

A GUIDE TO NATIVE PLANTS OF THE GEORGIA EASTERN PIEDMONT: Floodplain Meadow: Bottomland Riparian Restoration Species

ABOUT THE GUIDE

This guide provides an overview of commercially available native plants in the Georgia eastern piedmont. The guide, intended for use by both homeowners and industry professionals, was created as a collaborative effort between the Athens-Clarke County Sustainability Office and State Botanical Garden of Georgia. Links to resources are provided for additional information. Format the guide at 11x17 paper size or larger to print.

Other guides in this series include:

Dry Woodland and Forest Restoration Species
Dry-Moist Upland Clearings Restoration Species
Forested Floodplain Restoration Species
Moist Forested Slopes Restoration Species
Moist-Wet Lowland Clearing Species

Photos by J. Michael Wharton



ABOUT US

Athens-Clarke County Sustainability Office

The Sustainability Office works as a steward of public resources, involving land management of Unified Government green space, ecological planning and project management, and education as it pertains to Unified Government green space and ecology.

Mimsie Lanier Center for Native Plant Studies at the State Botanical Garden of Georgia

At the University of Georgia, the Mimsie Lanier Center for Native Plant Studies is the State Botanical Garden's headquarters for native plant restoration, conservation, education, production, and safeguarding. As a unit of Public Service and Outreach at the University of Georgia, the State Botanical Garden creates and nurtures an environment for learning, inspiration, and engagement through horticulture, conservation, science based programs and lasting partnerships.



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This native plant guide series was compiled by Linda Chafin, Conservation Botanist, State Botanical Garden



State Botanical Garden of Georgia
UNIVERSITY OF GEORGIA



WHY NATIVES?

Native plants are those which are indigenous to a certain area and have adapted to the local conditions. Native plants are a great alternative to exotic or non-native plants for a variety of reasons. Native plant species provide food and shelter for native wildlife, whereas exotics cannot because they haven't evolved with the surrounding wildlife. In addition to supporting biodiversity, natives also benefit homeowners by requiring less water, fertilizer, and pesticide than exotics.

Because native plants often require less water than non-natives, they can help prevent and control erosion. Native seed mixes can be used as an alternative to other erosion control methods, such as silt fences or mulch. Native seed mixes should have a diversity of seed species so that they can be applied to large areas of land with varying soil conditions.

Follow this link to a list of recommended native plant nurseries:
<https://botgarden.uga.edu/wp-content/uploads/2016/11/Directory-of-Native-Plant-Nurseries.pdf>

Follow this link to find out more about the harmful effects of invasive plants: <https://www.fs.fed.us/learn/plants-animals>



Photo by Gardeners'World.com



Photo by Gardeners'World.com

PLANTING DEFINITIONS

- **Full sun** - plants receive direct sunlight for <6 hrs/day
- **Light shade** - plants receive 3-5 hrs/day of sun
- **Partial shade** - plants receive 2 hours of direct sun/day or shaded at least half of the day; partial shade can be found under or around trees.
- **Full shade** - plants receive an hour of direct sun/day
- **Dense shade** - plants receive no direct and little indirect sunlight
- **Wet soil/Dry soil** - some plants can tolerate drought while others can tolerate poorly drained soils. However, it's important to recognize that all plants require their roots to have some oxygen to function.

Link: file:///S:/Ecological%20and%20Land%20Management/Restoration_Planting_Native%20Plant%20List-ID/Native%20Plant%20Species%20List%20-%20Piedmont%20GA/Planting%20Instructions/Defining%20Sun%20Requirements%20for%20Plants.pdf

PLANTING GUIDELINES

- **Seeds** can be sown in pots or seed flats that are kept in a shady location. When planting, seeds can be placed close together (1/8-1/4" apart). Seeds should be planted as deep as they are thick. Very small seeds are barely covered, if at all. After planting, water with a gentle spray until thoroughly wet.
 - Link: https://www.fs.fed.us/rm/pubs_series/wo/wo_ah730/wo_ah730_133_151.pdf
- **Seed bombs** are small balls of clay, compost, and seeds. They're easy to grow--simply drop or throw seed bombs without needing to dig holes or water in. Recommended spacing is 1 seed bomb / square foot, and at least 10 seed bombs / square meter.
 - Link: <https://permaculturenews.org/2014/06/18/making-seedballs-ancient-method-till-agriculture/>
- **Plugs** are small seedlings grown in a tray. They can be planted by digging small holes in the ground using a hand trowel. Add a well draining compost to the surrounding dirt so that plugs are not oversaturated. Carefully loosen roots and place plug in the hole. Press firmly around the root ball. Finally, water in with a gentle spray.
 - Link: <https://www.ecolandscaping.org/02/developing-healthy-landscapes/ecological-landscaping-101/planting-plugs-putting-tools-to-the-test/>
- **Mulch** is often used when planting to suppress competition from other vegetation. Pine straw and pine bark chips are recommended to mitigate weeds. Though widely used, hay contains weed seeds, such as dandelion flower, crabgrass, and annual bluegrass seeds. Straw can be used as an alternative to hay, which contains fewer weed seeds.
 - Link: <http://www.gfc.state.ga.us/community-forests/management/tree-care/mulching-trees/index.cfm>
- **Trees** are best planted during early fall. Before planting, conduct a site analysis to identify above and below ground utilities. Dig a hole as deep as the root ball and 2-3 times the width of the root ball. Cut circling roots before placing tree in hole. Ensure that tree is upright and not planted too deep. Once tree is in the correct position, fill remaining space in hole with soil. Pack in around the base of the tree to stabilize it. Water in tree but do not fertilize. Avoid staking tree. Mulch the base of the tree to reduce competition from weeds.
 - Link: file:///S:/Ecological%20and%20Land%20Management/Restoration_Planting_Native%20Plant%20List-ID/Native%20Plant%20Species%20List%20-%20Piedmont%20GA/Planting%20Instructions/Planting%20Instructions/How%20to%20Plant%20a%20Tree%20-%20NRCS.pdf

Floodplain Meadow - Bottomland Riparian Zone Restoration Species for the Eastern Georgia Piedmont - Updated 3/4/2020

Scientific name and synonyms	Common Names	Growth Form	Light Requirement	Soil Moisture	Plant Height	Flowers: season / color / showy?	Wildlife Associations	Management Considerations	Comments	Internet Sources: identification, propagation and cultivation info, fire ecology, natural history, etc.
HERBACEOUS PLANTS										
<i>Arisaema triphyllum</i>	Jack In The Pulpit	forb	shade	high, medium	1-3 ft	spring / green and purple / showy	Flowers pollinated by fungus gnats and thrips. Berries eaten by birds.		"Pulpits" range in color from green to purple, striped or solid. Leaves and underground corms contain calcium oxalate crystals which irritate mucus membranes and GI tract.	www.illinoiswildflowers.info/woodland/plants/jackpulpit.htm
<i>Asclepias incarnata</i>	Swamp Milkweed	forb	sun, part sun	high, medium	4-5 ft	summer / pink / showy	Flowers pollinated by bees, wasps, flies, butterflies, and hummingbirds. Larval host for Monarch and Queen butterflies. Leaves are bitter and toxic, discouraging mammal herbivory.	Forms small colonies	Most insects avoid feeding on the leaves due to toxic latex. Native American medicinal plant.	www.illinoiswildflowers.info/wetland/plants/sw_milkweed.htm https://plants.usda.gov/factsheet/pdf/fs_asin.pdf
<i>Clematis virginiana</i>	Virgin's Bower (native)	forb	sun, part sun	medium	3-6 ft	summer, fall / white / showy	Flowers pollinated by bees, wasps, flies. Larval host to moths. Toxic to mammals. Good nesting habitat for birds.	Dense thickets provide cover and nest habitat for animals. Fast-grower.	All parts of the plant are toxic if eaten. Similar to invasive exotic Asian Sweet Autumn Virgin's Bower (<i>C. terniflora</i>), but leaves differ.	https://plants.ces.ncsu.edu/plants/all/clematis-virginiana/ www.illinoiswildflowers.info/savanna/plants/virgin_bower.htm
<i>Conoclinium coelestinum</i>	Mist-flower	forb	sun, part sun	high, medium	1.5-3 ft	fall / blue-purple / showy	Flowers pollinated by bees, skippers, moths, beetles, and butterflies. Larval host for moths. Bitter leaves discourage mammal browsing.	Deer avoid. Fire-tolerant. Grows aggressively in optimal conditions.		www.illinoiswildflowers.info/wetland/plants/mistflower.htm https://plants.ces.ncsu.edu/plants/all/conoclinium-coelestinum/ https://plants.usda.gov/factsheet/pdf/fs_coco13.pdf http://coastalplainplants.org/wiki/index.php/Conoclinium_coelestinum

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<i>Elephantopus carolinianus</i>	Carolina Elephant's Foot	forb	part sun, shade	medium	2-3 ft	summer, fall / pink / not showy	Flowers pollinated by bees and small butterflies.	Not fire resistant, but has a medium fire tolerance.		http://coastalplainplants.org/wiki/index.php/Elephantopus_carolinianus
<i>Eupatorium perfoliatum</i>	Perfoliate Boneset, Perfoliate Thoroughwort	forb	sun, part sun	high, medium	4-6 ft	fall / white / showy	Flowers pollinated by bees, flies, butterflies, beetles, wasps. Larval host for moths. Birds eat seeds. Bitter foliage discourages mammalian herbivores.	Deer avoid.	Native American medicinal plant; modern research suggests that its leaves are immune system stimulant.	https://plants.usda.gov/factsheet/pdf/fs_eupe3.pdf http://www.illinoiswildflowers.info/prairie/plantx/cm_boneset.htm https://plants.ces.ncsu.edu/plants/all/eupatorium-perfoliatum/
<i>Eupatorium rotundifolium</i>	Round-leaf Boneset, Round-leaf Thoroughwort	forb	sun, part sun	high, medium	1-3 ft	fall / white / showy	Flowers pollinated by bees, flies, butterflies, skippers, beetles, wasps. Larval host for moths. Bitter foliage discourages mammalian herbivores.	Deer avoid. Fire-tolerant.	Well documented anti-cancer activity.	https://www.wildflower.org/plants/result.php?id_plant=EURO4 http://coastalplainplants.org/wiki/index.php/Eupatorium_rotundifolium
<i>Eupatorium serotinum</i>	Late-flowering Boneset, Late-flowering Thoroughwort	forb	sun, part sun	high, medium	1-3 ft	fall / white / showy	Flowers pollinated by bees, flies, butterflies, skippers, beetles, wasps. Larval host for moths. Bitter foliage discourages mammalian herbivores.	Deer avoid.		http://www.illinoiswildflowers.info/prairie/plantx/late_bonesetx.htm

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<i>Helianthus angustifolius</i>	Narrow-leaf Sunflower	forb	sun	high, medium		fall / yellow / showy	Flowers pollinated by bees, wasps, flies, skippers, butterflies. Larval host for moths and butterflies. Seeds eaten by birds, small mammals.	Rapid growth. Moderately deer-resistant due to sand-papery leaves.		https://secure.caes.uga.edu/extension/publications/files/pdf/B%20987-3_4.PDF https://plants.ces.ncsu.edu/plants/all/helianthus-angustifolius/ https://www.wildflower.org/plants/result.php?id_plant=HEAN2 http://www.illinoiswildflowers.info/savanna/plants/hry_sunflower.html http://coastalplainplants.org/wiki/index.php/Helianthus_angustifolius
<i>Hibiscus laevis</i> (syn. <i>Hibiscus militaris</i>)	Halberd-leaf Mallow	forb	sun, part sun	high, medium		summer / white, pink / showy	Flowers pollinated by bees. Larval host for butterflies, skippers, and moths. Seeds eaten by waterfowl. Browsed by deer.		Hibiscus are related to okra and have the same slimy sap, which, whipped with sugar, produced the first marshmallows.	https://secure.caes.uga.edu/extension/publications/files/pdf/B%20987-3_4.PDF http://www.illinoiswildflowers.info/wetland/plants/halberd_mallow.htm https://www.wildflower.org/plants/result.php?id_plant=HILA2
<i>Hibiscus moscheutos</i>	Rose-mallow	forb	sun, part sun	high, medium		summer / white / showy	Flowers pollinated by bees, hummingbirds. Larval host for butterflies, skippers, moths. Seeds eaten by waterfowl.		Hibiscus are related to okra and have the same slimy sap, which, whipped with sugar, produced the first marshmallows.	https://secure.caes.uga.edu/extension/publications/files/pdf/B%20987-3_4.PDF http://www.illinoiswildflowers.info/wetland/plants/sw_rsmallow.htm

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<i>Impatiens capensis</i>	Jewelweed	forb	sun, part sun, shade	high, medium		summer, fall / orange / showy	Flowers pollinated by bees, hummingbirds, butterflies. Larval host to moths. Birds, small mammals eat seeds.	Annual, but self-seeds heavily.	Sap is used to relieve poison ivy itching.	https://www.illinoiswildflowers.info/wetland/plants/or_jewelweed.htm https://plants.ces.ncsu.edu/plants/all/impatiens-capensis/ https://secure.caes.uga.edu/extension/publications/files/pdf/B%20987-3_4.PDF https://www.wildflower.org/plants/result.php?id_plant=IMCA
<i>Liatris spicata</i>	Dense Blazing Star, Marsh Blazing Star, Spiked Blazing Star	forb	sun	high, medium		summer, fall / pink / showy	Flowers pollinated by bees, butterflies, and skippers. Larval host for moths. Stems and corms eaten by many mammals.	Fire-tolerant, will resprout from corms after fire. Will live in upland soils with high nutrient levels. Moderately deer resistant. Best planted as plugs.		https://plants.ces.ncsu.edu/plants/all/liatris-spicata/ http://www.illinoiswildflowers.info/wetland/plants/msh_blazingstar.htm http://coastalplainplants.org/wiki/index.php/Liatris_spicata https://www.wildflower.org/plants/result.php?id_plant=LISP
<i>Lobelia cardinalis</i>	Cardinal Flower	forb	sun, part sun	high		late summer, fall / red / showy	Flowers pollinated by hummingbirds and several swallowtail butterflies. Mature plants are not browsed by mammals due to toxic latex.	Not fire-tolerant.	Native American medicinal plant.	https://secure.caes.uga.edu/extension/publications/files/pdf/B%20987_10.PDF https://plants.ces.ncsu.edu/plants/all/lobelia-cardinalis/ https://plants.usda.gov/plantguide/pdf/cs_loca2.pdf http://www.illinoiswildflowers.info/wetland/plants/cardinal.htm

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<i>Lobelia puberula</i>	Downy Lobelia	forb	sun, part sun	medium		late summer, fall / purple / showy	Flowers pollinated by bees. Not browsed by mammals due to toxic latex.	Deer avoid. Top-killed by low intensity fire but resprouts.		https://secure.caes.uga.edu/extension/publications/files/pdf/B%20987_10.PDF https://plants.ces.ncsu.edu/plants/all/lobelia-puberula/ http://coastalplainplants.org/wiki/index.php/Lobelia_puberula https://gnps.org/plants/downy-lobelia-lobelia-puberula/
<i>Ludwigia alternifolia</i>	Alternate-leaf Seedbox	forb	sun, part sun	high, medium		summer / yellow / showy	Flowers pollinated by bees, wasps, flies, small butterflies, etc. Larval host for moths. Browsed by deer.		Fruit ("seedboxes") float and disperse tiny seeds through pore on top.	www.illinoiswildflowers.info/wetland/plants/seedbox.html https://plants.ces.ncsu.edu/plants/all/ludwigia-alternifolia/ https://www.wildflower.org/plants/result.php?id_plant=LUAL2 http://coastalplainplants.org/wiki/index.php/Ludwigia_alternifolia
<i>Mimulus ringens</i>	Monkey Flower	forb	sun, part sun	high, medium		summer, fall / blue / showy	Flowers pollinated by bumblebees. Larval host for moths and butterflies.			https://www.wildflower.org/plants/result.php?id_plant=MIRI https://plants.ces.ncsu.edu/plants/all/mimulus-ringens/ www.illinoiswildflowers.info/wetland/plants/monkeyflower.htm

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<i>Packera glabella</i>	Butterweed	forb	sun, part sun	high, medium		spring / yellow / showy	Flowers pollinated by bees, butterflies, skippers, flies. Toxic to mammals.	Annual, but self-seeds heavily.	Initially forms large weedy patches in disturbed areas but quickly succumbs to competition.	http://www.illinoiswildflowers.info/wetland/plants/butterweed.htm https://www.wildflower.org/plants/result.php?id_plant=PAGL17 http://hawthornhillwildflowers.blogspot.com/2012/05/butterweed-packeragabella.html
<i>Peltandra virginica</i>	Green Arrow-arum	forb	part sun, shade	high		spring / white, green / showy	Flies pollinate the strongly smelling flowers. Fruits eaten by waterfowl, muskrats, and possibly turtles. Large leaves provide cover. Leaves and stems rarely eaten because they have calcium oxalate crystals that irritate mucus membranes and GI tract.	Root masses stabilize pond and streamside sediments.	Emergent aquatic plant.	https://plants.usda.gov/factsheet/pdf/fs_pevi.pdf https://www.wildflower.org/plants/result.php?id_plant=PEVI http://www.illinoiswildflowers.info/wetland/plants/arrow_arum.html
<i>Persicaria pensylvanica</i> (<i>Polygonum pensylvanicum</i>)	Pennsylvania Smartweed, Pinkweed	forb	sun, part sun	high, medium		summer / white, pink / showy in mass.	Flowers pollinated by bees, wasps, flies, butterflies, moths. Larval host to butterflies, moths. Seeds eaten by waterfowl, other birds, small mammals.	Annual but self-seeds readily.	Annual but self-seeds readily.	https://plants.usda.gov/factsheet/pdf/fs_pop_e2.pdf https://www.minnesotawildflowers.info/flower/pennsylvania-smartweed https://en.wikipedia.org/wiki/Polygonum_pensylvanicum https://plants.ces.ncsu.edu/plants/all/polygonum-pennsylvanicum/ https://www.wildflower.org/plants/result.php?id_plant=POPE2

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<i>Physostegia virginiana</i>	Obedient Plant	forb	sun, part sun	high, medium		summer / pink / showy	Flowers pollinated by bumblebees, other bees, and hummingbirds. Not browsed by other mammals.	Deer avoid.	Usually occurs over amphibolite bedrock which raises soil pH.	https://www.illinoiswildflowers.info/trees/plants/ninebark.htm https://plants.ces.ncsu.edu/plants/all/physostegia-virginiana/ https://www.wildflower.org/plants/result.php?id_plant=PHVI8 https://secure.caes.uga.edu/extension/publications/files/pdf/B%20987_10.PDF
<i>Rudbeckia laciniata</i>	Green-eyed Susan	forb	sun, part sun	high, medium		summer, fall / yellow / showy	Flowers pollinated by bees, beetles, butterflies, moths. Larval host for butterflies, moths. Foliage toxic to mammals.	Rapidly forms colonies by spread of rhizomes. Tolerates spring floods.		https://secure.caes.uga.edu/extension/publications/files/pdf/B%20987_10.PDF https://plants.ces.ncsu.edu/plants/all/rudbeckia-laciniata-var-humilis/ https://www.wildflower.org/plants/result.php?id_plant=RULA3 http://www.illinoiswildflowers.info/savanna/plants/cl_coneflower.htm
<i>Sagittaria latifolia</i>	Duck-potato, Arrowhead	forb	sun	high		summer / white / showy	Flowers pollinated by bees, flies, butterflies, skippers, beetles. Ducks feed on seeds and tubers. Muskrats and turtles feed on vegetation and tubers.	Dense colonies and strong roots hold plants and soils during changing water levels and floods.	Emergent aquatic plant. Extracts nutrients and metals from polluted sediments. Native Americans ate tubers.	http://www.illinoiswildflowers.info/wetland/plants/cm_arrowhead.htm https://plants.usda.gov/factsheet/pdf/fs_sala2.pdf https://www.wildflower.org/plants/result.php?id_plant=SALA2 https://en.wikipedia.org/wiki/Sagittaria_latifolia

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<i>Saururus cernuus</i>	Lizard's Tail	forb	part sun, shade	high		summer / white / showy	Mostly unknown, but fragrant flowers suggest insect pollination. Foliage toxic to mammals. Large, dense colonies provide wildlife cover.	Deer avoid. Tolerates prolonged flooding and saturated soils.	Beautiful fragrant flowers and attractive leaves in large colonies.	https://plants.ces.ncsu.edu/plants/all/saururus-cernuus/ http://www.illinoiswildflowers.info/wetland/plants/lizard_tail.htm
<i>Senna marilandica</i> (syn. <i>Cassia marilandica</i>)	Wild Senna	forb	sun, part sun	high, medium		summer, fall / yellow / showy	Flowers pollinated by bees. Larval host for butterflies, skippers, and moths. Glands at base of leaves attract ants which protect plant from herbivores. Toxic foliage and fruit avoided by mammals, though some gamebirds eat seeds.	Forms colonies. Deer avoid. Grows slowly for first two years. Drought-tolerant. Due to taproot, is hard to transplant or divide mature plants.		https://plants.usda.gov/factsheet/pdf/fs_sehe3.pdf http://www.illinoiswildflowers.info/savanna/plants/md_senna.html https://plants.ces.ncsu.edu/plants/all/cassia-mariandica/ https://www.wildflower.org/plants/result.php?id_plant=SEMA11
<i>Verbena hastata</i>	Blue Vervain, Swamp Verbena	forb	sun, part sun, shade	high, medium		summer / blue / showy in mass	Flowers pollinated by bees, small butterflies, skippers, moths, and other insects. Larval host for butterflies and moths. Bitter leaves discourage browsing. Seeds occasionally eaten by birds.	Forms small colonies by spreading rhizomes.	Toxic if eaten. Native American medicinal plant.	https://plants.ces.ncsu.edu/plants/all/verbena-hastata/ https://www.wildflower.org/plants/result.php?id_plant=VEHA2 https://plants.usda.gov/factsheet/pdf/fs_veha2.pdf www.illinoiswildflowers.info/wetland/plants/bl_vervain.htm

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<i>Verbesina alternifolia</i> syn. <i>Actinomeris alternifolia</i>	Alternate-leaf Wingstem	forb	sun, part sun	high, medium, low		summer, fall / yellow / showy	Flowers pollinated by bees, butterflies. Larval host for butterflies, moths. Seeds eaten by birds. Bitter foliage discourages browsing by mammals.	Tolerates disturbance. Can be aggressive and weedy, decreasing overall plant species diversity. Possibly allelopathic—see reference.	Plants will likely volunteer in relatively undisturbed floodplains over time without planting.	www.illinoiswildflowers.info/savanna/plants/wingstem.htm https://www.wildflower.org/plants/result.php?id_plant=VEAL https://www.researchgate.net/publication/27499824_Differential_effects_of_two_dominant_plant_species_on_community_structure_and_invasibility_in_an_old-field_ecosystem
<i>Verbesina occidentalis</i>	Southern Crownbeard	forb	sun, part sun	high, medium, low		summer, fall / yellow / showy	Flowers pollinated by bees, butterflies. Larval host for butterflies, moths. Bitter foliage discourages browsing by mammals.	Can be aggressive and weedy, decreasing overall plant species diversity in disturbed areas. Possibly allelopathic—see reference.	Plants subject to foliar ozone injury as ozone levels rise. Plants will likely volunteer in relatively undisturbed floodplains over time.	https://en.wikipedia.org/wiki/Verbesina_occidentalis https://www.researchgate.net/publication/27499824_Differential_effects_of_two_dominant_plant_species_on_community_structure_and_invasibility_in_an_old-field_ecosystem
<i>Verbesina virginica</i>	Frostweed	forb	sun, part sun	high, medium, low		summer, fall / white / showy	Flowers pollinated by bees, butterflies, wasps. Larval host for butterflies, moths. Bitter foliage discourages mammals.	Can be aggressive and weedy, decreasing overall plant species diversity in disturbed areas. Possibly allelopathic—see reference.	Stems produce fascinating frost "flowers" in the winter. See http://naturerambling.blogspot.com/search/label/Frost%20flowers	http://coastalplainplants.org/wiki/index.php/Verbesina_virginica https://www.researchgate.net/publication/27499824_Differential_effects_of_two_dominant_plant_species_on_community_structure_and_invasibility_in_an_old-field_ecosystem

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<i>Vernonia gigantea</i> (<i>Vernonia altissima</i>)	Giant Ironweed	forb	sun	high, medium		summer, fall / purple / showy	Flowers pollinated by bees, butterflies, wasps. Larval host for moths. Birds eat seeds. Bitter foliage discourages browsing by mammals.	Deer avoid.		https://secure.caes.uga.edu/extension/publications/files/pdf/B%20987_10.PDF [<i>V. noveboracensis</i> is a closely related species with similar needs] http://coastalplainplants.org/wiki/index.php/Vernonia_gigantea https://plants.ces.ncsu.edu/plants/all/vernonia-noveboracensis/ [<i>V. noveboracensis</i> is a closely related species with similar needs] http://www.illinoiswildflowers.info/savanna/plants/tl_ironweed.htm
<i>Vernonia noveboracensis</i>	New York Ironweed	forb	sun	high, medium		summer, fall / purple / showy	Flowers pollinated by bees, butterflies, wasps. Larval host for moths. Birds eat seeds. Bitter foliage discourages browsing by mammals.	Deer avoid.		https://secure.caes.uga.edu/extension/publications/files/pdf/B%20987_10.PDF https://oak.ppw.vt.edu/~flessner/weedguide/venno.htm https://plants.ces.ncsu.edu/plants/all/vernonia-noveboracensis/ https://mtcubacenter.org/plants/new-york-ironweed/
<i>Zephyranthes atamasca</i> syn. (spelling variant) <i>Zephyranthes atamasco</i>	Atamasco Lily	forb	sun, part sun	high, medium		spring / white / showy	Flowers pollinated by moths and bees as well self-pollinated. Foliage and bulbs are toxic to mammals, causing "staggers" in livestock.	Does not tolerate soil disturbance. Tolerates drought.	Flowers are pink in bud, white when mature, then turn pink after pollination. Leaves are evergreen.	https://plants.ces.ncsu.edu/plants/all/zephyranthes-altamasco/

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GRASSES, SEDGES, AND RUSHES										
<i>Carex cherokeensis</i>	Cherokee Sedge	sedge	sun, part sun	medium		summer, fall / green / not showy	Clumping sedges provide good wildlife cover. Seeds eaten by birds and small mammals.	Sedges provide good erosion control and streambank stabilization.	Wind-pollinated. Deer avoid. Evergreen. Drought tolerant.	https://www.wildflower.org/plants/result.php?id_plant=cach3
<i>Carex crinita</i>	Fringed Sedge	sedge	sun, part sun	high		summer, fall / green / not showy	Clumping sedges provide good wildlife cover. Seeds eaten by birds and small mammals. Many insects feed on vegetation.	Sedges provide good erosion control and streambank stabilization.	Wind-pollinated.	www.illinoiswildflowers.info/grasses/plants/frg_sedge.html
<i>Carex frankii</i>	Frank's Sedge	sedge	sun, part sun	high		summer, fall / green / not showy	Larval host for butterflies, moths. Seeds eaten by waterfowl and other birds. Muskrats eat rhizomes and stems. Clumping sedges provide good wildlife cover.	Sedges provide good erosion control and streambank stabilization.	Wind-pollinated.	www.illinoiswildflowers.info/grasses/plants/frank_sedge.htm
<i>Carex granularis</i>	Pale Sedge, Meadow Sedge	sedge	sun, part sun	high		summer, fall / green / not showy	Larval host for butterflies, skippers, moths. Seeds eaten by birds, especially waterfowl. Clumping sedges provide good wildlife cover.	Sedges provide good erosion control and streambank stabilization.	Wind-pollinated.	www.illinoiswildflowers.info/grasses/plants/meadow_sedge.htm
<i>Carex lupulina</i>	Hop Sedge	sedge	sun, part sun	high		summer, fall / green / not showy	Larval host for butterflies, moths. Seeds eaten by waterfowl and other birds. Clumping sedges provide good wildlife cover.	Sedges provide good erosion control and streambank stabilization.	Wind-pollinated.	https://www.illinoiswildflowers.info/grasses/plants/hop_sedge.html
<i>Carex lurida</i>	Sallow Sedge	sedge	sun, part sun	high		summer, fall / green / not showy	Larval host for butterflies, moths. Seeds eaten by waterfowl and other birds. Clumping sedges provide good wildlife cover.	Sedges provide good erosion control and streambank stabilization.	Wind-pollinated.	www.illinoiswildflowers.info/grasses/plants/sallow_sedge.html

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<i>Scirpus georgianus</i> syn. <i>Scirpus atrovirens</i> var. <i>georgianus</i>	Georgia Bulrush	sedge	sun, part sun	high		summer, fall / green / not showy	Many insects eat vegetation. Seeds eaten by many wetland birds. Muskrats eat roots and stems.	Thrives in degraded and human-made wetlands	wind-pollinated.	http://www.illinoiswildflowers.info/grasses/plants/dg_bulrush.htm https://www.wildflower.org/plants/result.php?id_plant=SCGE2
<i>Scirpus cyperinus</i>	Wool-grass	sedge	sun	high		summer, fall / tan / showy	Many insects eat leaves. Wetland birds eat seeds. Provides cover and nesting habitat for mammals and birds. Muskrats eat stems and rhizomes.	Forms dense colonies of tall, colorful plants.	Wind-pollinated. Native American fiber source.	https://plants.usda.gov/plantguide/pdf/cs_scy.pdf https://www.nrcs.usda.gov/Internet/FSE_PLANTMATERIALS/publications/gapmcrb9249.pdf http://www.illinoiswildflowers.info/grasses/plants/wool_grass.htm
<i>Arundinaria gigantea</i>	River Cane	grass	sun, part sun	high, medium		spring / green / not showy	Larval host for skippers, butterflies, moths. Cover for birds, snakes, small mammals. Deer browse shoot. Rare Swainson's Warbler nesting habitat.	Fire-adapted, fire reduces competition from shrubs and trees. Sprouts quickly after fire from rhizomes.	Flowers rarely, possibly only after fire, then entire clonal patch dies. Native Americans used for pasturage, food, dyes, basketry, building materials, musical instruments, weapons, etc.	https://plants.usda.gov/plantguide/pdf/cs_agi.pdf https://secure.caes.uga.edu/extension/publications/files/pdf/B%20987-4_1.PDF https://www.fs.fed.us/database/feis/plants/graminoid/arugig/all.html https://plants.usda.gov/plantguide/pdf/cs_agi.pdf http://www.illinoiswildflowers.info/grasses/plants/giant_cane.html

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<i>Chasmanthium latifolium</i>	River Oats	grass	part sun, shade	high, medium		summer / green / not showy	Larval host for butterflies and skippers. Birds and mammals eat seeds.	Used for erosion control. Is said to be able to outcompete Japanese Stilt Grass (<i>Microstegium vimineum</i>).	Wind-pollinated.	https://plants.ces.ncsu.edu/plants/all/chasmantium-latifolium/ https://www.illinoiswildflowers.info/grasses/plants/inland_oats.htm https://plants.usda.gov/factsheet/pdf/fs_chla5.pdf https://plants.usda.gov/plantguide/pdf/pg_chla5.pdf
<i>Chasmanthium sessiliflorum</i>	Wood Oats	grass	part sun, shade	high, medium		summer / green / not showy	Seeds are eaten by granivorous birds and small mammals.	Recommended for streambank restoration. Not fire-tolerant.	Wind-pollinated.	https://secure.caes.uga.edu/extension/publications/files/pdf/B%20987-4_1.PDF
<i>Dichanthelium clandestinum</i>	Deer-tongue Witch Grass	grass	sun, part sun, shade	medium		summer, fall / green / not showy	Larval host for skippers and moths. Seeds eaten by small mammals. Leaves eaten by herbivorous mammals.	Used for erosion control and re-vegetation in poor soils.	Wind-pollinated.	https://plants.usda.gov/factsheet/pdf/fs_dicl.pdf
<i>Elymus virginicus</i> (syn. <i>Elymus glabriflorus</i>)	Southeastern Wild-rye	grass	part sun, shade	medium		summer / green / not showy	Larval host for moths and butterflies. Many insects eat the leaves.	Used for slope and grassland restoration. Provides winter soil coverage. Does not tolerate frequent mowing.	Wind-pollinated.	https://www.illinoiswildflowers.info/grasses/plants/va_rye.htm https://plants.usda.gov/factsheet/pdf/fs_elvi3.pdf https://plants.usda.gov/plantguide/pdf/pg_elvi3.pdf

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<i>Glyceria striata</i>	Fowl Manna Grass	grass	part sun, shade	high, medium		spring, summer / green / not showy	Larval host for moths. Waterfowl eat seeds. Leaves and stems provide wildlife cover.	Used for streambank stabilization and wetland restoration; rapidly establishes. Survives prolonged flooding.	Wind-pollinated. Cool-season grass.	https://plants.usda.gov/factsheet/pdf/fs_glst.pdf https://secure.caes.uga.edu/extension/publications/files/pdf/B%20987-4_1.PDF https://www.illinoiswildflowers.info/grasses/plants/fm_grass.htm https://www.wildflower.org/plants/result.php?id_plant=GLST
<i>Muhlenbergia schreberi</i>	Nimble-will	grass	part sun, shade	high, medium		fall / green / not showy	Food plant for many insects. Birds eat seeds.		wind-pollinated.	https://plants.ces.ncsu.edu/plants/all/morus-rubra/ https://www.illinoiswildflowers.info/grasses/plants/nimblewill.htm
<i>Panicum rigidulum</i> syn. <i>Coleataenia rigidula</i>	Red-top Panic Grass	grass	sun, part sun	high, medium		fall / red / showy. Nice fall color.	Larval host for skippers. Seeds eaten by many birds and small mammals. Forms large clumps that provide cover for wildlife.		wind-pollinated.	http://coastalplainplants.org/wiki/index.php/Coleataenia_rigidula https://plants.ifas.ufl.edu/plant-directory/panicum-rigidulum/
<i>Panicum virgatum</i>	Switch Grass	grass	sun, part sun, shade	high, medium		fall / green / not showy	Larval host for skippers. Leaves eaten by many insects. Seeds eaten by many birds and small mammals. Forms large clumps that provide nesting cover for wildlife.	Planted for soil stabilization—root system up to 9 feet deep. Benefits from occasional fire.	Deer-resistant. Wind-pollinated.	https://plants.ces.ncsu.edu/plants/all/panicum-virgatum/ https://plants.usda.gov/factsheet/pdf/fs_pavi2.pdf https://www.illinoiswildflowers.info/grasses/plants/switchgrass.htm http://coastalplainplants.org/wiki/index.php/Panicum_virgatum

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<i>Tripsacum dactyloides</i>	Gama Grass	grass	sun, part sun	medium		summer / green / not showy	Larval host for skippers, beetles, and other insects. Large clumps of broad leaves provide cover for wildlife. Deer relish the high-protein seed heads.	Tolerates drought.	Wind-pollinated. Forms large clumps. Used in the midwest as livestock forage and silage. Thought to be one of the ancestors of modern corn (<i>Zea mays</i>).	https://secure.caes.uga.edu/extension/publications/files/pdf/B%20987_10.PDF http://www.illinoiswildflowers.info/grasses/plants/gama_grass.htm https://plants.usda.gov/plantguide/pdf/pg_trda3.pdf https://www.wildflower.org/plants/result.php?id_plant=TRDA3 https://www.nrcs.usda.gov/Internet/FSE_PLANTMATERIALS/publications/etpmcfs11219.pdf
<i>Juncus effusus</i>	Soft Rush	rush (grass-like)	sun	high		summer / green / not showy	Dense tussocks provide cover and nesting habitat for wetland birds and other animals.	Tolerates disturbance. Seed germination is problematic, best to plant plugs or rhizomes.		https://plants.usda.gov/factsheet/pdf/fs_juef.pdf https://www.nrcs.usda.gov/Internet/FSE_PLANTMATERIALS/publications/gapmcrb9250.pdf http://www.illinoiswildflowers.info/grasses/plants/soft_rush.htm http://coastalplainplants.org/wiki/index.php/Juncus_effusus

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FERNS										
<i>Onoclea sensibilis</i>	Sensitive Fern	fern	part sun, shade	high		none	Some insects feed on leaves. Low value to wildlife.	Forms colonies by spreading rhizomes.	Deer-resistant. Common name refers to frost-sensitivity of leaves	https://plants.ces.ncsu.edu/plants/all/onoclea-sensibilis/ https://secure.caes.uga.edu/extension/publications/files/pdf/B%20987_10.PDF https://www.wildflower.org/plants/result.php?id_plant=ONSE http://www.illinoiswildflowers.info/grasses/plants/sensitive_fern.htm
<i>Osmunda cinnamomea</i> (syn. <i>Osmundastrum cinnamomeum</i>)	Cinnamon Fern	fern	part sun, shade	high, medium		none. Spore-bearing frond is colorful and showy.	A few insects feed on leaves. Some birds nest in clumps of fronds. Hummingbirds collect soft scales from fronds to line nests.	Ferns are generally believed to be deer resistant.	Plants are long-lived.	https://plants.ces.ncsu.edu/plants/all/osmunda-cinnamomea/ https://secure.caes.uga.edu/extension/publications/files/pdf/B%20987_10.PDF https://www.wildflower.org/plants/result.php?id_plant=OSCI http://www.illinoiswildflowers.info/grasses/plants/cinnamon_fern.htm http://coastalplainplants.org/wiki/index.php/Osmundastrum_cinnamomeum

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<i>Osmunda regalis</i> syn. <i>Osmunda spectabilis</i>	Royal Fern	fern	Part sun, shade	high, medium		none. Spore-bearing frond is colorful and showy.	Some insects feed on stems and rhizomes. Low value to wildlife	Ferns are generally believed to be deer resistant.		https://secure.caes.uga.edu/extension/publications/files/pdf/B%20987_10.PDF https://plants.ces.ncsu.edu/plants/all/osmunda-regallis/ http://www.illinoiswildflowers.info/grasses/plants/royal_fern.htm https://www.wildflower.org/plants/result.php?id_plant=OSRE http://coastalplainplants.org/wiki/index.php/Osmunda_spectabilis
<i>Woodwardia areolata</i> syn. <i>Lorinseria areolata</i>	Netted Chain Fern	fern	part sun, shade	high, medium		none	Good cover for wildlife.	Highly deer-resistant. Forms large colonies over time.		https://plants.ces.ncsu.edu/plants/all/woodwardia-areolata/ http://coastalplainplants.org/wiki/index.php/Lorinseria_areolata

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WOODY VINES										
<i>Bignonia capreolata</i>	Cross Vine	woody vine	part sun, shade	high, medium		spring / yellow / showy	Flowers pollinated by hummingbirds, butterflies.	Moderately deer-resistant. Rapid growth.	Leaves overwinter, turn dark bronzy-maroon. Native American medicinal plant.	https://plants.ces.ncsu.edu/plants/all/bignonia-capreolata/ https://www.fs.fed.us/wildflowers/plant-of-the-week/Bignonia_capreolata.shtml https://plants.usda.gov/plantguide/pdf/pg_bignonia-capreolata.pdf
<i>Decumaria barbara</i>	Climbing Hydrangea	woody vine	part sun, shade	high, medium		spring / white / showy	Flowers pollinated by bees and butterflies.	Excellent ground cover, but flowers only when climbing.		http://coastalplainplants.org/wiki/index.php/Decumaria_barbara https://plants.ces.ncsu.edu/plants/all/decumaria-barbara/
<i>Gelsemium sempervirens</i>	Yellow Jessamine	woody vine	sun, part sun, shade	high, medium		spring / yellow / showy	Flowers pollinated by native bees, butterflies, hummingbirds.	Deer avoid due to toxicity. Drought-tolerant. Makes good evergreen ground-cover but will not flower.	All parts of the plant contain strychnine-related compounds, even the nectar which poisons honeybees though not native bees. Evergreen leaves	https://secure.caes.uga.edu/extension/publications/files/pdf/B%20987_10.PDF https://plants.ces.ncsu.edu/plants/all/gelsemium-sempervirens/ https://en.wikipedia.org/wiki/Gelsemium_sempervirens
<i>Muscadina rotundifolia</i> (syn. <i>Vitis rotundifolia</i>)	Muscadine Grape	Woody vine	sun, part sun, shade	high, medium		summer / green / not showy	Flowers pollinated by bees and flower flies. Larval host for butterflies and moths. Fruit is eaten by birds and mammals. Provides nesting cover and browse for birds and mammals.	Moderately deer-resistant.		https://plants.ces.ncsu.edu/plants/all/vitis-rotundifolia/ http://coastalplainplants.org/wiki/index.php/Vitis_rotundifolia https://en.wikipedia.org/wiki/Vitis_rotundifolia
<i>Vitis aestivalis</i>	Summer Grape	woody vine	sun, part sun	medium		late spring / green / not showy	Flowers pollinated by bees. Berries eaten by birds and mammals. Thickets provide nesting habitat for birds and birds. Shredding bark used in birds' nests. Twigs browsed by deer			https://www.fs.fed.us/database/feis/plants/vine/vitaes/all.html http://www.illinoiswildflowers.info/trees/plants/summer_grape.html http://coastalplainplants.org/wiki/index.php/Vitis_aestivalis

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<i>Wisteria frutescens</i>	American Wisteria	woody vine	sun, part sun	medium		spring / blue-purple / showy	Flowers pollinated by bees, butterflies, hummingbirds. Larval host plant for butterflies. flowers, leaves, fruits, and seeds are toxic to wildlife.	Deer avoid. Seeds are toxic if eaten in large amounts.	Though its flowers are not as showy and fragrant as Chinese Wisteria, the native species is not an aggressive spreader.	https://plants.ces.ncsu.edu/plants/all/wisteria-frutescens/ https://www.fs.fed.us/database/feis/plants/vine/wisspp/all.html
<i>Apios americana</i>	Ground-nut	forb (vine)	sun, part sun	high, medium		summer, fall / pink / showy	Flowers pollinated by bees. Larval host for butterflies, skippers. Ants visit extra-floral nectaries.	Dense thickets provide cover and nesting habitat for animals.	Nitrogen-fixing. high protein, human-edible tubers and seeds.	http://coastalplainplants.org/wiki/index.php/Apios_americana www.illinoiswildflowers.info/savanna/plants/groundnut.html https://plants.usda.gov/plantguide/pdf/cs_apam.pdf
<i>Clematis crispa</i>	Swamp Leather Flower	forb (vine)	part sun, shade	high, medium			Flowers pollinated by bees, butterflies. Seeds are eaten by granivorous birds and small mammals.	Deer avoid.	All parts of the plant are toxic.	https://plants.ces.ncsu.edu/plants/all/clematis-crispa/
<i>Mikania scandens</i>	Climbing Hempvine	forb (vine)	sun, part sun, shade	high, medium		summer, fall / white / showy	Flowers pollinated by bees, butterflies, flies.	Dense thickets provide cover and nesting habitat for animals.	Despite common name, is not related to true hemp.	https://www.wildflower.org/plants/result.php?id_plant=MISC http://coastalplainplants.org/wiki/index.php/Mikania_scandens https://www.researchgate.net/publication/241094121_Flower_morphology_and_pollination_in_Mikania_Asteraceae

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SHRUBS										
<i>Aesculus sylvatica</i>	Painted Buckeye	shrub	part sun, shade	medium		spring / yellow / showy.	Flowers pollinated by hummingbirds, bees, and butterflies.	Deer avoid.	Among the earliest shrubs to leaf out and earliest to lose leaves in late summer. Seeds, leaves, and stems are toxic.	https://plants.ces.ncsu.edu/plants/all/aesculus-sylvatica/
<i>Alnus serrulata</i>	Tag Alder, Hazel Alder	shrub	sun, part sun	high		late winter / green / not showy	Larval host for beetles, aphids, moth caterpillars, and other insects. Seeds, buds, catkins eaten by birds, small mammals. Trunks and stems used for beaver lodges. Provides critical cover for Woodcock.	Widely used for streambank stabilization and wetland restoration.	Nitrogen-fixing.	https://plants.ces.ncsu.edu/plants/all/alnus-serrulata/ https://plants.usda.gov/factsheet/pdf/fs_alse2.pdf https://www.illinoiswildflowers.info/trees/plants/brook_alder.html
<i>Amorpha fruticosa</i>	Lead Plant, False Indigo	shrub	sun, part sun	medium		spring / purple / showy	Flowers pollinated by bees. Larval host for skippers, butterflies, moths.	Used for erosion control because of extensive root system.	Nitrogen-fixing. Contains insect-repelling compound.	https://plants.ces.ncsu.edu/plants/all/amorpha-fruticosa/ https://plants.usda.gov/plantguide/pdf/pg_amfr.pdf https://www.illinoiswildflowers.info/trees/plants/false_indigo.htm

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<i>Cephalanthus occidentalis</i>	Buttonbush	shrub	sun	high		spring / white / showy	Flowers pollinated by bees, wasps, butterflies, skippers, hummingbirds. Larval host for moths. Seeds eaten by waterfowl, twigs eaten by mammals. Leaves are toxic to mammals.	Buttonbush can tolerate extended periods of flooding. Re-sprouts after low-intensity surface fires, killed by peat fires. Deer-resistant.	Used for wetland and riparian restoration.	http://coastalplainplants.org/wiki/index.php/Cephalanthus_occidentalis https://plants.ces.ncsu.edu/plants/all/cephalanthus-occidentalis/ https://www.fs.fed.us/database/feis/plants/shrub/cepocc/all.html#FIRE%20ECOLOGY https://plants.usda.gov/factsheet/pdf/fs_ceoc2.pdf https://plants.usda.gov/plantguide/pdf/pg_ceoc2.pdf www.illinoiswildflowers.info/trees/plants/buttonbush.htm
<i>Cornus amomum</i>	Silky Dogwood	shrub	part sun, shade	high, medium		spring / white / showy (berries showy in fall)	Flowers pollinated by bees, wasps, flies, butterflies, beetles. Larval host for butterflies and moths. Fruits eaten by birds and mammals.	Moderately deer-resistant.		https://plants.ces.ncsu.edu/plants/all/cornus-amomum/ www.illinoiswildflowers.info/trees/plants/stiff_dogwood.htm https://plants.usda.gov/factsheet/pdf/fs_coam2.pdf
<i>Cornus stricta</i> (<i>Cornus foemina</i>)	Swamp Dogwood	shrub	part sun, shade	high, medium		spring / white / showy	Flowers pollinated by bees, wasps, flies, butterflies, beetles. Larval host for butterflies and moths. Fruits eaten by birds and mammals.			www.illinoiswildflowers.info/trees/plants/stiff_dogwood.htm https://plants.usda.gov/factsheet/pdf/fs_cofo.pdf

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<i>Crataegus marshallii</i>	Parsley Hawthorn	shrub	part sun, shade	high, medium		spring / white / showy	Flowers pollinated by bees and beetles. Larval host for butterflies and moths. Fruits eaten by many mammals. Dense branches are good bird nesting habitat and cover.	Grows well in poorly drained soils.		https://www.wildflower.org/plants/result.php?id_plant=crma5 http://www.illinoiswildflowers.info/trees/plants/dwn_hawthorn.html
<i>Ilex decidua</i>	Possum Haw Holly	shrub	part shade, shade	high, medium		spring / white / not showy. Red fruits in winter are showy on female plants.	Flowers pollinated by bees. Larval host plant for butterflies. Fruits eaten by birds and small mammals. Browsed by deer.	Tolerates moderate flooding. Usually killed by fire. Moderately deer resistant.	Plants are dioecious. Both female and male plants must be present for fruit production.	https://plants.ces.ncsu.edu/plants/all/ilex-decidua/ https://secure.caes.uga.edu/extension/publications/files/pdf/B%20987_10.PDF https://www.fs.fed.us/database/feis/plants/tree/iledec/all.html#FIRE%20ECOLOGY https://www.wildflower.org/plants/result.php?id_plant=ILDE
<i>Ilex verticillata</i>	Winterberry Holly	shrub	sun, part sun, shade	high, medium		spring / white / not showy. Red fruits in winter are showy on female plants.	Flowers pollinated by bees. Fruits eaten by birds and small mammals. Browsed by deer.	Moderately deer resistant.	Plants are dioecious. Both female and male plants must be present for fruit production.	http://www.illinoiswildflowers.info/trees/plants/winterberry.htm https://plants.ces.ncsu.edu/plants/all/ilex-verticillata/ https://plants.usda.gov/factsheet/pdf/fs_ilve.pdf https://www.wildflower.org/plants/result.php?id_plant=ILVE

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<i>Itea virginica</i>	Virginia Sweetspire	shrub	sun, part sun	high, medium		spring, summer / white / showy. Nice fall color.	Probably pollinated by bees, butterflies, etc., but little is known. Clonal thickets provide cover for birds and other wildlife.	Clonal, forms thickets. Moderately deer resistant.		http://www.illinoiswildflowers.info/trees/plants/va_swspire.html https://plants.ces.ncsu.edu/plants/all/itea-virginica/ https://www.wildflower.org/plants/result.php?id_plant=ITVI
<i>Lindera benzoin</i>	Spicebush	shrub	part sun, shade	high, medium		late winter, spring / yellow / showy. Nice fall leaf color.	Flowers pollinated by small bees and flies. Larval host for Spicebush Swallowtail butterfly and moths. Fruits eaten by birds (especially wood thrush) and mammals.	Forms clonal thickets by root sprouts. Drought-tolerant. Heavily browsed by deer.	Plants are largely dioecious. Both female and male plants must be present for fruit production.	www.illinoiswildflowers.info/trees/plants/spicebush.htm https://plants.usda.gov/plantguide/pdf/pg_libe3.pdf https://plants.ces.ncsu.edu/plants/all/lindera-benzoin/
<i>Physocarpus opulifolius</i>	Nine-bark	shrub	sun, part sun, shade	medium, low		spring / white / showy. Pinkish fruits are also showy.	Flowers pollinated by bees, wasps, flies, butterflies. Larval host for moths. Deer browse leaves and twigs.	Easily cultivated.	Fast-growing. Drought-tolerant. Shredding, reddish bark is attractive.	https://plants.usda.gov/plantguide/pdf/pg_phop.pdf https://plants.ces.ncsu.edu/plants/all/physocarpus-opulifolius/ https://www.wildflower.org/plants/result.php?id_plant=PHOP https://www.illinoiswildflowers.info/trees/plants/ninebark.htm

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<i>Sambucus canadensis</i>	Elderberry	shrub	sun, part sun	high, medium		summer / white / showy	Flowers pollinated by bees. Carpenter and mason bees use stems for nesting. Birds eat abundant fruits. Toxic leaves and stems discourage mammal browsing.	Deer avoid. Stems are used as "live stakes" (commercially available) in river bank erosion control.	Edible wild plant (flowers and fruits). Forms colonies by spread of rhizomes. Toxicity is relatively low.	https://plants.usda.gov/factsheet/pdf/fs_sanic4.pdf https://plants.ces.ncsu.edu/plants/all/sambucus-canadensis/ http://www.illinoiswildflowers.info/trees/plants/cm_elder.htm http://coastalplainplants.org/wiki/index.php/Sambucus_canadensis
<i>Triadenum walteri</i> (syn: <i>Hypericum walteri</i>)	Marsh St. John's Wort	shrub	part sun, shade	high		summer / orange / showy	Flowers are pollinated by bees.	Tolerates prolonged flooding.	Closely resembles <i>Triadenum virginicum</i> , Virginia Marsh St. John's Wort, which occupies same niche and has same wildlife values.	http://www.namethatplant.net/plantdetail.shtml?plant=2227 http://hawthornhillwildflowers.blogspot.com/2015/07/virginia-marsh-stjohns-wort-triadenum.html

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Vaccinium corymbosum	Highbush Blueberry	shrub	sun, part sun, shade	medium		spring / white / showy. Nice fall color.	Flowers pollinated by bees. Larval host for butterflies and moths. Many birds and mammals eat the berries. Deer browse twigs.	Not fire-tolerant. Grows best in acid soils.	Southeastern Blueberry Bees, <i>Habropoda laboriosa</i> , are one of the most effective pollinators. It performs sonication, or buzz pollination, on the flowers. Native American food plant.	https://www.fs.fed.us/database/feis/plants/shrub/vaccor/all.html#FIRE%20ECOLOGY http://www.illinoiswildflowers.info/trees/plants/hb_blueberry.html https://plants.usda.gov/factsheet/pdf/fs_vaco.pdf https://www.wildflower.org/plants/result.php?id_plant=VACO https://plants.ces.ncsu.edu/plants/all/vaccinium-corymbosum/ https://secure.caes.uga.edu/extension/publications/files/pdf/B%20987_10.PDF https://en.wikipedia.org/wiki/Habropoda_laboriosa
Viburnum nudum	Possum Haw Viburnum	shrub	sun, part sun	high, medium		summer / white / showy	Flowers pollinated by bees, butterflies, wasps, and other insects. Fruit eaten by birds and small mammals. Thickets provide wildlife cover.	Moderately deer resistant.	Native Americans used berries for food and the leaves medicinally. Nice reddish-purple fall leaf color.	https://floridata.com/Plants/Adoxaceae/Viburnumnudum/1023 https://plants.ces.ncsu.edu/plants/all/viburnum-nudum/ http://www.illinoiswildflowers.info/flower_insects/plants/possumhaw.html http://coastalplainplants.org/wiki/index.php/Viburnum_nudum

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<i>Xanthorhiza simplicissima</i>	Yellow-root	shrub	part sun, shade	high		spring / purple / not showy	Pollinators are unknown, but maroon flower color suggests flies. Birds eat seeds.	Tolerates both drought and short-term flooding.	Forms dense colonies. used as dye and medicine by Cherokee and early settlers.	https://plants.ces.ncsu.edu/plants/all/xanthorhiza-simplicissima/ http://www.beechhollowfarms.com/products/product-category/yellowroot/

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UNDERSTORY TREES										
<i>Acer floridanum</i> (syn. <i>Acer barbatum</i>)	Florida Maple, Southern Sugar Maple	tree (subcanopy)	sun, part sun, shade	high, medium, low		spring / yellow / not showy	Sapsuckers feed on sap. Larval host for moths. Birds and small mammals eat seeds. Deer browse twigs.		Primarily wind-pollinated though flowers are visited by bees and other pollen-gatherers. sap used for making syrup	https://plants.ces.ncsu.edu/plants/all/acer-barbatum/ https://www.fnp.org/plants/plant/acer-saccharum-subsp-floridanum https://plants.sc.egov.usda.gov/plantguide/pdf/pg_acsa3.pdf
<i>Asimina triloba</i>	Tall Pawpaw	tree (subcanopy)	part sun, shade	high, medium		spring / maroon / not showy	Flowers pollinated by flies (flower color and scent resemble carrion). Larval host for Zebra Swallowtail and Pawpaw Sphinx Moth. Fruit eaten by many mammals, birds, and Box Turtles. Deer rarely browse leaves because of odor and toxicity.	Rapidly forms small colonies (pawpaw patches) by suckering. Somewhat fire-tolerant due to ability to root-sprout. Highly deer resistant.	Deer avoid. Largest edible fruit native to North America. Cultivated by Native Americans for fruit.	https://plants.ces.ncsu.edu/plants/all/asimina-triloba/ https://www.fs.fed.us/database/feis/plants/tree/asitri/all.html https://plants.usda.gov/plantguide/pdf/cs_astr.pdf https://www.illinoiswildflowers.info/trees/plants/pawpaw.htm http://coastalplainplants.org/wiki/index.php/Asimina_triloba
<i>Carpinus caroliniana</i>	Musclewood	tree (subcanopy)	part sun, shade	high, medium		spring / green / not showy	Larval host for moths. Seeds eaten by birds and small mammals. Twigs and leaves eaten by deer and other mammals.	Grows slowly but produces nutlets within 15 years.	Nice fall leaf color. Extremely hard wood used for tools, bowls, etc. Not fire-tolerant.	https://www.fs.fed.us/database/feis/plants/tree/carcar/all.html#FIRE%20ECOLOGY www.illinoiswildflowers.info/trees/plants/musclewood.html https://plants.ces.ncsu.edu/plants/all/carpinus-caroliniana/ https://plants.usda.gov/factsheet/pdf/fs_caca18.pdf

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<i>Halesia diptera</i>	Two-wing Silverbell	tree (subcanopy)	part sun, shade	high, medium		spring / white / showy	Flowers pollinated by bees. Larval host for moths. Fruit eaten by squirrels and other mammals.	Deer avoid. Not drought-tolerant.		https://secure.caes.uga.edu/extension/publications/files/pdf/B%20987_10.PDF https://www.wildflower.org/plants/result.php?id_plant=HADI3 https://plants.ces.ncsu.edu/plants/all/halesia-diptera/
<i>Salix nigra</i>	Black Willow	tree (subcanopy)	sun, part sun, shade	high		spring / green / not showy	Flowers pollinated by bees and flies. Larval host for butterflies and many other insects. Turtles eat fallen leaves. Waterfowl eat buds and catkins. Sapsuckers eat sap. Deer and beaver eat twigs.	Killed by fire. Fast growing. Stems are used as "live stakes" (commercially available) in river bank erosion control. Often used for erosion control along river banks due to widely spreading roots.		https://plants.ces.ncsu.edu/plants/all/salix/ https://www.wildflower.org/plants/result.php?id_plant=SANI https://plants.usda.gov/factsheet/pdf/fs_sani.pdf http://www.illinoiswildflowers.info/trees/plants/bl_willow.htm http://coastalplainplants.org/wiki/index.php/Salix_nigra

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MIDSTORY TREES										
Morus rubra	Red Mulberry	tree (mid-story)	sun, part sun, shade	high, medium		spring / green / not showy	Leaves eaten by many insects. Fruits eaten by birds, mammals.	Fire-intolerant. Milky sap is toxic.	Mostly dioecious; both female and male plants just be present for fruit production. Native American medicinal and food plant.	https://plants.usda.gov/plantguide/pdf/cs_moru2.pdf https://plants.ces.ncsu.edu/plants/all/morus-rubra/ https://www.fs.fed.us/database/feis/plants/tree/morrub/all.html#FIRE%20ECOLOGY www.illinoiswildflowers.info/trees/plants/red_mulberry.html
Populus deltoides	Cottonwood	tree (mid-story)	sun	high, medium		spring / green / not showy	Larval host for butterflies, skippers, moths. Cavities provide nesting habitat for birds. Deer and other mammals browse seedlings, twigs, and leaves.	Fast-growing. Does not tolerate fire. Used in erosion control and mine reclamation. Tolerates short-term flooding. Spreading roots may clog water and sewage pipes.	Soft wood is vulnerable to ice and storm damage.	www.illinoiswildflowers.info/trees/plants/cottonwood.htm https://www.fs.fed.us/database/feis/plants/tree/popdel/all.html#FIRE%20ECOLOGY https://plants.ces.ncsu.edu/plants/all/populus-deltoides/ https://plants.usda.gov/factsheet/pdf/fs_pode3.pdf

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<i>Tilia americana</i>	American Basswood	tree (mid-story)	part sun, shade	medium		spring / green / not showy	Flowers pollinated by bees (including honeybees who produce a highly desirable honey from the flowers). Larval host to moths and other insects. Seeds eaten by bobwhite quail and small mammals. Deer browse leaves and twigs. Trunk cavities form easily and provide habitat for some birds and mammals.	Killed by fire. Considered soil-enriching, brings calcium and magnesium up from deep in the soil.	Native Americans tapped mildly sweet sap; many other wood and bark uses.	https://www.fs.fed.us/database/feis/plants/tree/tilame/all.html#FIRE%20ECOLOGY https://plants.ces.ncsu.edu/plants/all/tilia-americana/ https://plants.usda.gov/plantguide/pdf/cs_tiam.pdf www.illinoiswildflowers.info/trees/plants/am_basswood.html

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OVERSTORY TREES										
<i>Betula nigra</i>	River Birch	tree (overstory)	sun, part sun	high, medium		spring / green / not showy	Larval host for butterflies and many moths. Seeds eaten by birds and small mammals. Deer browse twigs and leaves.	Prefers acidic soils.	Wind-pollinated. Often used in streambank erosion control and land-reclamation projects (e.g. post-strip mining). Native American medicinal plant. Low fire tolerance.	https://secure.caes.uga.edu/extension/publications/files/pdf/B%20987_10.PDF https://plants.ces.ncsu.edu/plants/all/betula-nigra/ https://www.fs.fed.us/database/feis/plants/tree/betnig/all.html#FIRE%20ECOLOGY https://plants.usda.gov/plantguide/pdf/pg_beni.pdf www.illinoiswildflowers.info/trees/plants/river_birch.htm
<i>Carya cordiformis</i>	Bitternut Hickory	tree (overstory)	sun, part sun, shade	medium		spring / green / not showy	Larval host for butterflies, moths. Provides cover and nesting habitat for birds. Nuts are inedible.	Not fire tolerant, though will re-sprout from stump, crown, and roots after fire.	Nuts are too bitter for animals to eat.	https://www.fs.fed.us/database/feis/plants/tree/carcor/all.html#FIRE%20ECOLOGY http://www.illinoiswildflowers.info/trees/plants/btnt_hickory.html
<i>Celtis laevigata</i>	Sugarberry	tree (overstory)	sun, part shade	high, medium		spring / green / not showy	Larval host for butterflies, moths. Fruits eaten by small mammals. Low protein and palatability discourage browsers.	Typically a bottomland tree, but will grow in uplands with higher pH and nutrients. Top-killed by fire but re-sprouts from root collar.	Native American medicinal, food and dye plant.	https://plants.ces.ncsu.edu/plants/all/celtis-laevigata/ https://plants.usda.gov/factsheet/pdf/fs_cela.pdf https://plants.usda.gov/plantguide/pdf/cs_cela.pdf https://www.fs.fed.us/database/feis/plants/tree/cellae/all.html#FIRE%20ECOLOGY

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<i>Fraxinus pennsylvanica</i>	Green Ash	tree (overstory)	sun, part sun, shade	high		spring / green / not showy	Larval host for butterflies and moths. Seeds eaten by birds and small mammals. Provides cover and roosting for raptors and owls. Deer browse twigs.	Fast grower. Transplants easily. Often planted in windbreaks. Top-killed by fire, sprouts from root-crown after low-intensity fire.	Threatened by Emerald Ash-borer (<i>Agrilus planipennis</i>).	https://secure.caes.uga.edu/extension/publications/files/pdf/B%20987_10.PDF https://www.fs.fed.us/database/feis/plants/tree/frapen/all.html#FIRE%20ECOLOGY http://www.illinoiswildflowers.info/trees/plants/green_ash.htm https://plants.usda.gov/factsheet/pdf/fs_frpe.pdf https://plants.usda.gov/plantguide/pdf/pg_frpe.pdf
<i>Juglans nigra</i>	Black Walnut	tree (overstory)	sun	high, medium		spring / green / not showy	Larval host for moths. Nuts eaten by many mammals.	Fire-adapted. Does best in circumneutral soils. Does not transplant easily due to long taproot.	Wind-pollinated. Native American medicinal, food, and dye plant. Produces an allelopathic compound, Juglone, that inhibits growth of plants around it.	https://www.fs.fed.us/database/feis/plants/tree/jugnig/all.html#FIRE%20ECOLOGY http://www.illinoiswildflowers.info/trees/plants/black_walnut.htm https://plants.usda.gov/plantguide/pdf/cs_juni.pdf https://secure.caes.uga.edu/extension/publications/files/pdf/B%20987_10.PDF https://plants.ces.ncsu.edu/plants/all/juglans-nigra/

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<i>Liriodendron tulipifera</i>	Tulip Tree	tree (overstory)	sun, part sun	sun		spring / multi / showy (but high)	Flowers pollinated by beetles, flies, bees, and hummingbirds. Hummingbirds and sapsuckers obtain sap from holes in the bark. Larval host for Luna Moth and other moths. Seeds eaten by birds and small mammals. Twigs browsed by deer.	Mature trees survive low to moderate fires; young trees are top-killed. Used for reforestation because it grows rapidly.	Native Americans used single large trees to make canoes.	https://secure.caes.uga.edu/extension/publications/files/pdf/B%20987_10.PDF http://www.illinoiswildflowers.info/trees/plants/tulip_tree.htm https://plants.usda.gov/factsheet/pdf/fs_litu.pdf https://www.fs.fed.us/database/feis/plants/tree/lrtul/all.html#FIRE%20ECOLOGY https://plants.ces.ncsu.edu/plants/all/liriodendron-tulipifera/
<i>Platanus occidentalis</i>	Sycamore	tree (overstory)	sun, part sun, shade	high, medium		spring / green / not showy. Mottled, peeling bark is showy.	Leaves eaten by many insects. Seeds are eaten by birds. Twigs browsed by deer. Trunk cavities used for bird, squirrel, and bat nests.	Tolerates prolonged springtime flooding. Fast-growing. Does not tolerate fire. Recommended for streambank and other wetland restoration projects.	Wind-pollinated. Native American medicinal plant.	https://secure.caes.uga.edu/extension/publications/files/pdf/B%20987_10.PDF https://plants.usda.gov/plantguide/pdf/cs_ploc.pdf https://plants.ces.ncsu.edu/plants/all/plataus-occidentalis/ https://www.fs.fed.us/database/feis/plants/tree/plaocc/all.html#FIRE%20ECOLOGY http://www.illinoiswildflowers.info/trees/plants/am_sycamore.htm

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<i>Quercus lyrata</i>	Overcup Oak	tree (overstory)	part sun, shade	high, medium		spring / green / not showy	Larval host for many insects, including moths, butterflies, skippers. Large acorns are food for many mammals but fewer birds. Nesting habitat for many animals. Young growth browsed by deer.	Tolerates prolonged springtime flooding. Not fire-tolerant.	Wind-pollinated.	https://plants.usda.gov/plantguide/pdf/pg_quly.pdf www.fs.fed.us/database/feis/plants/tree/que lyr/all.html https://www.wildflower.org/plants/result.php?id_plant=QULY
<i>Quercus michauxii</i>	Swamp Chestnut Oak	tree (overstory)	part sun, shade	high, medium		spring / green / not showy	Larval host for many insects, including moths, butterflies, skippers. Small acorns are food for many mammals and birds. Nesting habitat for many animals. Young growth browsed by deer.	Less tolerant of prolonged flooding	Wind-pollinated. Good crops of acorns are infrequent.	https://plants.usda.gov/factsheet/pdf/fs_qumi.pdf
<i>Quercus pagoda</i>	Cherrybark Oak	tree (overstory)	part sun, shade	high, medium		spring / green / not showy	Larval host for many insects, including moths, butterflies, skippers. Small acorns are food for many mammals and birds. Nesting habitat for many animals. Young growth browsed by deer.	Occasional flooding is tolerated but prolonged flooding is damaging.	Wind-pollinated.	https://plants.usda.gov/plantguide/pdf/pg_qupa5.pdf https://www.illinoiswildflowers.info/trees/plants/cherrybark_oak.html https://www.wildflower.org/plants/result.php?id_plant=QUPA5

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<i>Quercus phellos</i>	Willow Oak	tree (overstory)	part sun, shade	high, medium		spring / green / not showy	Larval host for many insects, including moths, butterflies, skippers. The small acorns are food for many mammals and birds. Nesting habitat for many animals. Young growth browsed by deer.	Not fire-tolerant. More tolerant of prolonged flooding than Cherrybark Oak (<i>Quercus pagoda</i>), but less tolerant of prolonged flooding than Overcup Oak (<i>Quercus lyrata</i>). Easier to transplant than most oaks due to branching root system.	Wind-pollinated. Produces a large acorn crop nearly every year.	https://plants.usda.gov/factsheet/pdf/fs_quph.pdf https://plants.ces.ncsu.edu/plants/all/quercus_phellos/ https://www.fs.fed.us/database/feis/plants/tree/quephe/all.html#FIRE%20ECOLOGY http://www.illinoiswildflowers.info/trees/plants/willow_oak.html https://secure.caes.uga.edu/extension/publications/files/pdf/B%20987_10.PDF
<i>Quercus shumardii</i>	Shumard Oak	tree (overstory)	part sun, shade	high, medium		spring / green / not showy. Nice fall color.	Larval host for many insects, including moths, butterflies, skippers. Though bitter, the small acorns are food for many mammals and birds. Nesting habitat for many animals. Young growth browsed by deer.	Though only weakly tolerant of prolonged flooding, is widely used for bottomland restoration.	Not fire-tolerant. Wind-pollinated. Drought-tolerant.	https://plants.usda.gov/plantguide/pdf/cs_qush.pdf https://plants.ces.ncsu.edu/plants/all/quercus_shumardii/ https://www.fs.fed.us/database/feis/plants/tree/queshu/all.html#FIRE%20ECOLOGY https://plants.ces.ncsu.edu/plants/all/quercus_shumardii/
<i>Ulmus alata</i>	Winged Elm	tree (overstory)	sun, part sun, shade	high, medium, low		spring / tan / showy	Larval host for butterflies, moths, and many other insects. Young twigs browsed by deer. Fruits and buds eaten by birds and small mammals.	Tolerates both drought and short-term flooding. Slight vulnerability to Dutch Elm disease.	Wind-pollinated.	http://www.illinoiswildflowers.info/trees/plants/winged_elm.html

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Scientific name and synonyms	Common Names	Growth Form	Light Requirement	Soil Moisture	Plant Height	Flowers: season / color / showy?	Wildlife Associations	Management Considerations	Comments	Internet Sources: identification, propagation and cultivation info, fire ecology, natural history, etc.
Ulmus americana	American Elm	tree (overstory)	sun, part sun	high, medium		spring / green / not showy	Larval host for butterflies, moths, and many other insects. Young twigs browsed by deer. Fruits and buds eaten by birds and small mammals.	Fibrous root system makes transplanting easy. Not fire-tolerant. Though vulnerable to Dutch Elm disease, southern trees have been less affected by this fungus (<i>Ceratocystis ulmi</i>).	Wind-pollinated.	https://www.fs.fed.us/database/feis/plants/tree/ulmame/all.html#FIRE%20ECOLOGY https://plants.ces.ncsu.edu/plants/all/ulmus-americana/ https://www.illinoiswildflowers.info/trees/plants/am_elm.html https://www.wildflower.org/plants/result.php?id_plant=ULAM

Other Contacts of Interest...

Athens-Clarke County Cooperative Extension

706-613-3640 - <https://athensclarkecounty.com/146/Athens-Clarke-County-Extension>

Bugwood Center for Invasive Species and Ecosystem Health

229-386-3298 - <https://www.bugwood.org/>

USDA Forest Service Southern Research Station in Asheville, NC

828-257-4832 - <https://www.srs.fs.usda.gov/index.html>

USDA Forest Service Forestry Sciences Laboratory

<https://www.fs.fed.us/organization/Forestry%20Sciences%20Laboratory%20%28Athens%29>

Southern Fire Exchange

<http://southernfireexchange.org/>

This guide was developed through the Athens-Clarke County Sustainability Office by Linda Chafin, State Botanical Garden of Georgia

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