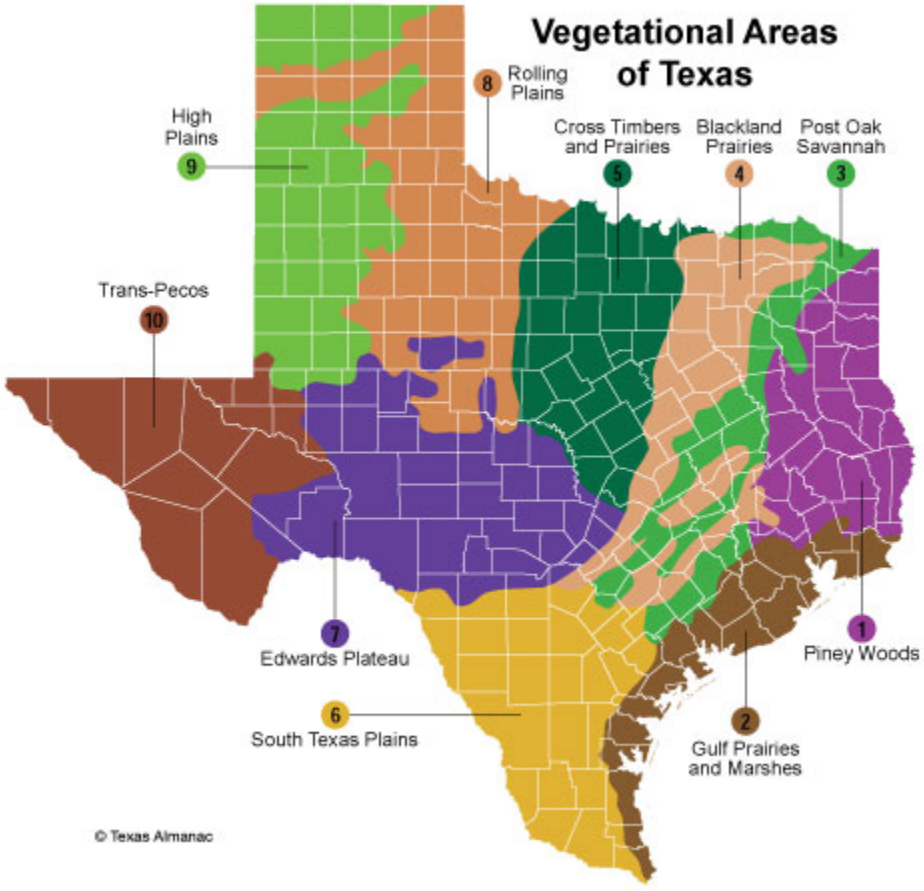
8.0 Prairie Restoration

Before the pioneer movement, healthy North Texas prairies were dominated by several grasses: little bluestem, big bluestem, sideoats grama, indiangrass, and buffalo grass. These species and many of the wildflowers that grew alongside them have become extremely rare in North Central Texas. The rich Blackland Prairie ecosystem is largely gone now. Of the original 12 million acres, less than one tenth of one percent remains after more than 150 years of agriculture and improper grazing, followed by suburban sprawl.

Prairies are not only about the plants, they are home to, and vital to a multitude of wildlife, butterflies and beneficial insects. https://www.llela.org/about-llela/habitats/prairie-restoration



https://texasalmanac.com/topics/environment/texas-plant-life

What is the goal?

Restoration of prairie, in both large and small areas.

Steps to restoration

What do we want?

- Wildflowers
- Grasses
- Combination

What do we have?

8.1 Conduct a Site Assessment

Learn as much about your site as possible. This will help to determine which native species are best suited for the project.

- Is the soil sandy, silt, clay, or loam? Sandy soils are dry and don't hold water, silty soils have more intermediate drainage, and clay soils retain water and become sticky when wet. Loam soil is a combination of multiple soil types.
- How well does the site drain water? You can get a good idea of how well the site drains by looking for areas that dry out quickly or hold standing water after a heavy rain.
- Is the site sloped and if so, what direction does the slope face? Typically, north facing slopes are wet and cool, west and south facing slopes are dry and hot, and east facing slopes have a more moderate temperature and moisture level.
- How much sun does the site get? Most prairie plants need at least half a day of sun to thrive. If the site is shady, plan to plant savanna or woodland species.
- What is currently growing on the site? If there are already native species growing on the site, you may want to consider inter-seeding into the existing vegetation to enhance the site and protect the plants that are already there. If the site is overgrown with invasive species, plan on killing undesirable vegetation before planting. It is crucial to eliminate the competition if you are to have a successful restoration project.
- How large is the site? Area can be calculated by multiplying the length times the width. There are 43,560 square feet in 1 acre. It's a good idea to estimate the area slightly larger than it actually is. It's much easier to plant a little extra seed than to run out.

How do we get there?

- Plant List
- Mechanical removals (Selective Trees/ Invasive Species Removal)
- Mow/Scalp
- Herbicide application
- Ripping/Tilling

8.2 Planting/Seeding

Native seed should only be planted at certain times of the year. Different methods should be used based on the planting time.

- Spring Seeding (May – June): Planting in May or June provides optimum conditions for the establishment of grasses, while many wildflowers may be delayed until the following spring because of their dormancy. Weeds will most likely have started growing in the early spring, so at least one herbicide application will most likely be necessary prior to planting.
- Fall Seeding (mid-October – ground freeze): Fall plantings should be timed so that seeds will stay dormant over the winter and then germinate the following spring. Many of the wildflowers will break their dormancy over the winter which gives them a jump start on the grasses in the spring. This is also a great time to inter-seed wildflowers into an existing native planting.
- Frost Seeding (snow-free periods of winter, as late as mid-March): This method works well if the ground is bare or if the soil was tilled before the ground froze. Seed should be broadcast directly onto the soil. Freezing and thawing throughout the winter will work the seeds into the soil.
- Temporary Seeding (mid-March – April, July – mid-October): Native seed should not be planted during these periods. If soil is disturbed and needs to be stabilized during these times a temporary cover crop of Oats (for spring plantings) or Winter Wheat (for fall plantings) should be planted at a rate of 50 – 100 pounds per acre.
  https://www.shootingstarnativeseed.com/about-natives/restoration-guidelines/

8.3 Seed Specifications

A restoration is not over once the plants or seeds are in the ground and growing. LLELA's restored prairies must be continually monitored. Invasive exotic species are especially problematic. Johnson Grass, King Ranch Bluestem, Nodding Thistle, Queen Anne's Lace, and Japanese Brome are just a few examples of plant species which are not a part of our native prairies. These aggressive invaders will shoulder out the natives if allowed to grow unchecked. The appearance of these species means additional work

in maintaining the prairie restoration (and they invariably show up, blown in by the wind, carried in on flood waters, or hitchhiking with wildlife). Eventually, native grasses and wildflowers will be established through concerted effort. Once the natives take over, it's much easier to keep the invaders out.

http://takecareoftexas.org/hot-wire/seven-tips-avoid-invasive-weeds-your-yard?fbclid=IwAR2JnZLUD5q9hC-TXco4U7uDGX932w9fTDn4jkIhOX2rIENogkBlmChD6H8

8.4 City Policies and Regulations

The City of Dallas promotes the use of water-wise landscaping and the protection of open spaces for the benefit of wildlife, as green infrastructure, and the beauty and enhancement for our communities.

Dallas Water Utilities Water-Wise Landscaping

Dallas Park and Recreation Sustainable Turf and Prairie Restoration Program

Dallas Park and Recreation Harry S Moss Prairie Restoration

Dallas Park and Recreation Adopt-A-Prairie Program

Article X

The city landscaping and urban forest conservation ordinances provide incentives for owners to establish or restore native prairie sites.

Landscaping – Design options

Section 51A-10.126(b)(8) Conservation.

The applicant may create a conservation area on the property. The conservation area must occupy at least five percent of the lot area. Maximum of 25 points.

(A) Option 1: Tree preservation in the development impact area. Large or medium trees maintained in the development impact area may be used to meet design option requirements and to meet the requirements for site tree credit in Section 51A-10.125. The trees must be protected and maintained in areas required by this article. Two points for each tree up to a maximum of 10 points. Significant trees may attain five points.

(B) Option 2: Habitat preservation. The applicant must preserve existing healthy native and mixed species grassland or woodland areas. Five points.

(C) Option 3: Habitat preservation and restoration using an active management plan. The applicant may create or restore natural habitat conditions if designed and implemented by a qualified professional. Site maintenance must be continual for the purpose of sustaining the vegetated area. The option may be combined with low impact development design for the drainage functions of the property. 10 points.

(D) Option 4: Habitat preservation and restoration - adjacent to primary natural areas. The applicant may preserve and restore land areas adjacent to wetlands, creeks, floodplain, and slopes which help protect creeks, habitat, slopes, and woodland in primary natural areas from the site construction. This option may be combined with pedestrian amenities. The area must be at least five percent of building site area. 15 points.

Tree Mitigation Reduction

We see the options again in the Alternative Methods of Compliance in **Section 51A-10.135** with Habitat Restoration and in the Sustainable Development Incentives (SDI) to provide Green Points for tree mitigation reduction.

(c) Habitat preservation and restoration areas.

(1) Habitat preservation and restoration areas that are established to provide a dedicated open landscape area for native flora and fauna habitat preservation or restoration may be credited toward tree mitigation.

(2) To receive credit, habitat preservation and restoration areas must be a minimum of 1,200 square feet of contiguous area, as shown on a landscape plan.

(3) Credit will only be given for a maximum of 2,400 square feet of habitat and preservation area or 20 percent of the tree canopy cover goal for the property, as determined by the street typology of the adjacent street in Section 51A-10.135(d)(2)(A), whichever is greater.

(4) Every 1,200 square feet of habitat preserved that is not under a tree canopy may be counted as 12 diameter inches of tree replacement credit.

(5) These areas must be actively monitored and managed to be fully sustained as a protected habitat area including compliance with a maintenance plan provided to the building official.

Sustainable Development Incentives (SDI)

(v) Conservation through tree preservation or habitat restoration. 20 points maximum.

A building site must have a minimum of 10 landscape design option points to qualify. Conservation or preservation programs on the tree removal property may qualify for credits where primary natural areas and secondary natural areas are retained for conservation purposes. Each individual area must be identified on the landscape plan and must be a minimum of five percent of the building site.

(aa) Habitat preservation. Five points. The applicant must preserve existing healthy native and mixed species grassland or woodland areas.

(bb) Habitat preservation and restoration using an active management plan. 10 points. The applicant may create or restore natural habitat conditions if designed and implemented by a qualified professional. Site maintenance must be continual for the purpose of sustaining the vegetated area. Five additional points is available for each additional area.

(cc) Habitat preservation, restoration, and maintenance of natural forest edge using an active management plan - adjacent to primary natural areas. 15 points. The applicant may preserve and restore land areas adjacent to wetlands, creeks, floodplain, and slopes which help buffer the protected creeks, slopes, habitat and woodland in primary natural areas from the development impact area. An additional five points may be allotted if 90 percent of the development impact area boundary adjacent to the primary natural area is a minimum of 100 feet from the primary natural area.

Resources

Blackland Chapter – Native Prairie Association of Texas

Native Prairie Association of Texas

Guidelines for native grassland restoration projects, Jim Dillard, TP&W

Native grassland restoration in the Middle Trinity River Basin, Texas A&M Agrilife

Texan by Nature