

LOUISIANA NATIVE PLANT RESOURCE GUIDE

For Gardeners & Landscapers



Photo by Native American Seed Company



Photo by Brian Sean Early

MORE INFORMATION

For more information: www.wlf.la.gov/resources/category/plants-and-natural-communities

- A list of native plants in the nursery trade
- A list of butterfly host plants and nectar plants
- A list of additional native plant resources



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“The wild creatures we enjoy and would like to have in our lives will not be here in the future if we take away their food and the places they live.”

- Douglas W. Tallamy, 2007

We hope this guide inspires both novice and expert gardeners to begin or expand the use of native plants.

Photo by Matt Pardue

NATIVE OR NOT?

Most plants found in Louisiana plant nurseries are not from North America. Despite the foreign origins, these plants are not thought of as out of place when used in Louisiana gardens. This long standing practice of using non-native plants in gardens has led to some confusion as to which plants are native and which are not native. Such distinction is critical, as the introduction of non-native organisms into new areas may significantly change natural communities which may have negative consequences to native plants, wildlife, and the environment.

NATIVE PLANT: A species present in the same area in which it evolved.

NON-NATIVE PLANT: A species brought by human action to an area outside its natural (i.e., native) range. Such introductions can occur accidentally or intentionally.

INVASIVE PLANT: A non-native species that causes significant negative impacts to native species or the environment.

AGGRESSIVE PLANT: Native species typically adapted to disturbed sites, where they establish and quickly spread. Aggressive plants often give way to other native plants within a few years. The impacts of aggressive plants are, therefore, more temporary than those of invasive plants.

NATURALIZED PLANT: Non-native plants that have escaped cultivation. The term “naturalized” mistakenly implies that the escaped plant has become part of the “native” flora. Therefore, due to the potential confusion with the term “native,” the use of “naturalized” should be avoided.



ARROWWOOD
VIBURNUM



YAUAPON HOLLY

NATIVE PLANTS

Photos courtesy of Wikimedia Commons



AMERICAN BEAUTYBERRY



WINGED SUMAC

Photo by Helen Peebles



PARSLEY HAWTHORN

Photos courtesy of Wikimedia Commons



CHINESE TALLOW TREE



CRAPPE MYRTLE

NON-NATIVE PLANTS



NANDINA



CHINESE PRIVET

Photos courtesy of Wikimedia Commons

WHY NATIVE PLANTS?

Did you know that Louisiana has about 2,500 native plants? Louisiana's native plants are beautiful and the foundation of healthy ecosystems. Using native plants in Louisiana yards and neighborhoods provides many benefits to humans, wildlife and our environment.

NATIVE PLANT BENEFITS

Louisiana native plants are adapted to the local climate, soil types and animals, which provides several gardening advantages:

- Once established, native plants are low maintenance and save you money.
- More chemicals are used on lawns than any other crop. Less lawn and more native plants in your landscape means less fuel, water and fertilizer, which results in higher local soil, water and air quality.
- Pesticides can be indiscriminate, killing both pests and non-target, beneficial insects. However, native plants have developed their own defenses against many pests and diseases, reducing the need for pesticides in native plant gardens.

Louisiana native plants support wildlife and ecosystems we depend on:

- Using native plants in landscapes provides more food and shelter for wildlife. Even a small but diverse native plant landscape can provide great benefit to many wildlife species.
- As development replaces natural habitats, the use of native plants in gardens, parks and along roadsides can provide "bridges" for wildlife to reach nearby remaining habitats.
- By planting your own native garden, you can help reestablish native wildlife habitats and promote the growth of native pollinator populations.
- Insects, which depend on native plants, can make up more than 90 percent of the diets of some birds.

A SUCCESSFUL NATIVE PLANT LANDSCAPE RESTORATION



Native plant habitats provide wonder, a sense of place, and help shape our culture:

- Native plants provide opportunities to explore and enjoy the wonders of nature by attracting butterflies, other beneficial insects, birds and other interesting wildlife for your viewing pleasure.
- Native plant gardens help us reestablish our sense of place, while unproductive landscapes comprised of lawns and non-native plants look the same no matter where you live.
- The wildness of Louisiana is not something to be conquered, but, rather, celebrated. The wildness has helped make us the resilient people we are today and has shaped our cultures. Louisiana's native plant communities are as diverse as the people of Louisiana.

NATIVE WILDLIFE NEED NATIVE PLANTS

All wildlife species depend on native plants directly or indirectly for food, shelter, and clean water. With a little effort, planning, and strategic plant placement, you can support wildlife no matter the size of your landscape. Native landscapes on residential properties not only attract wildlife, they also tend to attract more buyers and have higher property values (Tallamy 2007, Rainer & West 2015, and Mader et al. 2011).

PLANTS THAT BENEFIT MIGRATORY SONGBIRDS

Louisiana is a primary corridor for migrating birds as they move from breeding grounds in the north to wintering grounds in the south. Songbirds tend to consume more plant material during migration and in winter. In spring and summer, songbirds tend to eat more invertebrates such as spiders and insects, when high protein sources are needed for breeding and for rearing young. Native plants support insects and provide fruits, seeds and nectar, all of which are important food resources for native birds.

The United States Geological Survey (USGS) and United States Fish and Wildlife Service (USFWS) staff at the Wetland and Aquatic Research Center in Lafayette, Louisiana, have evaluated the nutritional content of the fruits of 70 of the approximate 3,500 known native and non-native plant species in Louisiana (Baldwin & Barrow 2018). The resulting nutritional values, although preliminary, demonstrated that native plants provide more nutritious fruits than non-native plants. This study provides solid evidence of the value of planting native, instead of non-native, plants (*Table 1*).

Because not all fruits have the same levels of nutrients, nor develop at the same time of the year, it is important that our gardens have a variety of native plant species to support wildlife dietary needs throughout the year. Availability of species with high energy levels and antioxidant properties such as southern arrowwood (*Viburnum dentatum*) allow birds to rapidly refuel and alleviate stress from migration (Smith and McWilliams 2015). Some native plants such as black cherry (*Prunus serotina*), sugarberry/hackberry (*Celtis laevigata*), and deciduous holly (*Ilex decidua*) are low in total energy, but provide much needed carbohydrates and other nutrients (Smith & McWilliams 2015).

Bird frugivory (eating of plant fruits) observations in Louisiana have been compiled and reported by Fontenot (2017). Some fruits observed to be consumed by the greatest number of bird species are listed in *Table 2*.

Birds are not the only animals that benefit from plant resources; plants provide food, shelter, and water to insects, often in highly specialized and fascinating ways that benefit both the insect and host plant. Butterflies and bees receive nectar and pollen as they pollinate flowers; native ants that defend plants from herbivores are rewarded with food and shelter. Frequently, the interaction between insects and plants is less mutually beneficial; in fact, many gardeners would immediately object to caterpillars feasting on their hard work. But caterpillars are exceptionally important food items for birds and other wildlife. In one study, native plants produced 35 times more caterpillar biomass (by weight) than non-native plants (Tallamy 2007). Up to 90 percent of all plant eating insects are considered specialists, because they have evolved with no more than a few plant types (Bernays & Graham 1988 in Tallamy 2007).



Photo by LDWF staff



Photo by Brian Sean Early



Photo by Doug Tallamy

Table 1. Top Five Native Plant Fruits with the Greatest Average Total Energy Compared to the Tested Non-native Plants

GROWTH FORM	COMMON NAME	SCIENTIFIC NAME	AVERAGE TOTAL ENERGY (kJ/g)*
NATIVE PLANTS			
Shrub	southern arrowwood	<i>Viburnum dentatum</i>	29.20
Tree	southern magnolia	<i>Magnolia grandiflora</i>	28.41
Tree	sweetbay	<i>Magnolia virginiana</i>	26.75
Shrub/Small Tree	wax myrtle	<i>Myrica cerifera</i>	25.93
Shrub	strawberry bush	<i>Euonymus americanus</i>	25.68
NON-NATIVE PLANTS			
Tree	camphortree	<i>Cinnamomum camphora</i>	25.53
Tree	Chinese tallow	<i>Triadica sebifera</i>	25.40
Shrub	Chinese privet	<i>Ligustrum sinense</i>	21.10
Small Tree	Japanese privet	<i>Ligustrum japonicum</i>	19.87
Vine	Macartney rose	<i>Rosa bracteata</i>	19.04
Tree	Chinaberry tree	<i>Melia azedarach</i>	18.70
Vine	Japanese honeysuckle	<i>Lonicera japonica</i>	17.86

Baldwin, Michael and Wylie Barrow. 2018. Unpublished report and personal communications. USGS and USFWS Avian Nutrition Project, Data update Nov 1, 2016.

*The higher the value, the greater the assumed benefit is to wildlife.

Table 2. Louisiana Native Plants with the Greatest Number of Bird Species Observed Consuming the Fruits

GROWTH FORM	COMMON NAME	SCIENTIFIC NAME	TOTAL NUMBER OF BIRDS SPECIES OBSERVED CONSUMING FRUITS
Tree	hackberry	<i>Celtis laevigata</i>	37
Vine	Virginia creeper	<i>Parthenocissus quinquefolia</i>	26
Vine	poison ivy	<i>Toxicodendron radicans</i>	25
Small Tree	elderberry	<i>Sambucus nigra ssp. canadensis</i>	24
Small Tree	roughleaf dogwood	<i>Cornus drummondii</i>	21
Tree	southern magnolia	<i>Magnolia grandiflora</i>	18
Shrub	American beautyberry	<i>Callicarpa americana</i>	16
Forb	American pokeweed	<i>Phytolacca americana</i>	16
Tree	black tupelo/gum	<i>Nyssa sylvatica</i>	15

Fontenot, W. 2017. Avian Frugivory in Louisiana. Journal of Louisiana Ornithology. Vol. 10 pp.11-44.



Photo by Brian Sean Early



Photo by Doug Tallamy



Photo by Doug Tallamy

PLANT REGIONS & COMMUNITIES

Louisiana has seven primary plant regions, which are shaped by geographically distinct environmental conditions and natural histories. Plant regions occupy large landscapes and are broader organizations of plant communities, sometimes called natural communities. Each plant region is composed of several variations of similar natural communities. However, many of these communities can be unique from the surrounding area.

Plant communities are populations of plants interacting with each other, wildlife, and the physical environment (e.g. soil, rocks, water and air). The way plants and animals interact with their physical environment and natural processes (e.g. climate, hydrology, fire) determines their grouping on the landscape.

In nature, plants compete for resources. However, because these plants have evolved to co-exist, they utilize resources differently. This allows for more species to occupy a smaller space, leading to higher diversity (Tallamy 2007 and Rainer & West 2015). Designing your garden as a plant community, rather than a random assemblage of individual plants, will yield greater benefits to wildlife and will produce a more aesthetically pleasing appearance. Consult the Louisiana Department of Wildlife and Fisheries *Natural Communities of Louisiana* (Louisiana Natural Heritage Program 2009; *refer to QR code for website*) for more information.



Photo courtesy of Native American Seed Company

PLANT REGIONS OF LOUISIANA

A plant region is a broad generalization of the primary habitat type in an area. Each plant region is divided into many types of plant communities. These communities are shaped by geographically distinct environmental conditions and natural histories, which dictate the types of plants and animals found in each community.



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4. Hardwood-Pine Flatwoods

Prominent Physical Features: Occupies older flat to gently undulating surfaces, slightly up gradient from bottomland hardwoods and is not directly influenced by flooding of nearby rivers and streams. Soils are typically poorly drained silt loams to clays. Several inches of standing water in the winter can cause soils to be saturated into early spring.
Prominent Vegetation: Oaks, elms, maples, loblolly pine, spruce pine (southeastern LA only), sweet gum and sugarberry.



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3. Shortleaf Pine-Oak-Hickory Woodlands

Prominent Physical Features: Occurs on dry hills and consists of mixed species stands with dry-sited hardwoods mixed with shortleaf pine. Canopy cover varies from open woodland with a grassy understory to more densely wooded stands. The community is maintained with beneficial forest fires every five to 15 years.
Prominent Vegetation: Shortleaf pine, post oak, southern red oak, blackjack oak, hickories and blackgum.



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2. Longleaf Pine Savannas and Woodlands

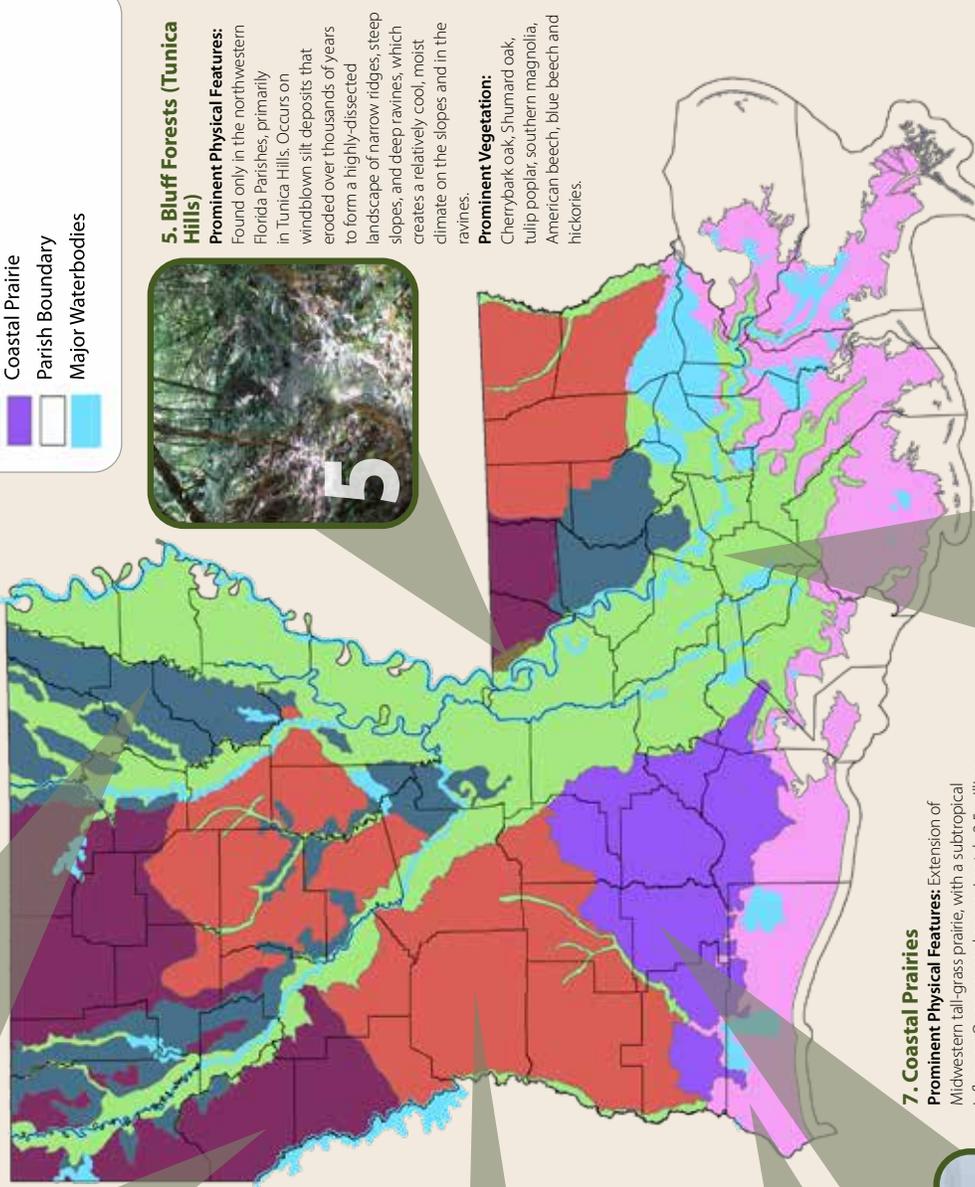
Prominent Physical Features: Occurs on infertile soils of both poorly-drained flatwoods and dry hills. The combination of infertile soils and frequent lightning-strike fires, occurring every one to three years, historically maintained open stands of longleaf pine with diverse prairie-like understories.
Prominent Vegetation: Longleaf pine with a rich herbaceous understory supporting little bluestem, slender bluestem, western bracken fern and many wildflowers.



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1. Coastal Marshes and Barrier Islands

Prominent Physical Features: Includes freshwater, intermediate, brackish, and salt marshes, barrier islands, and fringing coastal forests. Due to a number of human activities, the Coastal Marshes and Barrier Islands plant region has suffered significant losses.
Prominent Vegetation: Grasses (cordgrasses and maiden cane), sedges and rushes in the marshes. Forested coastal habitats support live oak, sugarberry, red bay, toothache tree and many other species.



- Plant Regions of Louisiana**
- Coastal Marshes and Barrier Islands
 - Longleaf Pine Savannas and Woodlands
 - Shortleaf Pine-Oak-Hickory Woodlands
 - Hardwood-Pine Flatwoods
 - Bluff Forests (Tunica Hills)
 - Bottomland Hardwood Forests and Swamps
 - Coastal Prairie
 - Parish Boundary
 - Major Waterbodies



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5. Bluff Forests (Tunica Hills)

Prominent Physical Features: Found only in the northwestern Florida Parishes, primarily in Tunica Hills. Occurs on windblown silt deposits that eroded over thousands of years to form a highly-dissected landscape of narrow ridges, steep slopes, and deep ravines, which creates a relatively cool, moist climate on the slopes and in the ravines.

Prominent Vegetation: Cherrybark oak, Shumard oak, tulip poplar, southern magnolia, American beech, blue beech and hickories.



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6. Bottomland Hardwood Forests and Swamps

Prominent Physical Features: Forested wetlands that occupy broad floodplains and depressions bordering large river systems. The soil, hydrology, and plant community vary based on river influence and landscape position. Floodplain soils are fertile and desired for agriculture, so most of the original forests have been converted to agriculture. Flood control efforts have also degraded the forests of this plant region.

Prominent Vegetation: Oaks, cottonwood, sycamores, elms, maples and ashes in bottomland hardwood forests. Bald cypress, water tupelo and swamp tupelo occur in the swamps.

7. Coastal Prairies

Prominent Physical Features: Extension of Midwestern tall-grass prairie, with a subtropical influence. Once covered approximately 2.5 million acres in Louisiana. Modern agriculture has reduced Louisiana's coastal prairie to less than 1 percent of its former extent. Today, coastal prairie is limited to small remnants on grazing land, along railroads and a few small patches in urban areas. Fire, along with harsh soil conditions, restrict woody species to forests along streams dissecting the plant region.

Prominent Vegetation: A diverse mix of lush grasses (little bluestem, big bluestem, eastern gamma grass, switchgrass, and Indian grass), sedges, rushes, and many wildflowers.



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NATIVE PLANTS AND POLLINATORS

Pollination is an important process that has evolved over millions of years, benefiting flowering plants and wildlife such as flies, beetles, butterflies and moths, bees and wasps, including the non-native European honeybee, birds, bats, and many others. Flowers provide nectar and pollen, food resources that attract pollinators. In return, the pollinators assist the plants in reproduction and dispersal, maintaining and generating wildlife habitats. All animals, including humans, directly or indirectly depend on pollinators for survival.

BENEFITS RECEIVED FROM POLLINATORS

- Pollinators are indicators of a healthy environment and healthy ecosystems and help sustain our quality of life.
- About 75 percent of all plants require pollinators to reproduce (Mader et al. 2011).
- About 1/3 of all human food and drinks require pollinators for production.
- The estimated direct value of insect-pollinated crops is between \$18 and \$27 billion annually (Mader et al. 2011).
- Healthy populations of pollinators improve fruit quality, abundance, and size, which increase farmers' production.
- Pollinators are an important part of the food chain, supplying food for a wide range of wildlife species.

Despite their importance, pollinators are in significant decline due to habitat loss and fragmentation, the overuse of pesticides, and competition with invasive species. Conversion of natural communities to agricultural land and urban centers is the leading cause of habitat loss and fragmentation. What habitat fragments remain are often susceptible to non-native plant invasion, which reduces habitat quality for pollinators and other wildlife. Non-native animals also compete with many pollinators for food and other resources making native pollinator populations more unstable and prone to decline. Widespread use of agricultural and residential pesticides has negatively impacted pollinators, since most of these chemicals are not selective and also kill beneficial pollinators. The overuse and improper use of herbicides have reduced the amount of available food for insects, further contributing to the decline of pollinators. Carefully choose your plants, as many stores sell unlabeled plants that may be laced with insecticides; even if your garden is "chemical-free," your plants may not be. Instead try to use mechanical or less harmful



Photo by LDWF staff



Photo by LDWF staff



Photo by LDWF staff



Photo by Native American Seed Company

means of control such as vinegar herbicide. If chemical treatment is needed, try to use the least toxic product, always follow the instructions on the product's label, and try to avoid application to plants when in bloom. Although impossible to undo past mistakes, we can work to secure a better future for pollinators (and ourselves) by restoring native habitats, providing more native plant resources in our gardens, reducing or eliminating the use of pesticides and herbicides, and by controlling non-native species.