Fredericksburg Nature Notes

Newsletter of the Friends of the Fredericksburg Nature Center

May, 2023 Volume 4 Number 5

http://fredericksburgnaturecenter.com

Editor's Musings: Lonnie Childs

Dear Friends of the Fredericksburg Nature Center,

On May 2nd, I presented to the City Council our Concept Phase proposal to build an Interpretive Center at FNC. The proposal was positively received by the Council, and a resolution was passed unanimously to approve our proposal which allows us to proceed with an active fundraising campaign and proceed with engaging an architect to initiate the Design phase. Learn more about it on page two, and look for more information about upcoming activities in next month's issue. Onward!

At FNC, the Spring rejuvenation is evolving at a pace gated by the stingy rainfall that we have been granted at the park. To our surprise two weeks ago, the park experienced a minor flood event as Live Oak Creek rose out of its banks and scoured the trail slightly, despite the fact that the park had enjoyed only a slight rain. Whence did all that water come? From heavy rainfall northwest of town in the upper watershed of Live Oak Creek. Events like this reinforce the interconnectedness of our Pedernales watershed and each other—both above and below ground. As the Hill Country Alliance terms it—One Water. Our actions upstream affect our neighbors downstream, so strive to be a good neighbor.

The Pollinator Garden is entering into its spectacular mid-Spring bloom phase, and is literally abuzz with bees. The Trail Crew just finished repairing and clearing the trail and removing some head-whacker limbs. It even appears that the overly optimistic rain forecasts may come to fruition this week. There is no better time than May for a walk in the woods and a frolic in the garden!

Happy Nature Trails!

Lonnie

In this issue:

OUR MISSION STATEMENT: ***"To enhance, protect and interpret the natural ecosystems of the Texas hill country while providing educational and quality of life opportunities for members of the community and visitors."***

FFNC News—Our Intrepretive Center Project is a Go

Fredericksburg City Council Gives the Green Light!

The City Council signaled their approval of our proposed Interpretive Center project by unanimously passing a resolution that gave conditional approval to our Concept Phase proposal which in turn provides us the authority to initiate an active fundraising campaign and begin our Design Phase.

FFNC President, Lonnie Childs, presented a summary of the actions taken in the Concept Phase of our project to gather community input and to collect best practices from nature centers around central Texas. The outcome of the Concept Phase was a scope statement that details function and features of a proposed facility as well as a long list of ideas for future environmental educational programming, specifically focused on children's programs. Other elements of the presentation included project cost estimates, a tentative schedule, and a proposed operating model for the facility owned and operated by Fredericksburg Parks and Recreation with continued support and assistance from FFNC.

The presentation was received well by the Council, and Mayor Jeryl Hoover expressed enthusiasm for the potential of a nature center facility.

The next steps for the project include initiating a fundraising campaign and engaging an architect to begin the design process. Look for upcoming news about a kickoff event.

Many thanks go to our Advisory Committee, Andrea Schmidt—Fredericksburg Director of Parks and Recreation, and Councilmember Emily Kirchner for their contributions and assistance with our project.

Tuesday Fundays at FNC are in full Spring swing!

We continue to perform **Trail Work** with ongoing maintenance and improvement projects. **Gardening Activities** are in full swing with cleaning, trimming, and weeding.

Typical tasks involve gardening skills and trail maintenance, but no experience is necessary. Use it as a learning opportunity. Work in whatever area you choose for as long as you choose. We work some and have a lot of fun outside in the beauty of nature. It's good exercise for the body and great therapy for the soul.

If you would like to join us at the park, we would love to have you!

Work sessions are typically scheduled for **Tuesday at 8:30am.**

Contact Gracie Waggener at gwaggener@flow-apps.com to receive a weekly email notification about scheduled work tasks for the coming week.

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"The hum of bees is the voice of the garden."

Elizabeth Lawrence

Our June Program is full of Buzzz!

June Program: Native Bees and Bee Habitat

FFNC Nature Series, Part III

Photo by Mildred Dworksy

Presenter: **Molly Keck, AgriLife Extension**

When: **Friday, June 16, 2023** **10:00a-12:00 Noon**

Where: **AgriLife Extension Office**
38 Business Court – Fredericksburg, TX

AT23-065

In this workshop, learn about our Native Bees, their preferred habitat, and their importance as pollinators in a healthy ecosystem. You will also gain information on how to promote healthy Native Bee populations in your backyard and even build your own bee house.

Seating is limited for this free program (donations are accepted), so please pre-register as soon as possible by contacting Gracie Waggener at gwaggener@flow-apps.com.

About Our Speaker

Molly Keck is an Integrated Pest Management Program Specialist with Texas AM AgriLife Extension in Bexar County, Texas (San Antonio). Molly is a graduate of Texas A&M University with a Bachelor's and Master's degree in Entomology and is a Board Certified Entomologist and hobbyist beekeeper.

Molly has been working for Texas A&M AgriLife Extension Service since 2005 and specializes in urban and structural entomology, providing pest management and identification programs to Master Naturalists, Master Gardeners, the general public, school-age students, and pest management professionals.

"Nothing has such power to broaden the mind as the ability to investigate systematically and truly all that comes under thy observation in life." **Marcus Aurelius**

FFNC Activities at the Park

Become a Citizen Scientist

On April 28th, FFNC members Patti Guin, Jane Crone, and Lonnie Childs participated in the City Nature Challenge with a bioblitz (i.e. recording as many species as possible) at FNC. Using the iNaturalist app, they photographed and identified species within FNC and LBJ Park.

Our species are recorded within the iNaturalist database under the project named **Nature of Fredericksburg Nature Center and Lady Bird Johnson Park.** Anyone who visits the park or simply wants to inquire will have a digital window via their smartphone or computer into the recorded species at the park. The technology also enables anyone visiting the park to become a citizen scientist by using their iNaturalist app to identify and record the species that they see.

Become a Citizen Scientist! For more info., go to https://www.inaturalist.org/

Lonnie Childs and Jane Crone identify & record species via the iNaturalist app. Photo by Patti Guin

FFNC hosted a guided hike for the general public on May 6th. Sixteen nature lovers turned out to enjoy an informative & entertaining hike led by FFNC Board member and Texas Master Naturalist, **Billy Guin. Guided hikes will be offered again in September & October.**

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"Observation, not old age, brings wisdom."
Publilius Syrus

Observations Along the Trail

Little-leaf Sensitive Briar
Mimosa microphylla

Touch the leaves, & they recoil in defensive protection.

Common Buckeye
Junonia coenia

Perhaps it is "puddling" - drinking water, and extracting minerals from damp puddles on wet sand.

Prickly Pear
Opuntia engelmannii

Humans may not prefer this cactus, but check-out any bloom, & you'll find an insect rolling in a blanket of pollen.

Photos by Dot Maginot

"Fungi constitute the most poorly understood and underappreciated kingdom of life on Earth."

Michael Pollan

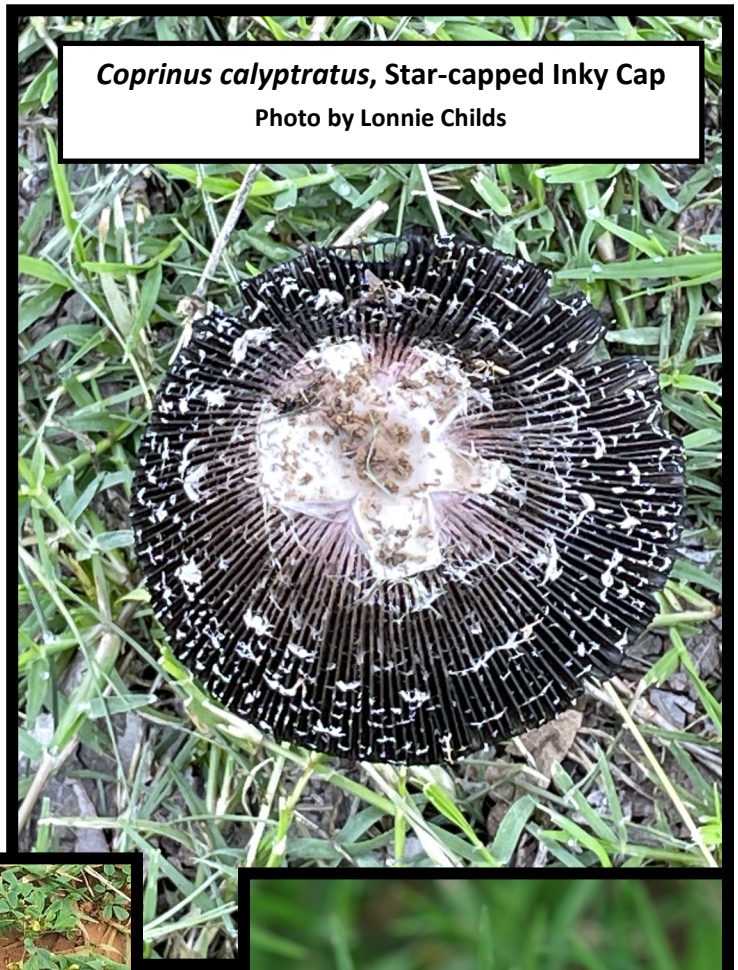
Mushrooms at FNC

What is a mushroom? A mushroom, aka toadstool, is the reproductive structure produced by less than 1% of fungi. It produces millions of microscopic spores that form in the gills or pores underneath the mushroom's cap and are disbursed by wind or water.

What are fungi? They can be single celled or very complex multicellular organisms who serve as important decomposers in the carbon cycle. They are not plants but rather comprise their own biological kingdom— fungi, plants, animals, etc.

For those with lawns, you will typically see mushrooms of the "puffball" form which encompasses many different genera and species.

At FNC, we host three interesting mushroom species in the ***Coprinus*** genus aka as 'Inky Caps'.



***Coprinus calyptratus*, Star-capped Inky Cap**
Photo by Lonnie Childs

***Coprinus sp.* , Inky Cap**
Photo by Bill Lindemann

***Coprinus comatus,* Shaggy Mane, or Lawyer's Wig**
Photo by Lonnie Childs

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"Sometimes it is the quiet observer who sees the most."
Kathryn L. Nelson

Blumen at the Pollinator Garten

Pink Evening Primrose
(Oenothera speciosa)
nestled amongst
Yarrow *(Achillea millefolium)*

Peekaboo!

Texas Star Daisy
(Lindheimera texana)
This genus is named after Ferdinand Lindheimer, Father of Texas Botany.

Anacacho Orchid
(Bauhinia lunarioides)
Not really an orchid, it is a small tree known only to a few canyons in western central Texas including Gillespie County.

Photos by Lonnie Childs

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"Always be on the lookout for the presence of wonder."
E.B.White

Blumen and Flutterin' at the Pollinator Garten


Photo by Lonnie Childs


Photo by Dot Maginot

At left, the ever-present **Queen** butterfly ***(Danaus gilippus)*** slurps it up at her favorite nectar bar, **Gregg's Mistflower *(Conoclinium greggii).*** On the right, an **American Painted Lady (*Vanessa virginiensis)*** *enjoys some sustenance while resting on a cloud of Yarrow.*

Agarita *(Mahonia trifoliolata)* berries make a tasty jelly.


Photo by Dot Maginot


Photo by Lonnie Childs

Mealy Blue Sage (*Salvia farinacea)* is a very hardy native perennial wildflower that deer mostly avoid. Normally, it displays deep blue flowers, but the white variant is occasionally seen in the wild, & its' white cultivar is sold in nurseries. It is a great nectar plant for Hummingbirds & Butterflies.

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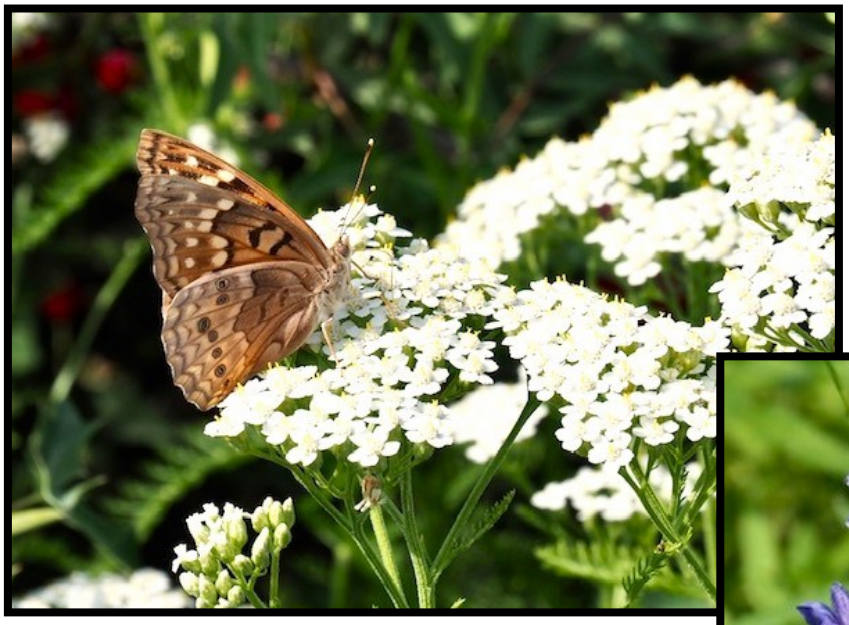
"I'm not smart, but I like to observe. Millions saw the apple fall, but Newton was the one who asked why."

William Hazlitt

Flutterin' and Buzzin' at the Pollinator Garten



Tawny Emperor
Asterocampa clyton on Yarrow

Normals foods are tree sap, rotting fruit, dung, carrion. Tawny Emperors almost never visit flowers!

Pipevine Swallowtail *(Battus philenor)* on Mealy Blue Sage .

One of our more common visitors to the Pollinator Garden. It prefers flowers in pink, purple, & orange.

Thread-waisted Sand Wasp
(Ammophila sp.) on Yarrow

A solitary wasp that lays its eggs in a hole in sandy soil. A paralyzed caterpillar is placed inside with it which the hatched larva will eat. The hole will be covered for protection.

Photos by Mildred Dworsky

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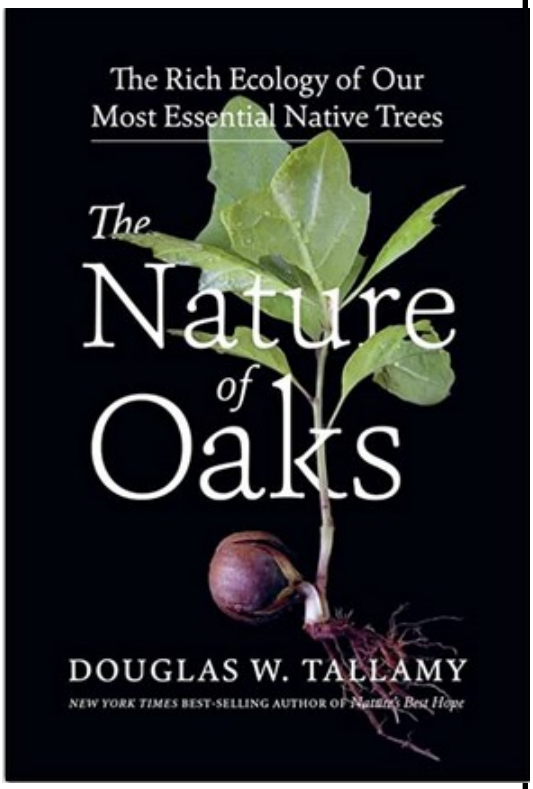
"I feel a great regard for trees; they represent age and beauty and the miracles of life and growth."

Louise Dickinson Rich

Feature Story: The Oaks of FNC

by Lonnie Childs

Oak trees stand as one of our most prized species to host on our property. Their majestic stature and durable structure exhibits visual beauty, provides shade that tempers our unrelenting summer heat, makes for sturdy furniture, and even contributes to our cultural heritage as markers for historical events—treaties, hangings, etc. In his book, **"The Nature of Oaks: The Rich Ecology of Our Most Essential Native Trees,"** Doug Tallamy posits that Oaks offer a cornucopia of ecological value beyond human uses that make them perhaps the most important tree genus in North America. According to Tallamy, Oaks support more life-forms than any other North American tree genus, providing food and/or protection for a diverse range of faunal species from insects to birds to mammals.



Oaks comprise the *Quercus* genus (part of the Beech family), which include 90 species in North America and about 435 globally with another 180 hybrids recorded. Oaks can be found in wet to dry sites, in mountains, coastal areas, and every habitat in between. They serve as the major anchoring species in the Edwards Plateau forested areas and even manage to grow in our thin calcareous soils on hilltops.

Oaks and Caterpillars. Tallamy, who is an entomologist, was alerted to the extraordinary ecological significance of Oaks when his research revealed that they support 897 caterpillar species in the US, more than any other tree species. He articulates that caterpillars are foundational to the food web and refers to them as *"repurposed leaves that can walk."* Furthering his research, Tallamy discovered that of the food eaten by insects, birds and other animals, 75 percent comes from a few key genera with oaks leading the list. Birds forage longer in oaks likely because of the prevalence of caterpillars. So when you fret about the horrid masses of Tent Caterpillars or Leaf-rollers that sometimes invade our Oaks, just remember that the Birds are feasting at our seeming expense.

"Oaks are not just another plant." A single oak can produce three million acorns in its lifetime which are full of protein, fat and carbohydrates (I.e. deer food!). All those leaves that a mature tree drops annually results in litter which serves as habitat for beneficial organisms (worms, insects) and in turn feeds the soil microbes upon decomposition (leave those leaves!). The tree's canopy and root system serve an important role in water infiltration, slowing rainfall to allow percolation in lieu of run off, and purifying it in the process. Oak trees also provide reservoirs for carbon sequestration As Tallamy asserts, *"Oaks are not just another plant."*

"Every oak tree started out as a couple of nuts who stood their ground."

Henry David Thoreau

Feature Story: The Oaks of FNC


Photo by Doug Tallamy

Oaks and Jays developed a mutualistic relationship as they evolved together about 60 million years ago. Jays evolved to depend on acorns as a food source and even developed a small hook at the tip of their bill that "is designed to rip open an acorn husk," Mr. Tallamy writes. The birds have an expanded esophagus (a gular pouch) that can hold up to five acorns. Jays will bury acorns in different places that they will return to later, unearth, and eat. They will forget some of those locations, thus giving the acorn the opportunity to germinate and grow, thus their mutualistic deal—food for acorn dispersal.

The Oaks of FNC. At FNC, we host five of the most common Hill Country Oaks. Here is a preview of each.

Plateau or Escarpment Live Oak *(Quercus fusiformis)*


Plateau Live Oak

Photo by Lonnie Childs

This is our largest Oak with the iconic crown that ranges in height from a shrub to a 40-50ft tall tree with an even larger spread and that can live to be up to 500 years old. Although some taxonomists previously classified it as a variety of its coastal cousin, *Q, virginianus,* our Plateau species is much hardier and drought tolerant.

Plateau Live Oak can grow in our shallow, calcareous soils, but will be limited in height. Deeper soils allow for the larger specimens. Its' roots are shallow but spread horizontally in a broad pattern (i.e."pancake roots")that provides for its tenuous grip on rocky terrain. However, this root growth pattern promotes inter-twining of roots with neighboring trees which enables the spread of the Oak Wilt fungus through their root systems from tree to tree.

Oak Wilt serves as a biological control on Live Oaks and has become very effective in modern times, since human populations limited wildfires which in turn allowed the somewhat

"When the oak is felled the whole forest echoes with it fall, but a hundred acorns are sown in silence by an unnoticed breeze."

Thomas Carlyle

Feature Story: The Oaks of FNC

out of control growth of more oak mottes. We created the opportunity for Oak Will to thrive. Large mottes of ghostly dead trees sadden a tree-lover, but they are simply evidence of the cycles of Mother Nature.

The stately species often exhibits a short, gnarly trunk with similar branches reaching out horizontally and according it an other-worldly hobbit appeal. Its smaller, leathery green leaves have mildly lobed spines and appear all year in defiance of its deciduous status. It does drop its leaves in March but only as new ones appear, giving it an evergreen illusion. And all those golden tassels that litter your yard and stimulate sneezing, they are called "catkins" which are clusters, or inflorescences, of male flowers.

We have magnificent examples of this species at the entrance kiosk and in the Live Oak forest along the Live Oak Trail.

Photo by Lonnie Childs

Post Oak *(Quercus stellata*) Our straight trunked oak was used for log cabin construction by early settlers. One of the reasons that John Meusebach reportedly chose the location of Fredericksburg was the prevalence of Post Oaks.

Post Oaks prefer deeper sandy soils which is why they thrive in the Pedernales River valley. They are found in habitats that are often referred to as Post Oak Savannahs which are characterized by dispersed Post Oaks with midsize grasses and forbs growing underneath. Historically, periodic wildfires would keep brushy woodland species from taking hold underneath whereas the thick bark of Post Oaks could tolerate fire and survive. On the Live Oak Wilderness Trail at FNC, we have an example of a micro Post Oak Savannah that has been overtaken by brushy species.

Post Oaks can reach heights of over 50 ft with crowns almost as wide. It is the most common oak in Texas and is the primary tree inhabiting both the Post Oak Savannah and Cross Timbers eco-regions that sandwich the Blackland Prairie east of IH35 and stretch from north to central Texas.

While not immune to Oak Wilt, Post Oaks appear to be much less susceptible at least in our region. They do suffer another equally devastating fungal blight known as Hypoxylon Canker which strikes stressed trees where the moisture content of their wood has dropped. Early warning signs are a reduced crown, but the more obvious telltale sign is when the bark begins to slough off, and death becomes imminent.

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"Oak trees come out of acorns, no matter how unlikely that seems. An acorn is just a tree's way back into the ground. For another try. Another trip through. One life for another."

Shirley Ann Grau

Feature Story: The Oaks of FNC

Blackjack Oak *(Quercus marilandica)* This species is kind of the ugly cousin of the Post Oak in that they both enjoy the same habitat, although Blackjack will be much less populous. They are mdi-sized trees with short, blackish trunks that separate into many dense, contorted limbs, many of which are dead. This yields a messy, unkempt appearance, and hence my earlier ugly comment. Occasionally, you find an attractive specimen. At FNC, ours grow in the Post Oak Savannah habitat at the far end of the Live Oak Wilderness Trail.

Chinkapin Oak (*Quercus muhlenbergia)* Although we only have a few specimens competing for sunlight in our Live Oak motte, still they stretch higher into the sky. This species can reach 70 ft tall and produce a stately tree if growing in well-drained limestone soils with adequate water. The larger, healthier specimens that I have seen were situated along riparian areas or just upland where the water table was accessible. These trees are not prevalent but are not uncommon in an area stretching from northeast to central Texas and on to northeastern Texas. If you are looking for a specimen oak to plant in this area, Chinkapins appear to be less susceptible to pests and disease. Chinkapin acorns supposedly taste the sweetest of all our species, but that is an unverified report coming from a squirrel source.

Spanish or Texas Red Oak *(Quercus buckleyii)* This species grows from north Texas to the Edward's plateau and shares a common name and is often confused with Shumard's Red Oak which grows east of IH35. The Texas Red Oak is a mid-sized tree that exhibit nice form in good soils, but in the Hill Country, it is frequently found inhabiting the north or east sides of ridges in thin soils with poor water availability, and so does not achieve its genetic potential. In those conditions, it will be a multi-trunked shrub to small tree.

Texas Red Oaks earn their name and our admiration because of their fall display of red to orange foliage frequently offset against a backdrop

Identification of Oaks by leaf only can be confusing. Emerging leaves will not be fully formed & vary in appearance from adult leaves. You may look at a tree, & see significant variability. Oaks can hybridize which may also occasionally complicate the identification. Identification should also take into consideration factors such as size, form, location, habitat, etc

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"The true meaning of life is to plant trees, under whose shade you do not expect to sit."

Nelson Henderson

Feature Story: The Oaks of FNC

of dark green Juniper on our hillsides. At FNC, they can be found mostly hugging the steep bank above Live Oak Creek.

The Future of Oaks in the Hill Country. You've read the virtues of the Quercus genus as extolled by Doug Tallamy. They are vital arboreal species in our ecosystems providing ecological services to a variety of faunal species including humans. Oak Wilt is currently decimating our Live Oaks, although the species will survive the fungal blight as they have for millennia once it exhausts its available victims, and no doubt there are Live Oak populations that have developed some resistance. Hypoxylon Canker is taking a toll on Post Oaks, although must less dramatically than the impact of Oak Wilt.

The most significant impact rests not with our fungal diseases, but rather with our four-legged deer friends that can be not so dear when it comes to the health of our oaks. In pursuing their evolutionary destiny without any significant biological controls on their populations, they devastate our shrubby and arboreal species. Left to Mother Nature's devices, the deer will eventually eat their way to starvation and resultant population decline when their food sources are sufficiently eliminated.

Where have all the Oaks gone? Look around your property. Do you see any seedlings or juvenile oaks? Where are the successors to today's adult trees? If you could live another 100 years or so, you might see the oaks decline and retreat and perhaps the grasslands win back some territory in the ongoing battle between grasses and woody species for space. The Hill Country might still be a mosaic of open grasslands and shrubby woodlands, but its complexion would be altered, and oaks will suffer the consequences.

What can you do? Protect an oak(s). Plant an oak(s). The first action that you can take is one of containment. Look around your property, and find some appropriately located seedlings, and protect them with an exclosure of some sort. Enable the next generation of oaks to have a fighting chance against the marauding deer. If you are horticulturally minded, plant some acorns in pots, and nurse them until they are ready for transplant into your landscape.

Planting oaks has not been a popular choice in recent decades. We either think them common-

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"The creation of a thousand forests is in one acorn."
Ralph Waldo Emerson

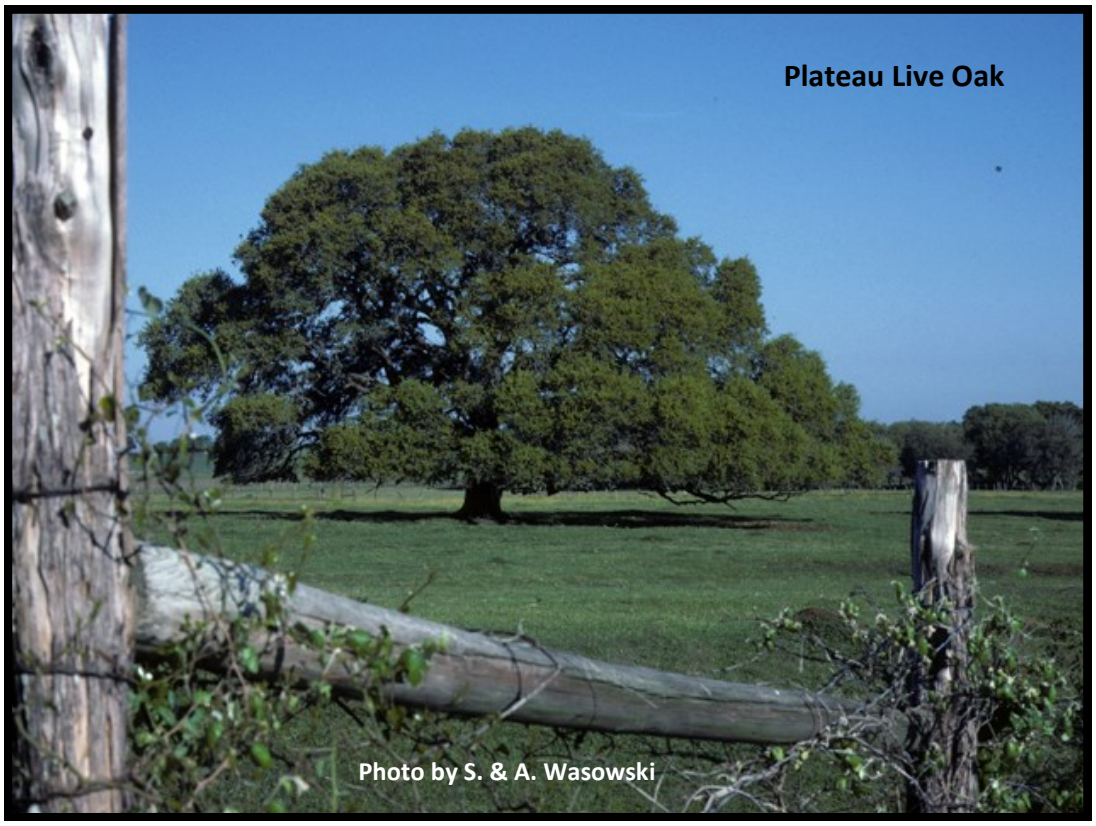
Feature Story: The Oaks of FNC

place, or worry that planting them will be wasted by Oak Wilt. There are some great planting alternatives to oaks like Cedar Elms, Big-tooth Maples, or smaller specimen trees. But there are still oak choices (classified as white oaks) that are less susceptible to Oak Wilt but provide the stature and ecological value.

Monterey or Mexican White Oak *(Quercus polymorpha)* has been the go to choice for the nursery trade, but its' reputation took a hit with its heavy damage and/or death during the 2021 ice storm. Another great option for a smaller but gorgeous blue tinted species is **Lacey Oak *(Quercus laceyi)*** which is endemic to our area and very hardy. If you have deeper sandy soils, then the **Bur Oak (*Quercus macrocarpa)*** or **Chinkapin Oak *(Quercus muhlenberghii)*** make for great selections and will provide stately qualities equal to any oak species.

Lastly, I would strongly recommend that you only buy Texas native oaks and more preferably species that grow on the Edward's Plateau or surrounding region. My other recommendation is that you purchase your tree from a local nursery that knows the geographic source of the tree and can ensure that it was propagated in our ecoregional conditions and not in Florida. You will greater success with locally grown stock.

Oaks have supported human culture for thousands of years. It's time that we returned the favor!



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"Nature is not a place to visit, it is home."
Gary Snyder

Lindheimer's Morning Glory *(Ipomoea lindheimeri)*
Photo by Patti Guin

Thanks for your Support!

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Comments, questions, or future newsletter submissions can be sent to Lonnie Childs, Newsletter Editor, at lonniechilds@utexas.edu