



Native Plants for Edwards Plateau Landscapes

Morgan L. Russell, Roger Q. Landers, Jr, and Allison Watkins*

Land fragmentation and human development have dramatically altered wildland habitats throughout the urban interface area. The introduction of exotic and ornamental plant species associated with these two processes has had a negative impact on the ecological productivity of these areas. These human-created and -dominated landscapes do not support functioning ecosystems and further deplete natural habitats that are vital to native wildlife.

Many of the landscaping plants currently available in nurseries are species introduced from other countries. These plants not only disrupt the food web, but some like saltcedar, Russian olive, buffelgrass, and johnsongrass have become invasive pests that outcompete native species and degrade habitat in remaining natural areas. The negative impacts on habitat caused by these

introduced species have caused homeowners and landscapers to instead seek help with using native plants.

Native landscape design is centered on using plants that evolved naturally in one's particular region. Native plants are generally well adapted, low maintenance, competitive with weeds, and use little water. With good landscape design planning, many native plants can be as attractive as the introduced ornamentals.

A native plant landscape can be as simple as a sustainable backyard habitat or as extensive as a native plant garden. Native plant landscapes not only support nearby natural biodiversity, they also require fewer resources.

Low maintenance

Once established, native plants generally require little maintenance and have a competitive advantage over weeds for resources such as nutrients.

* Assistant Professor and Extension Range Specialist, Retired Extension Range Specialist, and Tom Green County Extension Horticulture Agent Texas A&M AgriLife Extension Service

Aesthetics

Texas bluebonnet, Indian paintbrush, Indian blankets, and many other native plants offer beautiful showy flowers, produce abundant colorful fruits and seeds, and brilliant seasonal changes in colors. They range from the tender, thin greens of early spring, to the vibrant yellows and reds of autumn.

Enhanced water conservation

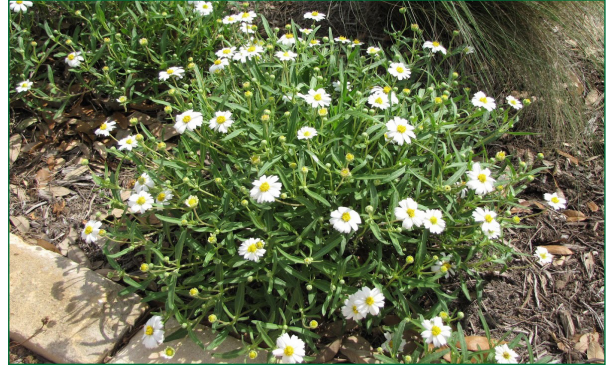
Because native plants are adapted to local environmental conditions, they save time, money, and perhaps the most valuable natural resource, water. According to the EPA, native plants can reduce your water consumption by 60 percent compared to traditional nonnatives. Using native species increases overall system efficiency which leaves more resources available to freshwater ecosystems and essential habitat for migratory birds and other wildlife.

Wildlife habitat

In addition to providing vital habitat for birds, other wildlife species also benefit. Colorful butterflies, including the iconic monarch, all depend on very specific native plant species. These plants provide nectar for pollinators including hummingbirds, native bees, butterflies, moths, and bats. They also provide protective shelter for many mammals. The native nuts, seeds, and fruits produced by these plants offer essential foods for many forms of wildlife.

Improved soil conditions

In many cases, native plants can improve soil conditions. For example, black willows can withstand flooding, stabilize soil, and grow quickly, making them ideal native plants for revitalizing degraded river and stream banks. Additionally, native plants support beneficial insects (ladybird beetles, lacewings, predatory beetles, etc.) that help control pests in the landscape.



Blackfoot Daisy is a maintenance-free Texas native plant that is disease and pest resistant and needs almost no water—it is perfect for any xeriscape design. Blackfoot Daisy does well in masses in xeriscape flowerbeds and has a relatively long blooming time.



Claret cup cactus is attractive and grows in clumps 3 to 4 feet across but usually smaller. The bright red-orange flowers often cover the whole plant, which is cylindrical and low-growing, often hugging up against some larger plant. The numerous flowers grow at the top of the stems giving a full view of all the flowers at one glance. They last for several days and vary slightly in color as a result of soil type or genetic differences.



From April to September, **damianita** is covered with bright, golden-yellow flowers. A small evergreen shrub with dark green, highly aromatic needle-like leaves, it grows on rocky limestone soils in the Trans-Pecos and Edwards Plateau and is extremely heat and drought tolerant.

Homeowners in the Edwards Plateau are fortunate to have many native plants to choose from. However, this variety contributes to confusion about which to plant where, which existing plants to encourage, and which to remove. Questions also arise regarding which native plants are available through commercial sources, and which must be collected or traded.

Because introduced plants can become invasive and spread without regard to the damage they cause, using regionally-adapted natives is directly and indirectly important to maintaining or restoring proper ecosystem function. But with all the choices available, how can homeowners learn to identify the natives? There are several illustrated reference books, but no single book covers them all for the Edwards Plateau ecoregion. Perhaps the best approach to using native plants is to learn as you go. Start small and expand as you gain confidence in recognizing the plants that are important for the Edwards Plateau. Consultants that specialize in native landscaping plants are available to help you. Unfortunately, the offering of native plants from traditional suppliers is often limited. You can overcome this limitation by becoming a member of the Texas Native Plant Society (TNPS). TNPS provides a newsletter offering information on meetings, nurseries, seed sources, books, and consultants as well as interesting stories about native plants.

The table on the next page outlines native plants that are adapted for the Edwards Plateau region of Texas. This list is not exhaustive, but it is a starting place to guide efforts at enhancing or restoring native plant habitat. Landscaping choices have meaningful effects on native wildlife populations. The bottom line is that homeowners, landscapers, and local policy makers can benefit wildlife and habitat by selecting native plants when making their landscaping decisions.



Texas mountain laurel is an evergreen, usually multi-trunked shrub or small tree ranging from a few feet tall to more than 30 feet. Its usual height at maturity is 10 to 15 feet. Its leaves are dense, dark green, and glossy and composed of 7 to 9 leathery leaflets that are rounded on the ends. The leaflets are up to 2 inches or longer and taper more gradually to the base than to the tip. The bluish lavender flowers, in 3- to 7-inch drooping clusters, are showy and fragrant. The fruit is a semi-woody pod with bright red seeds.



The **Texas bluebonnet** belongs to the legume or bean family. Bluebonnets are probably the most important native rangeland legume in Texas, often occupying hundreds of acres of rolling hillsides during the cool months. Bluebonnet roots are important sources of nitrogen for the soil. With the help of Rhizobium, they can produce as much nitrogen as soybeans, which often yield as much as 100 pounds of nitrogen per acre. Deer do not prefer it, so survival of bluebonnet plants in areas heavily populated with deer is ensured. The bluebonnet is also extremely cold tolerant, so freezes normally will not kill the plants.

Potential, native plants that are suitable for shallow, rocky, well drained soils of the Edwards Plateau:

Trees	Liveoak Spanish oak Little walnut Texas Mulberry Netleaf hackberry Chinkapin oak	Bur Oak Pecan Texas ash Western soapberry American elm Ceder elm	Chittamwood Goldenball lead tree Mesquite Vasey, white, mohr shin oak Gum bumelia
Shrubs	Algerita Littleleaf sumac Texas persimmon Wild plum Rusty blackhaw Texas Hawthorn	Roughleafed dogwood Lotebush Mexican buckeye Carolina buckthorn Roemer's acacia Flameleaf sumac	Redbud Evergreen sumac Skunkbush sumac White honeysuckle Fourwing saltbush
Grasses	Sideoats, Neally, and Texas grama Eastern gamagrass, Buffalograss Curly mesquite Texas cupgrass	Canada wildrye Switchgrass Yellow Indiangrass Texas bluegrass Silver bluestem Little bluestem	Lindheimer muhly Seep muhly Big bluestem Virginia wildrye Blue grama Red grama
Annual forbs	Texas bluebonnet Mountain pink Narrowleaf bitterweed Lemon beebalm Indian blanket Indian paintbrush	Spotted horsemint Clasping coneflower Blackeyed susan Huisache daisy Scrambled eggs Texas star	Basketflower Limestone gaura Purple eryngo Lazy daisy Deer pea vetch
Perennial forbs	Meally cup sage Engelmann daisy Orange zexmenia Bush sunflower Maxmillian sunflower Texas skeleton plant	Golden, Purple dalea Rock daisy Ironweed Dotted gayfeather Rain lily Antelope horn milkweed	Uprighht, Purple prairie coneflower Bush morning glory Standing cypress Wild petunia White, Purple winecup
Vines	Deer apples Carolina snailseed Mustang grape Virginia creeper Leather flower Texas clematis	Passion flower Dutchman's pipevine Buffalo gourd Sensitive briar Trailing ratany Cotton morning glory	Balsam gourd Ivy treebine Alamo vine Crossvine Honeysuckle
Other	Narrowleaf yucca Buckley yucca Sacahuista, Lindheimer sacahuista Nipple cactus Claret cup cactus	Lacy cactus Strawberry cactus Mormon tea Sotol Horse crippler Tasajillo	Agave Red yucca Twistleaf yucca Iceplant Frogfruit Pigeonberry

Additional perennial forbs include: white compass plant, snoutbean, foxglove, blue phlox, frost aster, silver sage, Illinois, velvet bundleflower, slender greenthread, rose pavonia, flame acanthus, water clover, and prairie verbena.

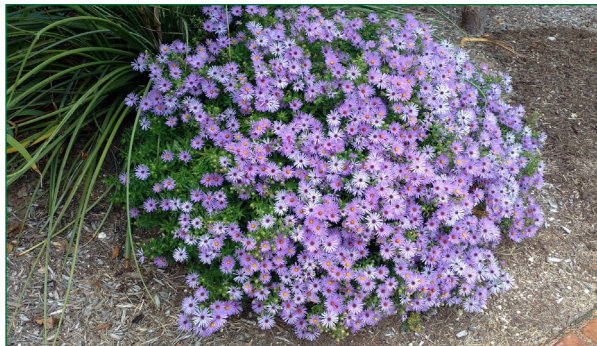
Additional trees and shrubs include: Texas mountain laurel and Eve's necklace

See next page for a complete list of botanical names.

Other plants could be added to the table. Some of these native plants are suitable to certain situations and not others. For example, flameleaf sumac and Western soapberry, send up hundreds of root sprouts around the original plant. Don't plant them if you don't want a thicket in a few years or don't want to mow the area to control them. Additionally, plants such as algerita usually require decent drainage. Maximilian sunflower, Alamo vine, and silver sage can take over a flowerbed in a few years because, if watered and fertilized, they grow aggressively.



Four nerve daisy is a native perennial that does great in full sun or afternoon shade, with very little water or maintenance. They prefer rocky, well-drained soil. If you have heavy clay, consider building berms or raised beds with sandy soil and some added organic matter, but not too much. Containers will also work with this beautiful perennial.



Fall aster is a smallish, mounding plant, usually staying less than 2 feet tall and wide, although it can reach 3 feet. It looks great in the foreground of other fall flowering plants, and along the edges of planting beds. Fall asters flower in October and November, and bees, butterflies, and other insects love its fall nectar. Fall aster is a perennial and hardy all the way to USDA zone 4. It and prefers well-drained soil and needs very little water once established.

It is important to match native plants with their specific native habitat. Another example is that of pecan trees and American elm which are native but are not drought tolerant. If planted in a landscape near a water source (such as a river bottom) they can thrive but would require regular watering if planted in an average yard. Native plant species will not solve all the challenges that urban landscapes present, but they can provide numerous direct and indirect benefits for wildlife and those who maintaining those landscapes.

Botanical names of native species

Trees

- Liveoak (*Quercus virginiana*)
- Spanish oak (*Quercus falcata*)
- Little walnut (*Juglans microcarpa*)
- Texas mulberry (*Morus microphylla*)
- Netleaf hackberry (*Celtis laevigata* var. *reticulata*)
- Chinkapin oak (*Quercus muehlenbergii*)
- Bur Oak (*Quercus macrocarpa*)
- Pecan (*Carya illinoensis*)
- Texas ash (*Fraxinus texensis*)
- Western soapberry (*Sapindus saponaria* var. *Drummondii*)
- American elm (*Ulmus americana*)
- Ceder elm (*Ulmus crassifolia*)
- Chittamwood (*Bumelia lanuginose*)
- Goldenball lead tree (*Leucaena retusa*)
- Honey mesquite (*Prosopis glandulosa*)
- Vasey shin oak (*Quercus pungens* var. *vaseyana*)
- White shin oak (*Quercus sinuate* var. *Breviloba*)
- Mohr shin oak (*Quercus mohriana*)
- Gum bumelia (*Bumelia lanuginose*)

Shrubs

- Algerita (*Berberis trifoliolata*)
- Littleleaf sumac (*Rhus microphylla*)
- Texas persimmon (*Diospyros texana*)
- Mexican plum (*Prunus mexicana*)
- Rusty blackhaw (*Viburnum rufidulum*)
- Texas hawthorn (*Crataegus texana*)
- Roughleaf dogwood (*Cornus drummondii*)
- Lotebush (*Ziziphus obtusifolia*)

Shrubs (continued)

Mexican buckeye (*Ungnadia speciosa* Endl.)
Carolina buckthorn (*Rhamnus caroliniana*)
Roemer's catclaw (*Acacia roemeriana*)
Flameleaf sumac (*Rhus copallinum*)
Redbud (*Cercis canadensis* var. *texensis*)
Evergreen sumac (*Rhus virens*)
Skunkbush sumac (*Rhus trilobata*)
White honeysuckle (*Lonicera albiflora*)
Fourwing saltbush (*Atriplex canescens*)

Grasses

Sideoats grama (*Bouteloua curtipendula*)
Texas grama (*Bouteloua rigidisetata*)
Eastern gamagrass (*Tripsacum dactyloides*)
Buffalograss (*Buchloe dactyloides*)
Curly mesquite (*Hilaria belangeri*)
Texas cupgrass (*Eriochloa sericea*)
Canada wildrye (*Elymus canadensis*)
Switchgrass (*Panicum virgatum*)
Yellow Indiangrass (*Sorghastrum nutans*)
Texas bluegrass (*Poa arachnifera*)
Silver bluestem (*Bothriochloa laguroides*)
Little bluestem (*Schizachyrium scoparium*)
Lindheimer muhly (*Muhlenbergia lindheimeri*)
Seep muhly (*Muhlenbergia reverchonii*)
Big bluestem (*Andropogon gerardii*)
Virginia wildrye (*Elymus virginicus*)
Blue grama (*Bouteloua gracilis*)
Red grama (*Bouteloua trifida*)
Inland sea oats (*Chasmanthium latifolium*)

Annual Forbs

Texas bluebonnet (*Lupinus subcarnosus*)
Mountain pink (*Centaureum beyrichii*)
Narrowleaf bitterweed (*Helenium amarum*)
Lemon beebalm (*Monarda citriodora*)
Indian blanket (*Gaillardia pulchella*)
Indian paintbrush (*Castilleja indivisa*)
Spotted horsemint (*Monarda punctata* L.)
Clasping coneflower (*Dracopis amplexicaulis*)
Blackeyed susan (*Rudbeckia hirta*)
Huisache daisy (*Amblyolepis setigera*)
Scrambled eggs (*Corydalis aurea*)

Texas star (*Sabatia campestris*)
Basketflower (*Centaurea Americana*)
Limestone gaura (*Gaura calcicola*)
Purple eryngo (*Eryngium leavenworthii*)
Lazy daisy (*Aphanostephus skirrhobasis*)
Deer pea vetch (*Vicia ludoviciana*)

Perennial Forbs

Meally cup sage (*Salvia farinacea*)
Engelmann daisy (*Engelmannia peristenia*)
Orange zexmenia (*Wedelia texana*)
Bush sunflower (*Simsia calva*)
Maxmillian sunflower (*Helianthus maximiliani*)
Texas skeleton plant (*Lygodesmia texana*)
Golden, purple dalea (*Dalea lasiathera*)
Rock daisy (*Melampodium leucanthum*)
Ironweed (*Vernonia Schreb.*)
Dotted gayfeather (*Liatris punctata*)
Rain lily (*Cooperia pedunculata*)
Antelope horn milkweed (*Asclepias asperula*)
Upright, purple prairie coneflower (*Ratibida columnifera*)
Bush morning glory (*Ipomoea fistulosa*)
Standing cypress (*Ipomopsis rubra*)
Wild petunia (*Ruellia*)
White, purple winecup (*Callirhoe involucrate*)

Vines

Deer apples (*Ibervillea lindheimeri*)
Carolina snailseed (*Cocculus carolinus*)
Mustang grape (*Vitis mustangensis*)
Virginia creeper (*Parthenocissus quinquefolia*)
Leather flower (*Clematis pitcheri*)
Texas clematis (*Clematis texensis*)
Passion flower (*Passiflora lutea*)
Dutchman's pipevine (*Aristolochia coryi*)
Buffalo gourd (*Cucurbita foetidissima*)
Sensitive briar (*Mimosa nuttallii*)
Trailing ratany (*Krameria lanceolata*)
Cotton morning glory (*Ipomoea cordatotriloba*)
Balsam gourd (*Ibervillea lindheimeri*)
Ivy treebine (*Cissus incisa*)
Alamo vine (*Merremia dissecta*)
Crossvine (*Bignonia capreolata* L.)
Honeysuckle (*Lonicera albiflora*)

Other

Narrowleaf yucca (*Yucca angustissima*)
Buckley yucca (*Yucca constricta*)
Sacahuista, Lindheimer sacahuista (*Nolina texana*)
Nipple cactus (*Coryphantha sulcate*)
Claret cup cactus (*Echinocereus triglochidiatus*)
Lacy cactus (*Echinocereus reichenbachii*)
Strawberry cactus (*Echinocereus enneacanthus*)
Mormon tea (*Ephedra nevadensis*)
Sotol (*Dasyliirion texanum*)
Horse crippler (*Echinocactus texensis*)
Tasajillo (*Opuntia leptocaulis*)
Agave (*Agave Americana*)
Red yucca (*Hesperaloe parviflora*)
Twistleaf yucca (*Yucca rupicola*)
Iceplant (*Verbesina virginica*)
Frogfruit (*Phyla nodiflora*)
Pigeonberry (*Aralia hispida*)

For More Information

- Ajilvsugi, Geyata. 1984. Wildflowers of Texas. Shearer Publishing. Bryan. Texas. 414 pp.
- Correl, D. S. and M. C. Johnston. Manual of the Vascular Plants of Texas. 1970. Texas Research Foundation. Renner. Texas. 1881 pp.
- Diggs, George M., Jr., Barney L. Lipscomb & Robert J. O'Kennon. 1999. Illustrated Flora of North Central Texas. Botanical Research Institute of Texas. Fort Worth. 1626 pp.
- Enquist, Marshall. 1987. Wildflowers of the Texas Hill Country. Lone Star Botanical. Austin. 275 pp.
- Kirkpatrick, Zoe Merriman. 1992. Wildflowers of the Western Plains. University of Texas Press. Austin. 240 pp.
- Loughmiller, Campbell and Lynn. 1984. Texas Wildflowers. University of Texas Press. Austin. 271 pp.
- Metzler, Susan and Van Metzler. 1992. Texas Mushrooms. University of Texas Press. Austin. 350 pp.
- Native and Adapted Landscape Plants. 2016. Texas A&M AgriLife Extension Service and City of Austin Watershed Protection.
- Native Plant Society of Texas. P.O. Box 891. Georgetown TX 78627. www.npsot.org
- Native Prairie Association of Texas. P.O. Box 210. Georgetown TX 78627.
- Powell, A. Michael. 1994. Grasses of the Trans-Pecos and Adjacent Areas. University of Texas Press. Austin. 377 pp.
- Powell, A. Michael. 1988. Trees & Shrubs of Trans-Pecos Texas. Big Bend Natural History Association. 536 pp.
- Tull, Delena. 1999. Edible and Useful Plants of Texas and the Southwest. University of Texas Press. Austin. 518 pp.
- Weniger, Del. 1984. Cacti of Texas and neighboring states. University of Texas Press. Austin. 356 pp.
- Wasowski, Sally. 1988. Native Texas Plants, Landscaping Region by Region. Gulf Publishing Co. Houston. 406 pp.

Texas A&M AgriLife Extension Service

AgriLifeExtension.tamu.edu

More Extension publications can be found at AgriLifeBookstore.org

Texas A&M AgriLife Extension provides equal opportunities in its programs and employment to all persons, regardless of race, color, sex, religion, national origin, disability, age, genetic information, veteran status, sexual orientation, or gender identity.

The Texas A&M University System, U.S. Department of Agriculture, and the County Commissioners Courts of Texas Cooperating.