

Native Plants for North Texas Landscapes

What makes a plant a native?

One that exists in a given region through non-human introduction, directly or indirectly (Andrea De-Long Amaya, Lady Bird Johnson Wildflower Center)

All indigenous, terrestrial, and aquatic plant species that evolved naturally in an ecosystem (US Forest Service)

A plant that lives or grows naturally in a particular region without direct or indirect human intervention (USDA and US National Arboretum)

Any plant which is a member of a species which was present at a given site prior to European contact (California Native Plant Society)

“I believe that what is and is not a native plant is best defined by nature herself. Because plants do not grow in isolation from the other living things around them...Over immense periods of time, these interactions help shape both the plants and animals...they coevolve” Tallamy, Douglas, Bringing Nature Home, Timber Press, 2009

Native plant’s role in the ecosystem

An ecosystem is a biological community of interacting organisms and their physical environment. (Oxford English Dictionary)

“Plants form the critical base of food chains in nearly all ecosystems. For example, plants are fed upon by insects, which may be eaten by birds, which in turn are eaten by birds of prey, and so on. In general, native plants support other native species more effectively than non-native plants.” (https://www.canr.msu.edu/nativeplants/ecosystem_services/)

Gardeners play a valuable role in helping the environment by putting native plants to work in their landscapes. Landscaping with native plants sustains native insect populations. In a balanced ecosystem, species further up the food chain eat plant-feeding insects before the insects cause serious harm. (<https://content.ces.ncsu.edu/extension-gardener-handbook/12-native-plants>)

Native plants serve as the foundation of our native ecosystems. When used in a landscape, native plants attract and support local and migrating birds; pollinators, including butterflies, bees, butterflies, moths, hummingbirds, and other native insect pollinators; and an array of other wildlife. (<https://gacoast.uga.edu/outreach/programs/ecosystems/native-invasiveplants/>)

How bird populations are affected by exotic plants

“We are losing our birds because we have taken away their homes and their food and filled their world with dangerous obstacles.” Tallamy, Douglas, How you can sustain wildlife with native plants.

“Smithsonian Study Links Declines in Suburban Backyard Birds to Presence of Nonnative Plants” (Oct. 22, 2018)

“Landowners are using nonnative plants in their yards because they’re pretty and exotic, they’re easy to maintain, and they tend to have fewer pests on them.”

BUT

“Insect-eating birds depend on the availability of high-calorie, high-protein cuisine — namely caterpillars and spiders” some of which feed only on specific native plants.

Impact of habitat loss on pollinators

(Jan 07, 2019) Monarchs taking a shorter trip, migrating to Florida instead of Mexico sensing their body condition won't make it all the way to Mexico. "Habitat loss in their summering ground, or factors during migration or in their wintering site — there are many different ways they can encounter threats. (Hannah Vander Zanden, a biology professor at the University of Florida)

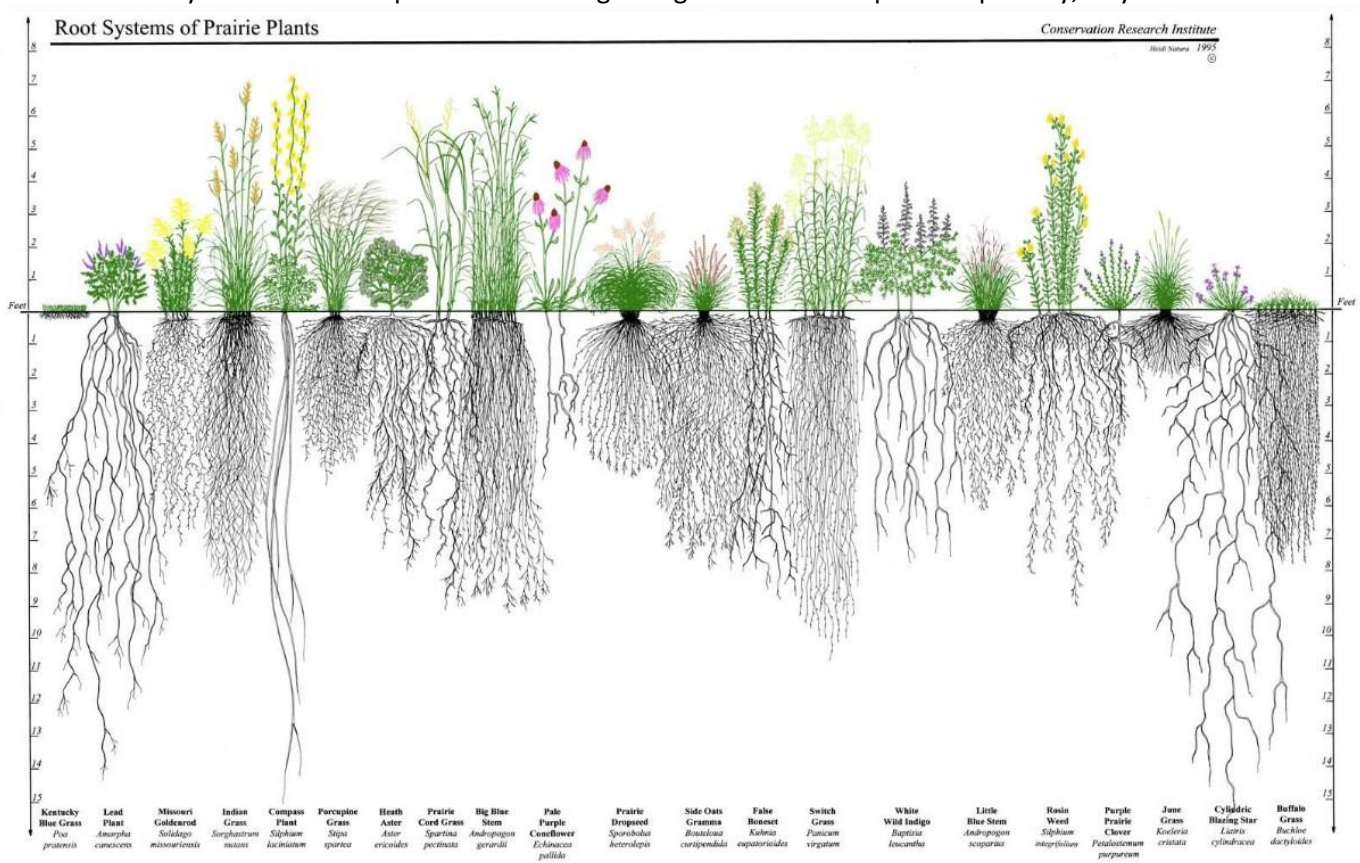
(May 6, 2015) "Native bees in North America are declining drastically. Habitat loss is the number one reason for bee decline, with pesticide use, invasive species, and climate change also playing a major role. With the growth of cities and farms, habitat suitable for our native bees shrinks. And with competition and habitat degradation from invasive species, suitable habitat becomes even less." (Kelsey K. Graham PhD Candidate in Behavioral Ecology, Tufts University)

(March 6, 2019) "Populations of many wild bee species are in widespread decline worldwide to due multiple interacting factors. Habitat loss, parasites and disease, pesticide use and climate change have all been blamed. Urbanization contributes to habitat loss, and that trend is expected to accelerate in coming decades." (University of Michigan)

(October 31, 2018), "A new study shows how quickly songbird populations fall off when gardens are planted with exotic trees and shrubs" Smithsonian.com

How native plants survive our challenging conditions

Extensive root systems reach deep for water during droughts and also help breakup heavy, clay soil.



Conservation Research Institute

What's in it for me?

Save money

- Reduced water usage (don't forget to change your irrigation system settings)
- Fewer disease problems that require expensive chemical treatments

- Needs less fertilizer and fewer soil amendments

Save time

- Less maintenance requirements
- Smaller area to mow

Improve health

- Less exposure to air pollution from gasoline-powered equipment
- Less chemical runoff into water supply
- Less danger from pesticides for you, your family and your pets

Support Texas wildlife



Get more color in your landscape. Be sure to meet plant’s water needs—too much water will drown native plants.

Adapted or invasive plants—what’s the difference?

Adapted plants are neither native nor invasive. They are able to thrive here because they originate from areas with similar soil and climate conditions to those of North Texas.

An invasive plant species grows/reproduces and spreads rapidly, establishes over large areas, and persists. Species that become invasive succeed due to favorable environmental conditions and lack of natural predators, competitors or diseases that normally regulate plant populations.

An invasive species causes or is likely to cause economic or environmental harm. For example, kudzu introduced to North America by the Soil Erosion Service and Civilian Conservation Corp in 1876 costs around \$500 million annually in lost cropland and control costs. (Science Daily, 2016)



Desert Bird of Paradise, Bryant Olsen, CC BY-NC 2.0, via flickr

Desert Bird of Paradise (*Caesalpinia gilliesii*) is an adapted ornamental tree that grows about 10 feet tall. It is popular with butterflies, hummingbirds, and bees. Texas SmartScape’s website has a list of “adapted plants”:

<http://www.txsmartscape.com/plantsearch/index.php>

Invasive plants to avoid

Dirty Dozen Terrestrial Invasive Species

These plants have been identified as particularly worrisome terrestrial invasive species in the Cross Timbers and Prairies ecoregion.

Japanese honeysuckle (*Lonicera japonica*)

Glossy privet (*Ligustrum lucidum*)

Chinese privet (*Ligustrum sinense*)

Giant reed (*Arundo donax*)

Chinese wisteria (*Wisteria sinensis*)

Lilac chastetree (*Vitex agnus-castus*)

Brazilian vervain (*Verbena brasiliensis*)

Guineagrass (*Urochloa maxima*)

Common periwinkle (*Vinca minor*)

Chinaberry tree (*Melia azedarach*)

Chinese tallow tree (*Triadica sebifera*)

Johnson grass (*Sorghum halepense*)

Lots more information at: <https://texasinvasives.org>

According to the Native Plant Society, the frequently planted *Nandina domestica* (heavenly bamboo) is invasive. However, removing berries helps reduce its spread.

Before you buy—dig a little deeper

The University of Texas at Austin Lady Bird Johnson Wildflower Center is the State Botanic Garden and Arboretum of Texas. The Center promotes its mission to inspire the conservation of native plants through its internationally recognized sustainable gardens, education and outreach programs, research projects, and consulting work. Their website has a wealth of information on selecting and growing North Texas native plants!

- You can enter the common or scientific name of the plant you are interested in and go immediately to the info on that plant or you can search their database by:
 - Area: North Central Texas
 - Ecoregion: Cross Timbers
 - Plant characteristics such as location, light requirement, soil moisture, bloom time, bloom color and size.

Scroll down the home page and select Plant Lists. Then select “find your plants”. Next select “Texas - North Central”

Plant info example

Scientific name: *Amorpha fruticosa*

Amorpha fruticosa L.

Common name: Indigo Bush, False Indigo Bush, False Indigo, Desert False Indigo

Plant Characteristics

Duration: Perennial

Habit: Shrub

Leaf Retention: Deciduous

Leaf Arrangement: Alternate

Leaf Complexity: Pinnate

Leaf Pubescence: Glabrous

Leaf Margin: Entire

Leaf Apex: Mucronate

Breeding System: Flowers Bisexual

Leaf: Green

Autumn Foliage: yes

Size Class: 6-12 ft.

Bloom Information

Bloom Color: Orange , Blue , Purple , Violet

Bloom Time: Apr , May , Jun

Bloom Notes: Corolla deep violet-purple, anthers orange, style purplish.

Growing Conditions

Water Use: Low

Light Requirement: Sun , Part Shade

Soil Moisture: Moist

CaCO₃ Tolerance: Medium

Aquatic: yes

Cold Tolerant: yes

Soil Description: Moist soils to dry sands. pH adaptable. Sandy, Sandy Loam, Medium Loam, Clay Loam, Clay, Acid-based, Calcareous.

Benefit

Use Ornamental: Fast growing, Attractive, Blooms ornamental, Bog or pond area, Water garden

Use Wildlife: Nectar-bees, Nectar-butterflies, Nectar-insects

Conspicuous Flowers: yes

Fragrant Flowers: yes

Fragrant Foliage: yes

Attracts: Butterflies

Larval Host: California & southern dogfaces, Silver-spotted Skipper (*Epargyreus clarus*), Gray hairstreak, Hoary edge skipper.

Deer Resistant: High

Value to Beneficial Insects

Special Value to Native Bees

First things first—general guidelines

Are you replacing an existing plant or creating a completely new bed?

- Improve soil drainage, if needed
- Check amount of sunlight the area receives and when
- Measure space available (height and width)

Select plants based on what you want the plant(s) to do for you and the ecosystem?

- Seasonal color
- Evergreen or deciduous
- Food for birds
- Attract pollinators
- Match a color palette
- Provide shade and/or habitat

Integrating organic material before you plant and adding 3 to 4 inches of mulch around, but not touching, after you plant is ALWAYS a good idea.

You can do this!

Native plants often grow more slowly in the first two years than adapted or exotic plants as they develop their extensive root systems.

North Texas Native Vines

- Climbing Prairie Rose (*Rosa setigera*)
- Carolina Jessamine (*Gelsemium sempervirens*)
- Coral Honeysuckle (*Lonicera sempervirens*)
- Crossvine (*Bignonia capreolata*)
- Trumpet Creeper (*Campsis radicans*)
- Virginia Creeper (*Parthenocissus quiquefolia*)
- Texas Wisteria (*Wisteria frutescens*)
- Pitcher/Purple Clematis (*Clematis pitcher* var. *pitcher*)
- Woolly Dutchman's Pipe (*Aristolochia tomentosa*)

Most vines require annual pruning. Early bloomers should be pruned after blooming. Summer and fall bloomers can be pruned in late winter or early spring.



Climbing Prairie Rose, Dan Mullen, CC BY-NC-ND 2.0, via flickr

North Texas Native Shrubs

- American Beautyberry (*Callicarpa americana*)
- Coralberry (*Symphoricarpos orbiculatus*)
- Texas Sage, Cenizo (*Leucophyllum frutescens*)
- Autumn Sage (*Salvia greggii*)
- Agarita (*Berberis trifoliolata*) The agarita thorns are needle-sharp. Songbirds eat fruits and small mammals use the plant for cover. The red fruit is used in making jelly and wine.
- Yaupon Holly—dwarf or regular (*Ilex vomitoria*)
- Pavonia, Rock Rose (*Pavonia lasiopetala*)
- Wax Myrtle (*Morella cerifera*) (*Myrica cerifera*)
- Red Yucca (*Hesperaloe parviflora*)
- Pale Yucca (*Yucca pallida*)
- Turks cap is “shrub like” growing between 3 to 9 feet tall, and should be grown in shade or part-shade. Flowers provide nectar for moths, hummingbirds, butterflies, fruit-birds, and fruit-mammals.



American Beauty Berry, Dieter Wagner, CC-BY-SA

North Texas Native Shrub-like

Chile pequin (*Capsicum annuum* L.)

- Shrub-like, growing 1 to 3 feet
- Does not mind clay soils
- Grows in sun, partial and full shade
- Small, white flowers in spring
- Green berries, turning red in fall
- Herbaceous
- Berries are popular with birds and can be used to flavor food, but are quite hot!
- Needs protection from winter cold, sometimes grown as an annual rather than a perennial



Chile Pequin, Joseph A. Marcus, via wildflower.org

North Texas Native Ornamental Grasses

- Inland sea oats (*Chasmanthium latifolium*)

- Gulf Muhley (*Muhlenbergia capillaris*)
- White cloud muhley (*Muhlenbergia capillaris* 'White Cloud')
- Mexican feather grass (*Nassella tenuissima*)
- Little bluestem (*Schizachyrium scoparium*)
- Indiangrass (*Sorghastrum nutans*)
- Lindheimer's Muhly (*Muhlenbergi lindheimeri*)



Gulf Muhley, Carolyn Fannon, via wildflower.org

North Texas Native Flowering Annuals

This is a short list because most native flowering plants are perennials.

Non-native flowering annuals such as vinca, petunias, impatiens can still be used to provide spots of color in hanging baskets and containers.

- Black-eyed Susan (*Rudbeckia hirta*)
- Prairie Verbena (*Glandularia bipinnatifida*)
- Drummond Phlox (*Phlox drummondii*)
- Blackfoot Daisy (*Melamodium leucanthum*)

North Texas Native Flowering Perennials

- Butterfly Milkweed (*Asclepias tuberosa*)
- Lanceleaf Coreopsis (*Coreopsis lanceolate*)
- Cut-leaf Daisy (*Engelmannia peristenia*)
- Obedient Plant (*Physostegia virginiana*) Might be called a disobedient plant because it spreads rapidly. However, extras are easily removed to share or plant somewhere else.
- Indian Blanket (*Gaillardia pulchella*)
- Four-nerve Daisy (*Tetaneuris scaposa*)
- Gayfeather (*Liatris mucronate*)
- Maximilian Sunflower (*Helianthus maximiliani*)
- Brazos Penstemon (*Penstemon tenuis*)
- Hill Country Penstemon (*Penstemon triflorus*)
- Mexican Hat (*Ratibida columnifera*)
- Blue Mistflower (*Conoclinium coelestinum*)
- Gregg's Mistflower (*Conoclinium greggii*)
- Purple Coneflower (*Echinacea purpurea*)
- Mealy Blue Sage (*Henry Duelberg Sage*)
- Augusta Duelberg Sage (*Salvia farinacea*)
- Scarlet (Tropical) Sage (*Salvia coccinea*)
- Sky Blue Sage (*Salvia azurea*)
- American Basket-flower (*Centaurea Americana*)
- Texas Gold Columbine (*Aquilegia chrysantha* var. *hinkleyana*)
- White Gaura (*Gaura lindheimeri*)
- Zexmenia (*Wedeliz acapulcensis* var. *hispida*)
- Texas Star Hibiscus (*Hibiscus coccineus*)
- Texas Spider Lily (*Hymenocallis lirusme*)



Butterfly Milkweed, John Hixson, via wildflower.org

North Texas Native Ground Cover Plants

- Horseherb (*Calyptocarpus vialis*) Walk on it, mow it—a real rock star!
- White Avens (*Geum canadense*)
- Frogfruit (*Phyla nodiflora*)
- Golden groundsel (*Packera obovate*)
- Pigeon Berry (*Rivina humilis*) Pigeonberry is a perennial herb about 1 foot tall that grows beneath trees and shrubs. Fruit-eating birds enjoy. Caution: the fruit and leaves are toxic if ingested.
- Lyreleaf Sage (*Salvia lyrata*)
- Wood Violet (*Viola missouriensis*) Prefers shade or part shade and moist soil.
- Wood Fern (*Thelypteris kunthii*) Adds texture to the landscape. Grows 1 to 3 feet tall. Bronze-cast as winter approaches. Part shade to shade in moist soil.



Horseherb, Lynn Pyle, via wildflower.org

North Texas Native Ornamental Trees

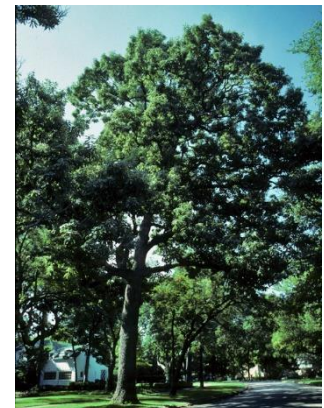
- Eastern Redbud (*Cercis Canadensis* var. *Canadensis*)
- Texas Redbud (*Cercis Canadensis* var. *texensis*)
- Yaupon Holly (*Ilex vomitoria*) Yaupon hollies often send shoots up from roots that require pruning. “Many species of birds eat the fruit. Mammals eat the fruit as well, and the flowers attract insects. Birds employ the dense branches for nesting sites.” Wildflower.org
- Cherry Laurel (*Prunus caroliniana*)
- Possumhaw Holly (*Ilex decidua*)
- Roughleaf Dogwood (*Cornus drummondii*)
- Mexican Buckeye (*Ungnadia speciosa*)
- Flameleaf Sumac (*Rhus lanceolata*)
- Texas Mountain Laurel (*Calia secundiflora*) Texas mountain laurel blooms in spring with grape-bubblegum scented flowers—a butterfly favorite.
- Mexican Plum (*Prunus Mexicana*)
- Desert Willow (*Chilopsis linearis*)
- Eve’s Necklace (*Styphnolobium affine*)



Mexican Buckeye, Sally and Andy Wasowski, via wildflower.org

North Texas Native Shade Trees

- Mexican White Oak (*Quercus polymorpha*) The Texas Forest Service has recently recommended mid-sized Mexican white oak as an good option to red oaks because it is less susceptible to oak wilt or hypoxalyn.
- Red Oak (*Quercus shumardii*) or (*Quercus buckleyi*)
- Live Oak (*Quercus fusiformis*) or (*Quercus virginia*)
- Chinquapin Oak (*Quercus muehlenbergii*)
- Blackjack Oak (*Quercus marilandica*) very large tree
- Bur Oak (*Quercus macrocarpa*) very large tree
- Lacey Oak (*Quercus laceyi*)
- Mountain Cedar (*Juniperus ashei*)
- Bigtooth Maple (*Acer grandidentatum*)
- Eastern Red Cedar (*Juniperus Virginia*)
- Cedar Elm (*Ulmus crassifolia*)
- Mesquite (*Prosopis glandulosa*)
- American Elm (*Ulmus Americana*)
- Pecan (*Carya illinoensis*) very large tree
- Hackberry (*Celtis laevigata*)



Chinquapin Oak, Sally and Andy Wasowski, wildflower.org

- Texas Ash (*Fraxinus albicans*)
- White Ash (*Fraxinus Americana*)

Find more information on native plants

Earth-Kind® Landscaping <https://aggie-horticulture.tamu.edu/earthkind/>

Operation NICE (Natives Instead of Common Exotics) <http://npsot.org/wp/resources/nice/>

Local Native Plant Lists (by plant type and for various garden types) -
<https://www.npsot.org/TrinityForks/TrinityForksWeb/plants.html>

Texas Wildscapes: A Backyard Wildlife Habitat Program -
http://www.tpwd.state.tx.us/huntwild/wild/wildlife_diversity/wildscapes/

Grow Green <http://www.growgreen.org>

Lady Bird Johnson Wildflower Center (Explore Plants database) - <http://www.wildflower.org/explore/>

Texas SmartScape <http://www.txsmartscape.com/> (Sponsored by the North Central Texas Council of Governments)

Texas Tree Planting Guide <http://texasreeplanting.tamu.edu/index.html>

City of Irving Native Plant Guide <http://cityofirving.org/documentcenter/view/948>

Web Soil Survey, National Resource Conservation Survey - <http://websoilsurvey.nrcs.usda.gov/>

iNaturalists www.inaturalist.org

NPAT/Native Prairies Association of Texas www.texasprairie.org

Organizations

- Audubon Society <http://www.audubon.org/>
- Bring Back the Monarchs to Texas <http://www.monarchjointventure.org>
- Botanical Research Institute of Texas <http://www.brit.org/>
- Clear Creek Natural Heritage Center <http://www.clearcreekdenton.com/>
- Denton County Master Gardener Association <https://dcmga.com>
- Fort Worth Botanic Garden <http://www.fwb.org>
- Fort Worth Nature Center <http://www.fwnaturecenter.org/>
- Fossil Rim Wildlife Center <http://www.fossilrim.org>
- Heard Natural Science Museum <http://www.heardmuseum.org/>
- Lewisville Lake Environmental Learning Area <http://llela.unt.edu/>
- Master Gardeners <http://mastergardener.tamu.edu/>
- Master Naturalists <http://txmn.org/>
- Native Plant Society of Texas (NPSOT) <http://npsot.org/>
- River Legacy Living Science Center <http://www.riverlegacy.org/>
- Texas A&M AgriLife Extension <http://agriflifeextension.tamu.edu/>