TEXAS MASTER GARDENER TEXAS A&M AGRILIFE EXTENSION Denton County

Gardening Basics

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" Douglas Tallamy, ***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)

"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, ensuring these insects are available for the birds, mammals, and other organisms that rely on insects for food... 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/ecoscapes/native-invasive-plants/

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." Douglas Tallamy, ***How You Can Sustain Wildlife with Native Plants***

"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." …"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." Quoted from "Smithsonian study links declines in suburban backyard birds to presence of nonnative plants", 22 October 2018, https://nationalzoo.si.edu/news/new-smithsonian-study-links-declines-suburban-backyard-birds-presence-nonnative-plants

Impact of habitat loss on pollinators

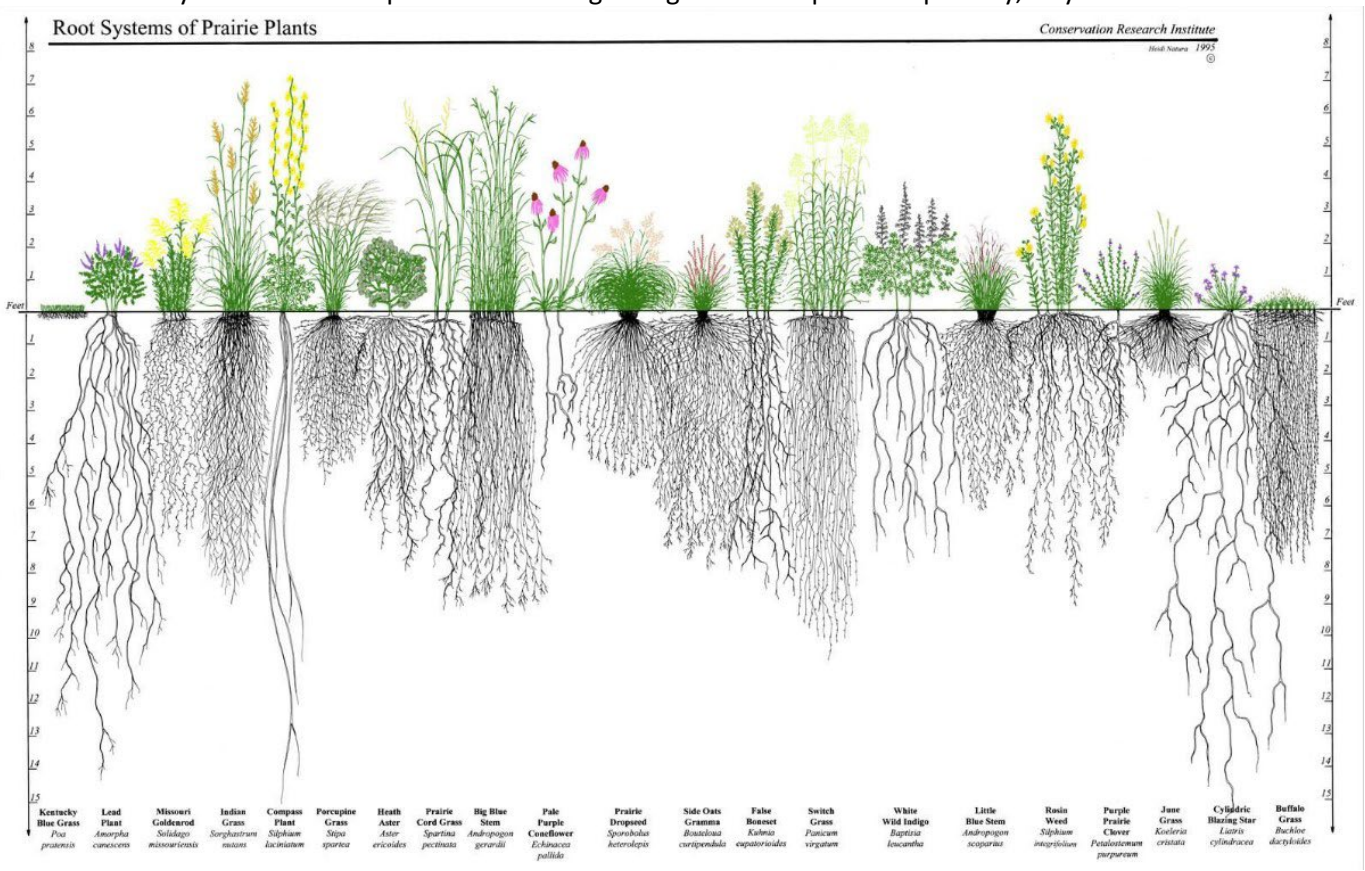
"Habitat loss in their summering ground, or factors during migration or in their wintering site — there are many different ways they can encounter threats." Quoted from "Monarchs taking a shorter trip, migrating to Florida instead of Mexico", Hannah Vander Zanden, University of Florida, 7 January 2019, https://www.cbc.ca/lite/story/1.4968701

"But as with bumble bees, poor nutrition and pesticide exposure are likely culprits. We also know that the majority of native bees nest in the ground, so they are vulnerable when natural areas are converted to tilled agricultural fields or paved over. Providing safe nesting areas for native bees is therefore vitally important to their conservation.", Quoted from "Beyond honey bees: Wild bees are also key pollinators and some species are disappearing", Kelsey K. Graham, Michigan State University, 6 May 2015, https://theconversation.com/beyond-honey-bees-wild-bees-are-also-key-pollinators-and-some-species-are-disappearing-89214

"Wild bees are indispensable pollinators, supporting both agricultural productivity and the diversity of flowering plants worldwide. But wild bees are experiencing widespread declines resulting from multiple interacting factors. A new University of Michigan-led study suggests that the effects of one of those factors -- urbanization -- may have been underestimated." Quoted from "Impact of Urbanization on Wild Bees Underestimated" ScienceDaily, 6 March 2019, https://www.sciencedaily.com/releases/2019/03/190306100626.htm

How native plants survive our challenging conditions

Extensive root systems reach deep for water during droughts and help break up 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 which require expensive chemical treatments
- Less fertilizer and soil amendments needed

Save time

- Less maintenance
- 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

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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 with enormous impact by completely overrunning existing vegetation.

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.

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

Invasive plants to avoid

Dirty Dozen Terrestrial Invasive Species: https://texasinvasives.org
These plants have been identified as particularly worrisome terrestrial invasive species in the Cross Timbers and Prairies ecoregion.

Japanese honeysuckle *(Lonicera japonica)*
Chinese privet *(Ligustrum sinense)*
Chinese wisteria *(Wisteria sinensis)*
Brazilian vervain *(Verbena brasiliensis*)
Common periwinkle *(Vinca minor)*
Chinese tallow tree *(Triadica sebifera)*
Glossy privet *(Ligustrum lucidum)*
Giant reed *(Arundo donax)*
Lilac chastetree (*Vitex agnus-castus*)
Guineagrass *(Urochloa maxima)*
Chinaberry tree *(Melia azedarach)*
Johnson grass *(Sorghum halepense)*

According to the Native Plant Society of Texas, 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 for that plant or you can search their database by:
- Area: North Central Texas
- Ecoregion: Cross Timbers
- Plant characteristics -- 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

Amorpha fruticosa, Courtesy Paul Cox, Lady Bird Johnson Wildflower Center

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

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

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

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.

North Texas Native Shrubs

- American Beautyberry *(Callicarpa americana)*
- Autumn Sage *(Salvia greggii)*
- Coralberry *(Symphoricarpos orbiculatus)*
- 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.
- Pale Yucca *(Yucca pallida)*
- Pavonia, Rock Rose *(Pavonia lasiopetala)*
- Red Yucca (*Hesperaloe parviflora)*
- Texas Sage, Cenizo *(Leucophyllum frutescens)*
- Turk's cap (*Malvaviscus arboreus)* 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

- Wax Myrtle *(Morella cerifera) (Myrica cerifera)*
- Yaupon Holly *(Ilex vomitoria)* —dwarf or regular

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 in food but are hot!
- Needs protection from winter cold, sometimes grown as an annual rather than a perennial

Chile Pequin, Courtesy Joseph A. Marcus, Lady Bird Johnson Wildflower Center

North Texas Native Ornamental Grasses

- Gulf Muhly *(Muhlenbergia capillaris)*
- Indiangrass *(Sorghastrum nutans)*
- Inland Sea Oats *(Chasmanthium latifolium)*
- Lindheimer's Muhly *(Muhlenbergi lindheimeri)*
- Little Bluestem *(Schizachyrium scoparium)*
- Mexican Feather Grass *(Nassella tenuissima)*
- White Cloud Muhly *(Muhlenbergia capillaris 'White Cloud')*

North Texas Native Flowering Annuals

- American Basket-flower *(Centaurea Americana*
- Black-eyed Susan *(Rudbeckia hirta)*
- Blackfoot Daisy (*Melamodium leucanthum)*
- Bluebonnet (Lupinus texensis)
- Drummond Phlox *(Phlox drummondii)*
- Eryngo *(*Eryngium leavenworthii)
- Huisache Daisy *(Amblyolepis setigera)*
- Indian Blanket *(*Gaillardia pulchella)
- Indian Paintbrush *(Castilleja indivisa*)
- Plains Coreopsis (*Coreopsis tinctoria*)
- Prairie Verbena *(Glandularia bipinnatifida)*
- Small Palafox (Palafoxia callosa)
- Stiff Greenthread (Thelesperma filifolium)
- Tahoka Daisy (Machaeranthera tanacetifolia)
- Texas Bluebell (Eustoma exaltatum ssp. russellianum)

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

North Texas Native Flowering Perennials

Butterfly Milkweed, Courtesy John Hixson, Lady Bird Johnson Wildflower Center

- Blue Mistflower (*Conoclinium coelestinum)*
- Brazos Penstemon (*Penstemon tenuis)*
- Butterfly Milkweed (*Asclepias tuberosa)*
- Cut-leaf Daisy (*Engelmannia peristenia)*
- Four-nerve Daisy *(Tetraneuris scaposa)*
- Gayfeather (*Liatris mucronate*)
- Gregg's Mistflower (*Eupatorium greggii*)
- Hill Country Penstemon (*Penstemon triflorus*)
- Lanceleaf Coreopsis (*Coreopsis lanceolate)*
- Maximilian Sunflower (*Helianthus maximiliani*)
- Mealy Sage (Henry Duelberg Sage/blue; Augusta Duelberg/white) *(Salvia farinacea)*
- 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
- Purple Coneflower *(Echinacea purpurea)*
- Scarlet (Tropical) Sage *(Salvia coccinea)*
- Sky Blue Sage *(Salvia azurea)*
- Texas Gold Columbine *(Aquilegia chrysantha var. hinkleyana)*
- Texas Star Hibiscus *(Hibiscus coccineus)*
- Texas Spider Lily *(Hymenocallis liriosme)*
- White Gaura *(Gaura lindheimeri)*
- Zexmenia (*Wedeliz acapulcensis var.hispida*

North Texas Native Ground Cover Plants

Horseherb, Courtesy Lynn Pyle, Lady Bird Johnson Wildflower Center

- Frogfruit *(Phyla nodiflora)*
- Golden groundsel *(Packera obovate)*
- Horseherb *(Calyptocarpus vialis)* Walk on it, mow it—a real rock star!
- Lyreleaf Sage *(Salvia lyrate)*
- 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.
- White Avens *(Geum canadense)*
- 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.
- Wood Violet *(Viola missouriensis*) Prefers shade or part shade and moist soil.

North Texas Native Ornamental Trees

- Cherry Laurel *(Prunus caroliniana)*
- Desert Willow *(Chilopsis linearis)*
- Eastern Redbud *(Cercis Canadensis var. Canadensis)*
- Eve's Necklace *(Styphnolobium affine)*
- Flameleaf Sumac *(Rhus lanceolate)*
- Mexican Buckeye *(Ungnadia speciosa)*

- Mexican Plum *(Prunus Mexicana)*
- Possumhaw Holly *(Ilex decidua)*
- Roughleaf Dogwood *(Cornus drummondii)*
- Texas Mountain Laurel *(Calia secundiflora)* Texas mountain laurel blooms in spring with grape-bubblegum scented flowers—a butterfly favorite.
- 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." https://www.wildflower.org/plants/result.php?id_plant=ilvo

North Texas Native Shade Trees

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

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i