium perenne</i>	perennial ryegrass	Poaceae
<i>Lonicera japonica</i>	Japanese honeysuckle	Caprifoliaceae
<i>Lycoris radiata</i>	red spider lily	Amaryllidaceae
<i>Medicago arabica</i>	spotted medick	Fabaceae
<i>Medicago polymorpha</i>	burclover	Fabaceae
<i>Melia azedarach</i>	Chinaberry tree	Meliaceae
<i>Melilotus indicus</i>	annual yellow sweetclover	Fabaceae
<i>Mollugo verticillata</i>	green carpetweed	Molluginaceae
<i>Nandina domestica</i>	sacred bamboo	Berberidaceae
<i>Narcissus jonquilla</i>	jonquil	Amaryllidaceae
<i>Oenothera speciosa</i>	pinkladies	Onagraceae
<i>Parentucellia viscosa</i>	yellow glandweed	Orobanchaceae
<i>Paspalum dilatatum</i>	dallisgrass	Poaceae
<i>Paspalum notatum</i>	bahiagrass	Poaceae
<i>Paspalum urvillei</i>	Vasey's grass	Poaceae
<i>Purilla frutescens</i>	beefsteak plant	Lamiaceae
<i>Poa annua</i>	annual bluegrass	Poaceae
<i>Persicaria hydropiper</i>	marshpepper knotweed	Polygonaceae
<i>Persicaria maculosa</i>	spotted ladythumb	Polygonaceae
<i>Populus nigra</i>	Lombardy's poplar	Salicaceae
<i>Potentilla recta</i>	sulphur cinquefoil	Rosaceae

**Table 2.** List of nonnative plant species occurring at Caddo Lake National Wildlife Refuge, Texas, March 2011–March 2012.  
—Continued

Scientific name	Common name	Family
<i>Pyrus calleryana</i>	Callery pear	Rosaceae
<i>Rumex crispus</i>	curly dock	Polygonaceae
<i>Salvinia molesta</i>	kariba-weed	Salviniaceae
<i>Sherardia arvensis</i>	blue fieldmadder	Rubiaceae
<i>Soliva sessilis</i>	field burrweed	Asteraceae
<i>Sorghum halepense</i>	Johnsongrass	Poaceae
<i>Stellaria media</i>	common chickweed	Caryophyllaceae
<i>Triadica sebifera</i>	Chinese tallow	Euphorbiaceae
<i>Trifolium campestre</i>	field clover	Fabaceae
<i>Trifolium dubium</i>	suckling clover	Fabaceae
<i>Trifolium incarnatum</i>	crimson clover	Fabaceae
<i>Trifolium pratense</i>	red clover	Fabaceae
<i>Trifolium repens</i>	white clover	Fabaceae
<i>Verbascum thapsus</i>	common mullein	Scrophulariaceae
<i>Verbena brasiliensis</i>	Brazilian vervain	Verbenaceae
<i>Veronica arvensis</i>	corn speedwell	Plantaginaceae
<i>Vicia sativa</i>	garden vetch	Fabaceae
<i>Vicia villosa</i>	winter vetch	Fabaceae

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**Table 3.** List of vascular plant species found at Caddo Lake National Wildlife Refuge, Texas, March 2011–March 2012, with food value for wildlife.

[1, low use; 2, medium use; 3, high use. --, no data]

Vascular plant species		Food value, by wildlife category or species							
Scientific name	Common name	Bobwhite ( <i>Colinus virginianus</i> )	Dove ( <i>Zenaida macroura</i> )	Ducks	Song-birds	Turkey ( <i>Meleagris gallopavo</i> )	Deer ( <i>Odocoileus virginianus</i> )	Small mammals	Polli-nators
<i>Acalypha gracilens</i>	slender threeseed mercury	2	2	--	2	--	3	--	--
<i>Acer rubrum</i>	red maple	--	--	--	1	--	1	1	--
<i>Achillea millefolium</i>	common yarrow	--	--	--	--	--	--	--	1
<i>Aesculus pavia</i>	red buckeye	--	--	--	--	--	--	--	3
<i>Agalinis purpurea</i>	purple false fox-glove	--	--	--	--	--	2	--	3
<i>Albizia julibrissin</i>	silktree	--	--	--	--	--	--	--	2
<i>Allium canadense</i> var. <i>mobile</i>	Mobile meadow garlic	--	--	--	--	--	--	--	1
<i>Alternanthera philoxeroides</i>	alligatorweed	--	--	--	--	--	--	--	1
<i>Ambrosia artemisiifolia</i>	annual ragweed	3	3	--	3	--	3	--	--
<i>Ambrosia psilostachya</i>	cuman ragweed	1	1	--	--	--	--	--	--
<i>Ambrosia trifida</i>	great ragweed	--	--	--	--	--	1	--	--
<i>Ammannia coccinea</i>	valley redstem	--	--	1	--	--	--	--	1
<i>Ampelopsis arborea</i>	peppervine	--	--	--	--	--	2	3	--
<i>Andropogon glomeratus</i>	bushy bluestem	1	--	--	1	--	1	1	--
<i>Andropogon ternarius</i>	splitbeard blue-stem	1	--	--	1	--	1	1	--
<i>Andropogon virginicus</i>	broomsedge bluestem	1	--	--	1	--	1	1	--
<i>Apocynum cannabinum</i>	Indian hemp	--	--	--	--	--	--	--	1
<i>Aralia spinosa</i>	devil's walking-stick	--	--	--	2	--	--	--	3
<i>Aristida oligantha</i>	prairie threeawn	--	--	--	1	--	--	--	--
<i>Aristida purpurascens</i>	arrowfeather threeawn	--	--	--	1	--	--	--	--
<i>Asclepias tuberosa</i>	butterfly milkweed	--	--	--	--	--	--	--	2
<i>Asclepias variegata</i>	redring milkweed	1	--	--	--	--	2	--	3
<i>Asclepias verticillata</i>	whorled milkweed	--	--	--	--	--	--	--	2
<i>Asclepias viridis</i>	green antelope-horn	--	--	--	--	--	--	--	2
<i>Baccharis halimifolia</i>	eastern baccharis	--	--	--	1	--	1	--	3
<i>Baptisia leucophaea</i>	longbract wild indigo	--	--	--	--	--	--	--	3
<i>Baptisia nuttalliana</i>	Nuttall's wild indigo	--	--	--	--	--	--	--	3
<i>Berchemia scandens</i>	Alabama supple-jack	2	--	--	--	2	3	2	--
<i>Bidens aristosa</i>	bearded beggar-ticks	2	2	--	2	--	1	--	--

**Table 3.** List of vascular plant species found at Caddo Lake National Wildlife Refuge, Texas, March 2011–March 2012, with food value for wildlife.—Continued

[1, low use; 2, medium use; 3, high use. --, no data]

Vascular plant species		Food value, by wildlife category or species							
Scientific name	Common name	Bobwhite ( <i>Colinus virginianus</i> )	Dove ( <i>Zenaida macroura</i> )	Ducks	Song- birds	Turkey ( <i>Meleagris gallopavo</i> )	Deer ( <i>Odocoileus virginianus</i> )	Small mammals	Polli- nators
<i>Bidens discoides</i>	small beggarticks	2	2	--	2	--	1	--	--
<i>Bidens laevis</i>	smooth beggar- ticks	2	2	--	2	--	1	--	1
<i>Bignonia capreolata</i>	crossvine	--	--	--	--	--	2	2	2
<i>Boltonia diffusa</i>	smallhead doll's daisy	--	--	--	--	--	--	--	1
<i>Callicarpa americana</i>	American beau- tyberry	2	--	--	3	--	3	2	2
<i>Campsis radicans</i>	trumpet creeper	--	--	--	--	--	3	--	2
<i>Cardamine bulbosa</i>	bulbous bitter- cress	--	--	--	--	--	--	--	1
<i>Cardamine hirsuta</i>	hairy bittercress	--	--	--	--	--	--	--	1
<i>Carduus nutans</i>	nodding plume- less thistle	--	--	--	--	--	--	--	1
<i>Carex blanda</i>	eastern woodland sedge	--	--	1	3	3	1	3	--
<i>Carex caroliniana</i>	Carolina sedge	--	--	1	3	3	1	3	--
<i>Carex cephalophora</i>	oval-leaf sedge	--	--	1	3	3	1	3	--
<i>Carex cherokeensis</i>	Cherokee sedge	--	--	1	3	3	1	3	--
<i>Carex complanata</i>	blue sedge	--	--	1	3	3	1	3	--
<i>Carex hyalinolepis</i>	shoreline sedge	--	--	1	3	3	1	3	--
<i>Carex longii</i>	Long's sedge	--	--	1	3	3	1	3	--
<i>Carex lupulina</i>	hop sedge	--	--	1	3	3	1	3	--
<i>Carex lurida</i>	shallow sedge	--	--	1	3	3	1	3	--
<i>Carex oxylepis</i>	sharp-scale sedge	--	--	1	3	3	1	3	--
<i>Carex reniformis</i>	kidneyshape sedge	--	--	1	3	3	1	3	--
<i>Carex triangularis</i>	eastern fox sedge	--	--	1	3	3	1	3	--
<i>Carex vulpinoidea</i>	fox sedge	--	--	1	3	3	1	3	--
<i>Carya cordiformis</i>	bitternut hickory	--	--	--	--	--	1	--	--
<i>Castilleja indivisa</i>	entireleaf Indian paintbrush	--	--	--	--	--	--	--	1
<i>Celtis laevigata</i>	sugarberry	--	--	--	--	--	1	--	--
<i>Centrosema virginianum</i>	spurred butterfly pea	2	--	--	1	--	--	--	2
<i>Cephalanthus occidentalis</i>	common button- bush	--	--	3	2	--	1	--	2
<i>Cercis canadensis</i>	eastern redbud	--	--	--	--	--	--	--	2
<i>Chamaecrista fasciculata</i> var. <i>fasciculata</i>	partridge pea	3	--	--	--	--	2	--	2
<i>Chasmanthium latifolium</i>	Indian woodoats	2	--	--	2	--	1	--	--
<i>Chasmanthium laxum</i>	slender woodoats	2	--	--	2	--	1	--	--

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**Table 3.** List of vascular plant species found at Caddo Lake National Wildlife Refuge, Texas, March 2011–March 2012, with food value for wildlife.—Continued

[1, low use; 2, medium use; 3, high use. --, no data]

Vascular plant species		Food value, by wildlife category or species							
Scientific name	Common name	Bobwhite ( <i>Colinus virginianus</i> )	Dove ( <i>Zenaida macroura</i> )	Ducks	Song- birds	Turkey ( <i>Meleagris gallopavo</i> )	Deer ( <i>Odocoileus virginianus</i> )	Small mammals	Polli- nators
<i>Chasmanthium sessiliflorum</i>	longleaf woodoats	2	--	--	2	--	1	--	--
<i>Chionanthus virginicus</i>	white fringetree	--	--	--	--	--	3	--	1
<i>Chrysopsis gossypina</i> ssp. <i>gossypina</i>	soft goldenaster	--	--	--	--	--	--	--	1
<i>Cicuta maculata</i>	spotted water hemlock	--	--	--	--	--	--	--	1
<i>Cirsium horridulum</i>	yellow thistle	--	--	--	3	--	--	--	3
<i>Cirsium texanum</i>	Texas thistle	--	--	--	3	--	--	--	3
<i>Claytonia virginica</i>	Virginia spring-beauty	--	--	--	--	--	--	--	1
<i>Clitoria mariana</i>	Atlantic pigeon-wings	1	--	--	--	--	1	--	1
<i>Coleataenia anceps</i>	beaked panicgrass	3	3	--	3	--	--	--	--
<i>Coleataenia longifolia</i> ssp. <i>rigidula</i>	redtop panicgrass	3	3	--	3	--	--	--	--
<i>Cnidoscolus texanus</i>	Texas bullnettle	1	--	--	1	--	--	--	1
<i>Commelina communis</i>	Asiatic dayflower	2	2	--	--	--	2	--	--
<i>Commelina virginica</i>	Virginia day-flower	2	2	--	--	--	2	--	--
<i>Conoclinium coelestinum</i>	blue mistflower	--	--	--	--	--	--	--	2
<i>Conyza canadensis</i>	Canadian horse-weed	--	--	--	--	--	1	--	--
<i>Coreopsis lanceolata</i>	lanceleaf tickseed	--	--	--	--	--	--	--	1
<i>Coreopsis tinctoria</i>	golden tickseed	--	--	--	1	--	1	1	1
<i>Cornus drummondii</i>	roughleaf dog-wood	--	--	--	--	--	--	--	1
<i>Cornus florida</i>	flowering dog-wood	--	--	--	--	--	3	--	--
<i>Crataegus brachyacantha</i>	blueberry hawthorn	--	--	--	--	2	2	2	1
<i>Crataegus crus-galli</i>	cockspur hawthorn	--	--	--	--	2	3	2	3
<i>Crataegus marshallii</i>	parsley hawthorn	--	--	--	--	2	3	2	3
<i>Crataegus spathulata</i>	littlehip hawthorn	--	--	--	--	2	3	2	3
<i>Crataegus viridis</i>	green hawthorn	--	--	--	--	2	3	2	3
<i>Crotalaria sagittalis</i>	arrowhead rattle-box	1	--	--	--	--	--	--	1
<i>Croton capitatus</i>	hogwort	3	3	--	--	--	--	--	--
<i>Croton monanthogynus</i>	prairie tea	2	2	--	--	--	--	--	--
<i>Cyperus acuminatus</i>	tapertip flatsedge	--	--	--	--	--	1	--	--
<i>Cyperus echinatus</i>	globe flatsedge	--	--	2	--	3	1	3	--
<i>Cyperus odoratus</i>	fragrant flatsedge	--	--	--	--	--	1	--	--

**Table 3.** List of vascular plant species found at Caddo Lake National Wildlife Refuge, Texas, March 2011–March 2012, with food value for wildlife.—Continued

[1, low use; 2, medium use; 3, high use. --, no data]

Vascular plant species		Food value, by wildlife category or species							
Scientific name	Common name	Bobwhite ( <i>Colinus virginianus</i> )	Dove ( <i>Zenaida macroura</i> )	Ducks	Song- birds	Turkey ( <i>Meleagris gallopavo</i> )	Deer ( <i>Odocoileus virginianus</i> )	Small mammals	Polli- nators
<i>Cyperus pseudovegetus</i>	marsh flatsedge	--	--	--	--	--	1	--	--
<i>Cyperus retrorsus</i>	pine barren flat- sedge	--	--	--	--	--	1	--	--
<i>Cyperus strigosus</i>	strawcolored flatsedge	--	--	--	--	--	1	--	--
<i>Cyperus virens</i>	green flatsedge	--	--	--	--	--	1	--	--
<i>Daucus carota</i>	Queen Anne's lace	--	--	--	--	--	--	--	1
<i>Desmanthus illinoensis</i>	Illinois bundle- flower	2	2	--	2	2	--	--	--
<i>Desmodium ciliare</i>	hairy small-leaf ticktrefoil	3	--	--	--	2	3	--	--
<i>Desmodium glabellum</i>	Dillenius' tick- trefoil	3	--	--	--	2	3	--	--
<i>Desmodium marilandicum</i>	smooth small-leaf ticktrefoil	3	--	--	--	2	3	--	--
<i>Desmodium paniculatum</i>	panickedleaf ticktrefoil	3	--	--	--	2	3	--	--
<i>Desmodium sessilifolium</i>	sessileleaf tick- trefoil	3	--	--	--	2	3	--	--
<i>Dichanthelium aciculare</i>	needleleaf rosette grass	3	3	--	3	2	1	3	--
<i>Dichanthelium acuminatum</i>	tapered rosette grass	3	3	--	3	2	1	3	--
<i>Dichanthelium commuta- tum</i>	variable panic- grass	3	3	--	3	2	1	3	--
<i>Dichanthelium scoparium</i>	velvet panicum	3	3	--	3	2	1	3	--
<i>Dichanthelium sphaero- carpon</i>	roundseed panic- grass	3	3	--	3	2	1	3	--
<i>Digitaria ciliaris</i>	southern crab- grass	2	2	--	2	2	1	--	--
<i>Digitaria ischaemum</i>	smooth crabgrass	2	2	--	2	2	1	--	--
<i>Digitaria sanguinalis</i>	hairy crabgrass	2	2	--	2	2	1	--	--
<i>Digitaria violascens</i>	violet crabgrass	2	2	--	2	2	1	--	--
<i>Diodella teres</i>	poorjoe	2	2	--	2	2	3	--	--
<i>Diodia virginiana</i>	Virginia button- weed	2	2	2	--	--	3	2	--
<i>Diospyros virginiana</i>	common persim- mon	--	--	--	--	--	--	--	1
<i>Duchesnea indica</i>	Indian strawberry	--	--	--	--	--	--	--	1
<i>Echinacea pallida</i>	pale purple cone- flower	--	--	--	--	--	--	--	1
<i>Eclipta prostrata</i>	false daisy	1	--	--	1	--	--	--	--

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**Table 3.** List of vascular plant species found at Caddo Lake National Wildlife Refuge, Texas, March 2011–March 2012, with food value for wildlife.—Continued

[1, low use; 2, medium use; 3, high use. --, no data]

Vascular plant species		Food value, by wildlife category or species							
Scientific name	Common name	Bobwhite ( <i>Colinus virginianus</i> )	Dove ( <i>Zenaida macroura</i> )	Ducks	Song- birds	Turkey ( <i>Meleagris gallopavo</i> )	Deer ( <i>Odocoileus virginianus</i> )	Small mammals	Polli- nators
<i>Elephantopus carolinianus</i>	Carolina elephantsfoot	--	--	--	--	--	1	--	--
<i>Elephantopus tomentosus</i>	devil's grandmother	--	--	--	--	--	1	--	--
<i>Eragrostis hypnoides</i>	teal lovegrass	2	2	--	2	--	--	--	--
<i>Eragrostis spectabilis</i>	purple lovegrass	2	2	--	2	--	--	--	--
<i>Erechtites hieracifolius</i>	Fireweed	--	--	--	2	--	1	--	--
<i>Erigeron philadelphicus</i>	Philadelphia fleabane	--	--	--	--	--	1	--	1
<i>Erigeron strigosus</i>	prairie fleabane	--	--	--	--	--	3	--	1
<i>Eryngium yuccifolium</i>	button eryngo	--	--	--	--	--	--	--	2
<i>Euonymus americanus</i>	bursting-heart	1	--	--	--	1	3	1	--
<i>Eupatorium capillifolium</i>	dogfennel	--	--	--	--	--	--	--	2
<i>Eupatorium perfoliatum</i>	common boneset	--	--	--	--	--	2	--	2
<i>Eupatorium rotundifolium</i>	roundleaf thoroughwort	--	--	--	--	--	2	--	2
<i>Eupatorium semiserratum</i>	smallflower thoroughwort	--	--	--	--	--	2	--	2
<i>Eupatorium serotinum</i>	lateflowering thoroughwort	--	--	--	--	--	2	--	2
<i>Euphorbia corollata</i>	flowering spurge	3	3	--	3	3	1	--	1
<i>Euphorbia spathulata</i>	warty spurge	3	3	--	3	3	1	--	--
<i>Euthamia gymnospermoides</i>	Texas goldentop	--	--	--	--	--	--	--	1
<i>Euthamia leptcephala</i>	bushy goldentop	--	--	--	1	1	1	1	1
<i>Fraxinus americana</i>	white ash	--	--	--	1	--	2	1	--
<i>Fraxinus pennsylvanica</i>	green ash	--	--	--	1	--	2	1	--
<i>Gaillardia pulchella</i>	firewheel	--	--	--	--	--	--	--	1
<i>Galactia volubilis</i>	downy milkpea	3	--	--	--	--	1	--	1
<i>Galium aparine</i>	catchweed bedstraw	--	--	--	--	--	1	--	--
<i>Galium circaezans</i>	licorice bedstraw	--	--	--	--	--	1	--	--
<i>Galium obtusum</i>	bluntleaf bedstraw	--	--	--	--	--	1	--	--
<i>Galium tinctorium</i>	stiff marsh bedstraw	--	--	--	--	--	1	--	--
<i>Gamochaeta purpurea</i>	spoonleaf purple everlasting	--	--	--	--	--	1	1	--
<i>Geranium carolinianum</i>	Carolina geranium	2	2	--	2	--	3	2	1
<i>Geranium dissectum</i>	cutleaf geranium	2	2	--	2	--	3	2	1
<i>Gleditsia aquatica</i>	water locust	--	--	--	--	--	2	--	--
<i>Gleditsia triacanthos</i>	honeylocust	--	--	--	--	--	2	--	--







**Table 3.** List of vascular plant species found at Caddo Lake National Wildlife Refuge, Texas, March 2011–March 2012, with food value for wildlife.—Continued

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Vascular plant species		Food value, by wildlife category or species							
Scientific name	Common name	Bobwhite ( <i>Colinus virginianus</i> )	Dove ( <i>Zenaida macroura</i> )	Ducks	Song- birds	Turkey ( <i>Meleagris gallopavo</i> )	Deer ( <i>Odocoileus virginianus</i> )	Small mammals	Polli- nators
<i>Melilotus indicus</i>	annual yellow sweetclover	--	--	--	--	--	--	--	1
<i>Melothria pendula</i>	Guadeloupe cucumber	--	--	--	--	--	--	--	1
<i>Mikania scandens</i>	climbing hemp- vine	--	--	--	--	--	--	--	2
<i>Mimosa hystrix</i>	porcupine mi- mosa	3	--	--	3	--	1	--	2
<i>Mimosa strigillosa</i>	powderpuff	3	--	--	3	--	1	--	2
<i>Mitchella repens</i>	partridgeberry	--	--	--	--	--	3	1	--
<i>Monarda fistulosa</i>	wild bergamot	--	--	--	--	--	2	--	2
<i>Morella cerifera</i>	wax myrtle	2	--	2	3	2	1	--	--
<i>Morus rubra</i>	red mulberry	--	--	--	--	--	2	--	--
<i>Nelumbo lutea</i>	American lotus	--	--	1	--	--	--	--	2
<i>Nuphar lutea</i>	yellow pond-lily	--	--	1	--	--	--	--	--
<i>Nuttallanthus canadensis</i>	Canada toadflax	--	--	--	--	--	2	--	--
<i>Nyssa sylvatica</i>	blackgum	--	--	--	--	--	3	--	--
<i>Oenothera biennis</i>	common evening primrose	--	--	--	--	--	--	--	1
<i>Oenothera filiformis</i>	longflower beeb- lossom	--	--	--	--	--	--	--	2
<i>Oenothera laciniata</i>	cutleaf evening primrose	2	2	--	2	--	--	--	1
<i>Oenothera linifolia</i>	threadleaf eve- ning primrose	2	2	--	2	--	--	--	1
<i>Oenothera speciosa</i>	pinkladies	2	2	--	2	--	--	--	1
<i>Oxalis dillenii</i>	slender yellow woodsorrel	2	--	--	2	2	1	--	1
<i>Oxalis stricta</i>	common yellow oxalis	2	--	--	2	2	1	--	1
<i>Oxalis violacea</i>	violet woodsorrel	2	--	--	2	2	1	--	1
<i>Panicum brachyanthum</i>	prairie panicgrass	3	3	--	3	--	--	--	--
<i>Panicum dichotomiflorum</i>	fall panicgrass	3	3	3	3	--	--	--	--
<i>Panicum virgatum</i>	switchgrass	3	3	--	3	--	--	--	--
<i>Parentucellia viscosa</i>	yellow glandweed	--	--	--	--	--	--	--	1
<i>Parthenocissus quinque- folia</i>	Virginia creeper	--	--	--	2	--	1	2	--
<i>Paspalum dilatatum</i>	dallisgrass	3	--	--	3	3	1	2	--
<i>Paspalum floridanum</i>	Florida paspalum	3	--	--	3	3	1	2	--
<i>Paspalum notatum</i>	bahiagrass	3	--	--	3	3	1	2	--
<i>Paspalum plicatulum</i>	brownseed pas- palum	3	--	--	3	3	1	2	--

**Table 3.** List of vascular plant species found at Caddo Lake National Wildlife Refuge, Texas, March 2011–March 2012, with food value for wildlife.—Continued

[1, low use; 2, medium use; 3, high use. --, no data]

Vascular plant species		Food value, by wildlife category or species							
Scientific name	Common name	Bobwhite ( <i>Colinus virginianus</i> )	Dove ( <i>Zenaida macroura</i> )	Ducks	Song- birds	Turkey ( <i>Meleagris gallopavo</i> )	Deer ( <i>Odocoileus virginianus</i> )	Small mammals	Polli- nators
<i>Paspalum repens</i>	horsetail pas- palum	3	--	--	3	3	1	2	--
<i>Paspalum setaceum</i>	thin paspalum	3	--	--	3	3	1	2	--
<i>Passiflora incarnata</i>	purple passion- flower	1	--	--	1	--	--	--	1
<i>Passiflora lutea</i>	yellow passion- flower	1	--	--	1	--	--	--	1
<i>Penstemon digitalis</i>	talus slope pen- stemon	--	--	--	--	--	--	--	1
<i>Persicaria glabra</i>	denseflower knot- weed	--	--	2	--	--	--	--	1
<i>Persicaria hydropiper</i>	marshpepper knotweed	--	--	2	--	--	--	--	1
<i>Persicaria hydropiperoides</i>	swamp smart- weed	--	--	3	--	--	--	--	1
<i>Persocaroa maculosa</i>	spotted ladyst- humb	--	--	2	--	--	--	--	1
<i>Persicaria punctata</i>	dotted smartweed	--	--	2	--	--	--	--	1
<i>Persicaria setacea</i>	bog smartweed	--	--	2	--	--	--	--	1
<i>Phlox pilosa</i>	downy phlox	--	--	--	--	--	--	--	1
<i>Phyla lanceolata</i>	lanceleaf fogfruit	--	--	--	--	--	--	--	3
<i>Physostegia intermedia</i>	slender false dragonhead	--	--	--	--	--	--	--	2
<i>Phytolacca americana</i>	American poke- weed	3	3	--	3	3	--	3	--
<i>Pityopsis graminifolia</i> var. <i>graminifolia</i>	narrowleaf silk- grass	--	--	--	--	--	1	--	1
<i>Plantago aristata</i>	largebracted plantain	1	--	--	--	--	1	--	--
<i>Plantago virginica</i>	Virginia plantain	1	--	--	--	--	1	--	--
<i>Polypremum procumbens</i>	juniper-leaf	--	--	--	--	--	1	--	--
<i>Potentilla recta</i>	sulphur cinquefoil	--	--	--	--	--	1	1	1
<i>Prunus angustifolia</i>	Chickasaw plum	--	--	--	--	3	3	3	2
<i>Prunus serotina</i>	black cherry	--	--	--	--	--	1	--	2
<i>Prunus umbellata</i>	hog plum	--	--	--	--	3	3	3	2
<i>Ptilimnium capillaceum</i>	herbwilliam	--	--	--	--	--	--	--	1
<i>Ptilimnium nuttallii</i>	laceflower	--	--	--	--	--	--	--	1
<i>Pycnanthemum tenuifolium</i>	narrowleaf moun- tainmint	--	--	--	--	--	1	--	1
<i>Pyrrhopappus carolinianus</i>	Carolina desert- chicory	--	--	--	--	--	1	--	1
<i>Pyrus calleryana</i>	Callery pear	--	--	--	--	--	--	--	1
<i>Quercus alba</i>	white oak	--	--	--	--	3	3	3	--

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<i>Quercus falcata</i>	southern red oak	--	--	--	--	3	3	3	--
<i>Quercus lyrata</i>	overcup oak	--	--	--	--	3	3	3	--
<i>Quercus marilandica</i>	blackjack oak	--	--	--	--	3	3	3	--
<i>Quercus nigra</i>	water oak	--	--	--	--	3	3	3	--
<i>Quercus phellos</i>	willow oak	--	--	--	--	3	3	3	--
<i>Quercus stellata</i>	post oak	--	--	--	--	3	3	3	--
<i>Quercus virginiana</i>	live oak	--	--	--	--	3	3	3	--
<i>Rhexia mariana</i>	Maryland mead- owbeauty	--	--	--	--	--	2	--	--
<i>Rhus copallinum</i>	winged sumac	2	--	--	2	2	--	2	1
<i>Rhus glabra</i>	smooth sumac	2	--	--	2	2	--	2	1
<i>Rhynchospora corniculata</i>	shortbristle beaksedge	--	--	1	--	--	--	--	--
<i>Rosa carolina</i>	Carolina rose	--	--	--	3	3	3	3	--
<i>Rubus argutus</i>	sawtooth black- berry	3	3	--	3	3	3	3	1
<i>Rubus flagellaris</i>	northern dew- berry	3	3	--	3	3	3	3	1
<i>Rubus trivialis</i>	southern dew- berry	3	3	--	3	3	3	3	1
<i>Rudbeckia grandiflora</i>	rough coneflower	--	--	--	1	--	1	--	1
<i>Rudbeckia hirta</i>	blackeyed Susan	--	--	--	1	--	1	--	1
<i>Rudbeckia maxima</i>	great coneflower	--	--	--	1	--	1	--	1
<i>Ruellia caroliniensis</i>	Carolina wild petunia	--	--	--	--	--	--	--	1
<i>Ruellia humilis</i>	fringeleaf wild petunia	--	--	--	--	--	--	--	1
<i>Ruellia pedunculata</i>	stalked wild petunia	--	--	--	--	--	--	--	1
<i>Rumex crispus</i>	curly dock	--	--	1	3	3	--	1	--
<i>Sabal minor</i>	dwarf palmetto	2	--	--	2	2	2	2	--
<i>Sabatia campestris</i>	Texas star	--	--	--	--	--	--	--	1
<i>Saccharum baldwinii</i>	narrow plume- grass	--	--	--	1	--	--	1	--
<i>Sacciolepis striata</i>	American cup- scale	--	--	1	--	--	--	--	--
<i>Sagittaria platyphylla</i>	delta arrowhead	--	--	2	--	--	--	2	1
<i>Salvia lyrata</i>	lyreleaf sage	--	--	--	--	--	--	--	1
<i>Sambucus nigra</i>	black elderberry	3	3	--	3	3	2	--	1
<i>Sassafras albidum</i>	sassafras	--	--	--	--	--	3	--	--
<i>Saururus cernuus</i>	lizard's tail	--	--	--	--	--	--	--	1
<i>Scirpus cyperinus</i>	woolgrass	--	--	3	--	--	--	--	--

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<i>Scleria ciliata</i> var. <i>ciliata</i>	fringed nutrush	2	--	--	2	--	--	--	--
<i>Scleria oligantha</i>	littlehead nutrush	2	--	--	2	--	--	--	--
<i>Scutellaria ovata</i>	heartleaf skullcap	--	--	--	--	--	2	--	1
<i>Scutellaria parvula</i>	small skullcap	--	--	--	--	--	2	--	1
<i>Sesbania vesicaria</i>	bagpod	--	--	--	--	--	--	--	1
<i>Setaria parviflora</i>	marsh bristlegrass	3	3	1	3	--	1	--	--
<i>Silphium radula</i>	slender rosinweed	--	--	--	--	--	1	--	1
<i>Sisyrinchium atlanticum</i>	eastern blue-eyed grass	--	--	--	--	--	--	--	1
<i>Sisyrinchium langloisii</i>	roadside blue- eyed grass	--	--	--	--	--	--	--	1
<i>Smilax bona-nox</i>	saw greenbrier	3	3	--	3	3	3	3	--
<i>Smilax glauca</i>	cat greenbrier	3	3	--	3	3	3	3	--
<i>Smilax rotundifolia</i>	roundleaf green- brier	3	3	--	3	3	3	3	--
<i>Smilax smallii</i>	lanceleaf green- brier	3	3	--	3	3	3	3	--
<i>Smilax walteri</i>	coral greenbrier	3	3	--	3	3	3	3	--
<i>Solanum carolinense</i>	Carolina horsen- ettle	1	2	--	2	--	1	--	1
<i>Solidago canadensis</i>	Canada goldenrod	--	--	--	1	1	1	1	1
<i>Solidago rugosa</i>	wrinkleleaf gold- enrod	--	--	--	1	1	1	1	1
<i>Sorghum halepense</i>	Johnsongrass	1	1	--	1	--	--	--	--
<i>Sporobolus pyramidatus</i>	whorled dropseed	--	--	--	1	--	--	--	--
<i>Stachys tenuifolia</i>	smooth hedgen- ettle	--	--	--	--	--	--	--	1
<i>Stenaria nigricans</i> var. <i>nigricans</i>	diamondflowers	--	--	--	--	--	--	--	1
<i>Strophostyles helvola</i>	amberique-bean	3	3	--	2	--	2	--	1
<i>Strophostyles leiosperma</i>	slickseed fuzzy- bean	3	3	--	2	--	2	--	1
<i>Strophostyles umbellata</i>	pink fuzzybean	3	3	--	2	--	2	--	1
<i>Stylosanthes biflora</i>	sidebeak pencil- flower	2	--	--	2	--	2	--	1
<i>Styrax americanus</i>	American snow- bell	--	--	--	--	--	3	--	1
<i>Symphotrichum lanceo- latum</i>	white panicle aster	--	--	--	--	1	1	--	1
<i>Symplocos tinctoria</i>	common sweet- leaf	--	--	--	--	--	2	--	--
<i>Tephrosia onobrychoides</i>	multibloom hoarypea	3	--	--	3	--	2	--	1







