

Sept 10 2020

POCKET PRAIRIES FOR FORT BEND SUBDIVISIONS



By Shannon Westveer

Texas Master Naturalist™
Coastal Prairie Chapter



We are all connected to nature
... *through* other living things.

- [Our Need For The Outdoors: The Role of Nature During COVID-19](#) | (JPHMPDirect.com) by Jay Maddock, PhD, et. al. at the companion site of the *Journal of Public Health Management and Practice*, April 30, 2020
- [Spend Time In Nature To Reduce Stress and Anxiety](#) | (Heart.org) by American Heart Association August 1, 2018
- [Houston's Pocket Prairies: Natural Solutions To Unnatural Flooding](#) | (CSMonitor.com) by Henry Gass, Christian Science Monitor, October 1, 2019



We are changing things faster than others in Nature can adapt.

- [North America Has Lost More Than 1 in 4 Birds in Last 50 Years, New Study Says](#) | (Audubon.org) by Jillian Mock of National Audubon Society, September 19, 2019
- [What's Causing the Sharp Decline in Insects, and Why It Matters](#) | (e360.Yale.edu) by Christian Schwägerl, July 6, 2016
- [How Houston Could Reduce Storm Flooding](#) | (ConservationFinanceNetwork.org) by Kat Friedrich of Conservation Finance Network, February 21, 2018



“ “ Start where you are,
use what you have,
do what you can.

~ Arthur Ashe



Chamaecrista fasciculata
Partridge Pea

WHAT IS A POCKET PRAIRIE?



A Nature Garden
Neighbor *and* **HOA Approved**



Built for Insect and Wildlife Diversity
Native Grass and Seasonal Flowers



Minimal Inputs – You are ‘Steward’
Managed by Nature



EVOLUTION: SEX IN THE GARDEN

Plants native to the Texas Coastal Prairie evolved alongside their pollinators over tens of millions of years.

To welcome wildlife, first change some outdated habits.

1. **Stop using anything-icide.** 'icide' = to kill.
There is no species-specific killing potion.
Broad-spectrum products kill indiscriminately.
2. **'Pretty' is subjective.** Interfering with plant or animal traits or their environment to make something that suits only *our* eyes can have catastrophic consequences to the beings who depend upon them *for their very lives*.
3. **Leave your leaves.** Plants make leaf litter for a reason. Throw twigs or leaves into flower beds rather than into your trash can. Conserving on-site carbon also conserves soil, the foundation for all terrestrial life ... including us.
4. **Steward, but don't micro-manage.** Think 'big picture,' say, how something might look from your neighbor's house across the way or from the street. Close-up, however, nature prefers things a little less ... tidy.



Fort Bend's native bees are the most efficient pollinators. They are generally ground-nesting and solitary species.*

Verbesina encelioides
Cowpen daisy

- **Furrow Bee** (*Halictus*)
= 2 species
- **Carpenter Bee** (*Xylocopa*)
= 5 species
- **Leafcutter Bee** (*Megachile*)
= 8 species
- **Longhorn Bee**
(*Mellisodes* and *Svastra*)
= 4 species
- **Bumblebee** (*Bombus*)
The only social *and* native bee!
= 2 species



* The more well-known social **Western honeybee** is an introduced species to North America, cared for through animal husbandry, and evolved to consume the pollen of foreign plant species we brought along with them – planted as our food.



Giant Swallowtail



Forceps-tail Dragonfly



Monarch Caterpillar



Robber Fly (with Bee)

NATIVES = DIVERSITY



**NATIVE
PLANTS**



**INSECT
POLLINATORS**



**INSECT
PREDATORS**



**PLANT
HARVESTERS**



STILL WANT A PRAIRIE?

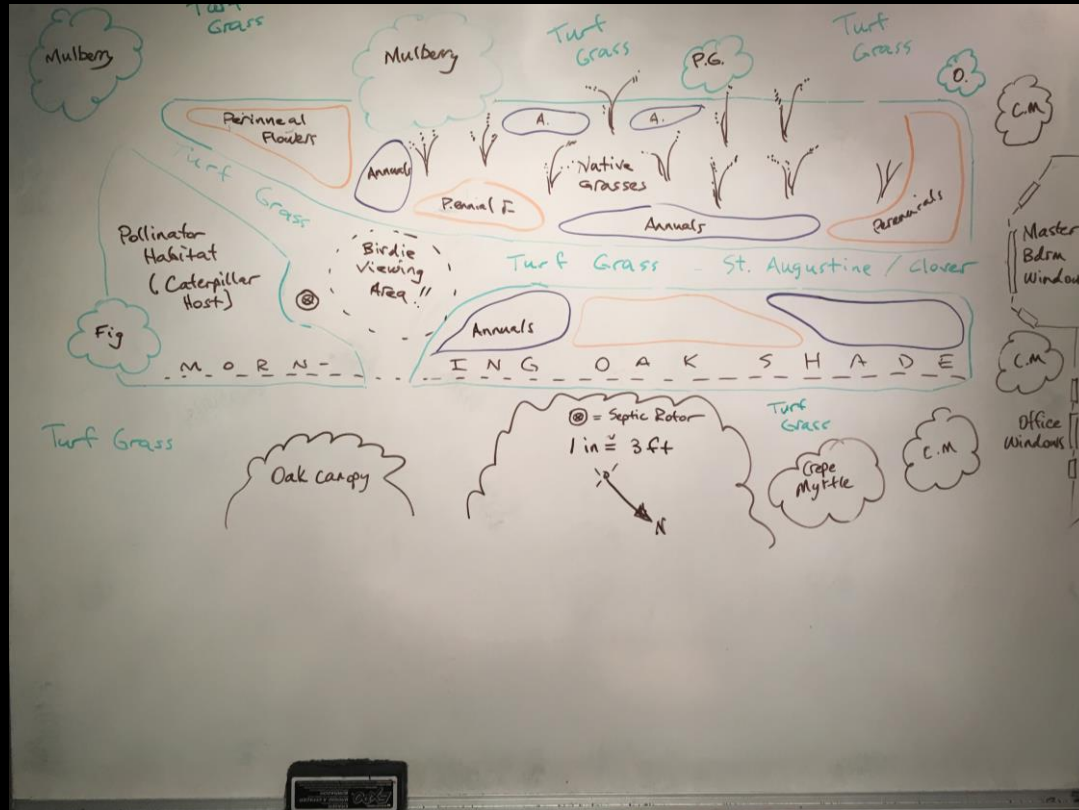
Let's get to work!

STEP 1: PLAN AND DREAM

- **Choose your site. Full sun.** No shade, trees, or competing grasses.
- **Picture your garden.** Big or small, **draw up** your prairie vision. Think of you first, then your neighbors and the HOA, and next spring.
QUESTIONS: Back or front yard? Will it be formal or informal in look? What about paths? Is it free-standing or up against a fence? Will it be bordered with materials like stone, brick, edging? Or St. Augustine kept edgy?
- **Choose native grasses foundation. 2-4 Species**
Best to purchase these in 1-gal pots to get roots well-established months before the first hot, dry summer. Some will start from seed easily.
- **Choose native flowers. 5-7 Species**
These can be planted as seed or in 1-gal pots, 4" trays or a combination of all three; it depends upon your budget.
- **Find a mulch source.** Bags of leaves are best, but wetted cardboard and chipped mulch will work nicely too. Hoard it until you need it.



Backyard Pocket Prairie: Beginnings



May 2019
Drawn up, how we'd use it



May 2019
Perimeter outlined



Select 25% of Native Plants as Grass Species*

- Eastern Gamagrass (illustrated)
- Little Bluestem
- Gulf Muhly
- Yellow Indiangrass
- Switchgrass
- Brownseed Paspalum
- Marsh 'Knotroot' Bristlegrass

* Suburban **St. Augustine** and **Bermudagrass** turf grasses are introduced species. Non-natives do not nurture local wildlife.



GRASSES – FOUNDATIONAL



Nature's *best* design

Drought tolerant and flood tolerant



NO fertilizers; only soil biology

Cut once or twice per year



Scrubs CO₂ out of the atmosphere

Sequesters carbon into the soil

Select 75% of Native Plants as Flower Species*

- Indian Blanket 'Firewheel'
- Texas Bluebonnet
- Black-eyed Susan
- Lemon Beebalm
- Rattlesnake Master
- Gulf Vervain
- Cowpen Daisy
- Scarlet or Giant Blue Sage
- Partridge Pea (*Host plant!*)
- Aquatic Milkweed (*Host plant!*)
- Passionvine (*Host plant!*)

* Flowers purchased at most garden stores are cultivars –created by humans. Pollen and nectar are usually **not sufficient to feed wildlife.**

FLOWERS – SHOWY BEAUTIES



Conditioned to rainfall boom or bust
Drought tolerant and heat tolerant



NO fertilizers, *only* soil biology
Share seeds with your neighbors!



Food for wildlife – beauty for *YOU*
Season-to-season bloom ... repeat!

STEP 2: TURN GREEN BROWN

OPTION A: Solarizing. 8-10 Weeks

- Memorial Day weekend. You'll want to kill the grass *really* good and **use the entire summer** to get that right.
- Mark the area for your garden, then scalp it.
- Water area it well. Cut perimeter with a sharp shovel, flip soil and existing turf back, tuck **clear 4-mil plastic** into the ground flush with surface, no leaks. Runaway greenhouse effect will strangle the plant.
- When plastic fails, take it up; cover with brown, **MULCH, MULCH, MULCH.**

OPTION B: One-time use Herbicide Treatment. 2-3 Weeks

- Labor Day weekend. Let the grass grow *good and tall*, but not seeding.
- Spray with glyphosate, a topical photosynthesis inhibitor (it does not affect soil biology). In a week, if it is not clearly dead all over, spray once more.
- To prevent aggressive grass from re-emerging, **MULCH, MULCH, MULCH.**





May 2019
Covered!



May 2019
Cutting Edge



June, July 2019
No more clover to forage ...

STEP 3: PLANT THE PRAIRIE!

Plant the grasses and/or flowers as starts. October 1 – December 1

- Dig a hole slightly bigger than the pot, water the hole well.
- Place the plant in the hole *slightly high* (it will settle) and crumble the remaining soil around the roots.
- Water around the root ball well and step lightly all around to remove any air pockets which will dry out any exposed roots. **REPLACE MULCH.**

Plant seeds and/or seed mix. Make sure seed is from Texas and **'Coastal Prairie'** mix. Seeds must make contact with soil to germinate, so move aside any mulch.

- Moisten soil. Lay seeds by hand, pressing into soil not too deeply.
- Leave soil exposed until seeds have sprouted, then *replace mulch a little at a time* around basal rosettes. Cover, but don't smother.

Keep all watered until plants are established. Thereafter, rainfall only.





August 2019
Take up plastic, replace with mulch



September 2019
Plant starts



November 2019
Seedlings show



RESTORE SOIL
BIOLOGY

PLANT NATIVES
(POTS AND SEEDS)

October 2019
Soil biology returns, starting with fungi saprophytes

STEP 4: WAIT, WATCH .. WOW!!

A whole lot of nothing will look like it's happening, but the 'keeping' is key.

- Keep on top of the previous turfgrass; **dig it up**.
- Keep the edges around the prairie; don't allow turf encroachment.
- Keep seedlings (as basal rosettes) and pot-starts watered well.
- Keep the soil covered; **add mulch** around seedlings a little at a time.

Look for signs of wildlife.

- As soon as the first flowers open, **here come the wildlife!**
- As the bees arrive, so will many others.
- Walk your prairie daily and learn to read its rhythms. Name things with iNaturalist.

BOOM. The prairie bursts into bloom end-March to early-April, succession blooms through autumn. The cycle repeats each year with minimal effort on your part; *not zero-work*, but a more satisfying and purposeful kind of work. Winter stalks and stems become habitat for wildlife. **Think 'Stewardship.'**



April 2020



March 2020



April 2020



February 2020



May 2020



Nature needs ...

- ❑ Respect, Appreciation
- ❑ Habitat Restoration
- ❑ 'Bee lines' to counter urban fragmentation



Verbena xutha
Gulf vervain

Nature
needs **YOU.**

More Resources

- [Build a Pocket Prairie!](#) | Katy Prairie Conservancy (the template that was followed in this pocket prairie project)
- [Bring Back the Pollinators: 5 Ways to Increase Nesting Habitat For Native Bees](#) | Xerces Society, the native bee experts
- [Field Guide To Common Texas Insects](#) | Texas A&M AgriLife Extension (complete guide ... start with butterflies and bees!)
- [Native Pollinators and Private Lands](#) | Texas Parks and Wildlife Dept.
- [Pocket Prairie Project](#) | DirtNKids Blog (Shannon's digital playground)



PRAIRIES HEAL ALL



Shannon Westveer
TMN - Coastal Prairie Chapter
Shannon@coastalprairie.org

