

Plum Creek Watershed Partnership Public Stakeholder Meeting

Lockhart State Park April 9, 2025

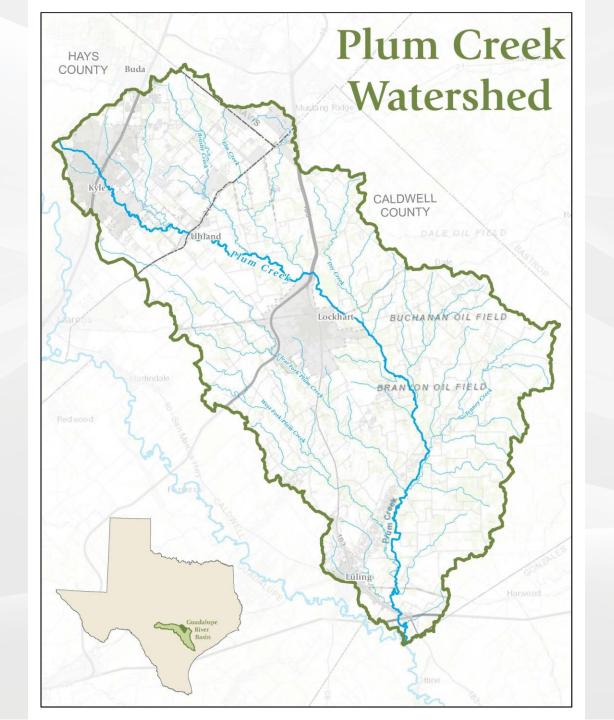
Funding for this effort is provided through a Clean Water Act §319(h) Nonpoint Source Grant administered by the Texas State Soil and Water Conservation Board from the U.S. Environmental Protection Agency.

GBRA.ORG

Plum Creek Watershed

- Spanning 397 square miles of drainage area
- Extends through Caldwell, Hays, and Travis Counties
- Impaired for *E. coli* bacteria since 2004
- Plum Creek Watershed Partnership formed in 2005 to implement Texas's first Watershed Protection Plan







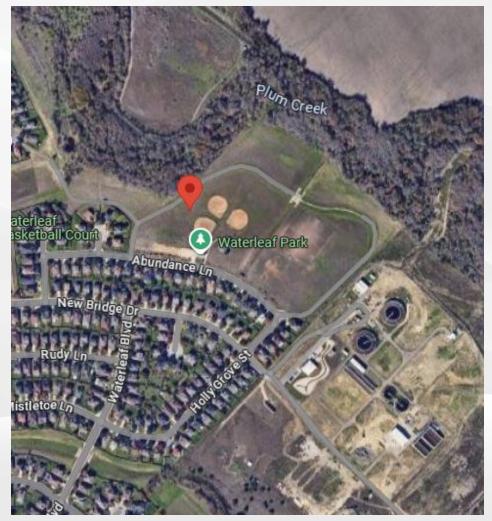
GBRA.ORG

Steering Committee Introductions

Plum Creek Watershed Events

40th Great Texas River Cleanup

- March 1, 2025
- Waterleaf Park in Kyle
- 60 volunteers
- 6,680 pounds of trash collected





40th Great Texas River Cleanup - Kyle







Caldwell Co. Justice Center Rain Garden

- Rain Garden Cleanup: April 26th
- Rain Garden Planting Session: May 10th



Plum Creek Watershed Programs

Feral Hog Trap Loan Program

- Feral hogs cause approximately \$500 million in damages in Texas each year.
- To help manage feral hog populations, the Caldwell-Travis Soil & Water Conservation District is loaning traps to Caldwell County landowners.
- Sponsored by Caldwell-Travis Soil & Water Conservation District and GBRA
- More information, including eligibility and participation guidelines, will be announced soon.



Feral Hog Trap Loan Program





Pig Brig Trap System

Get Involved

Plum Creek Stewards

Volunteer Water Quality
 Monitoring



Plum Creek Page Turners

 Environmental Book Club







Connect with us!

Plum Creek Watershed Partnership

Plumcreekwatershed.org

Sierra Murray

Watershed Coordinator

Smurray@GBRA.org

830-557-7358







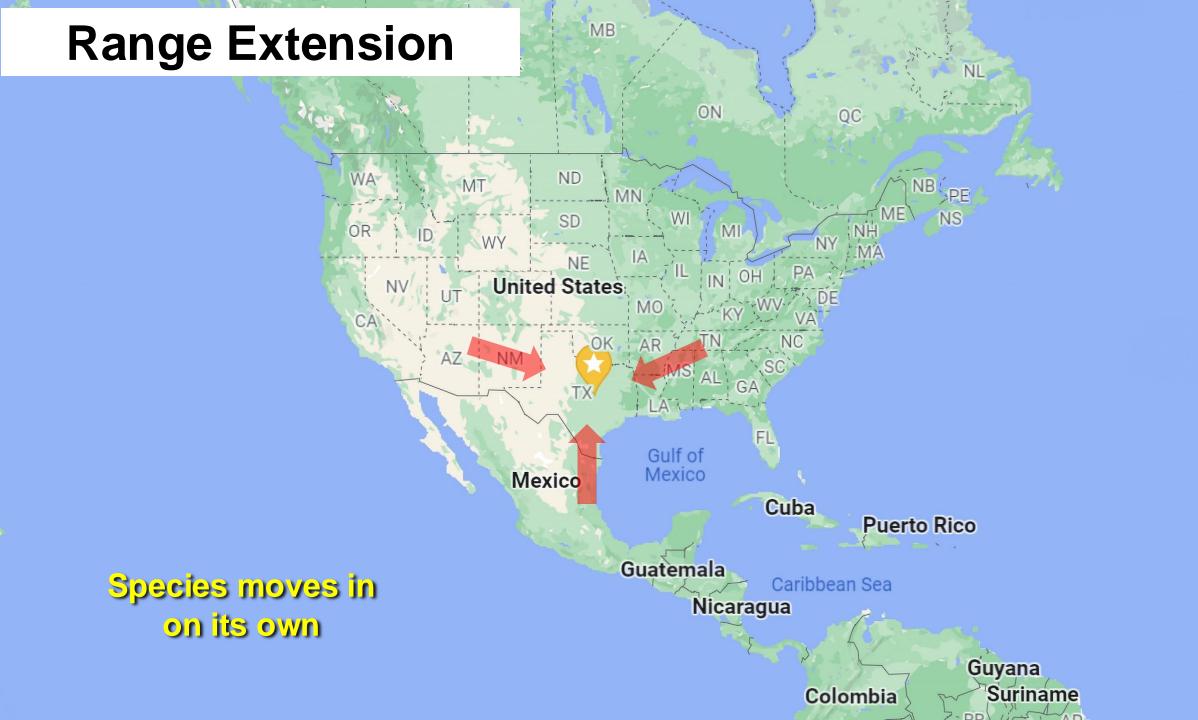




- •What is "native" plant?
- •What's happening?
- •What can you do?













Native Shrubs



- •Flame Acanthus
- Coralberry
- Am. Beautyberry
- Autumn Sage

- Turk's Cap
- Rock Rose
- False Indigo
- Elbowbush

- Fragrant Sumac
- •Tx. Lantana
- Cenizo
- •Etc.

Native Perennials











- What is "native" plant?
- •What's happening?
- ·What can you do?



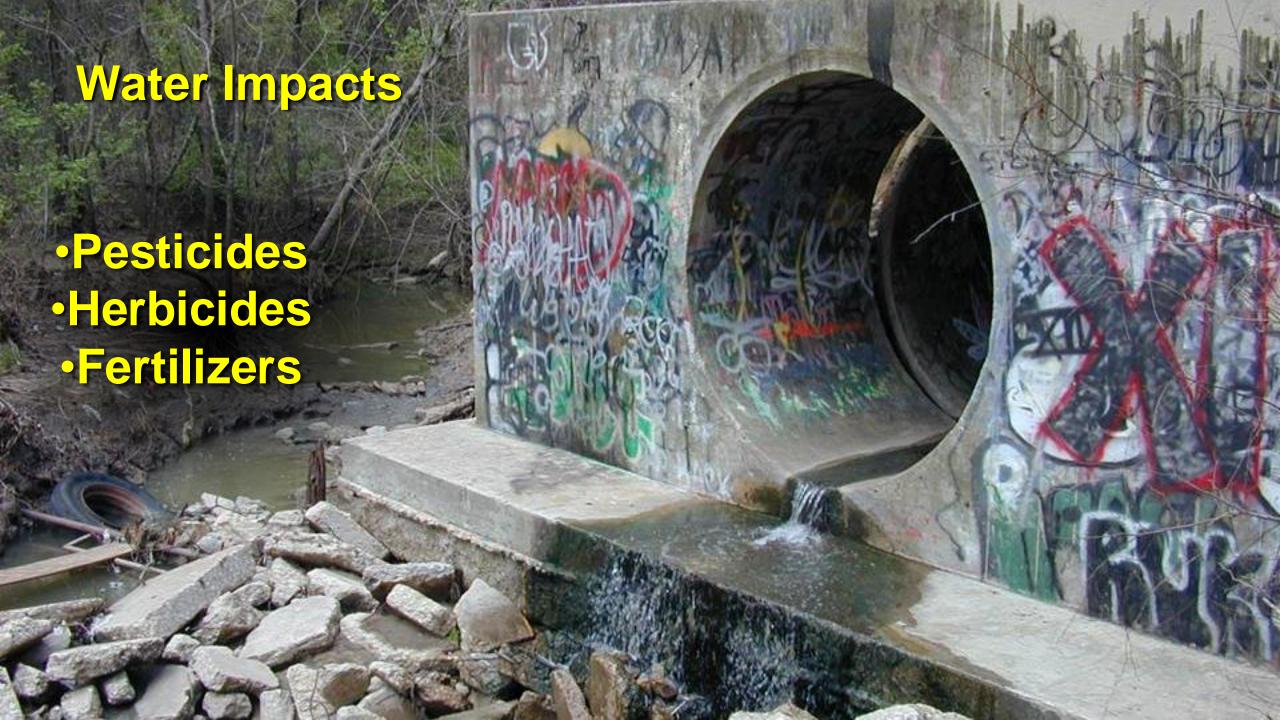
















Water Impacts

During Rain Event

After Rain Event



Flooding

- •Scouring
- Incising
- Widening

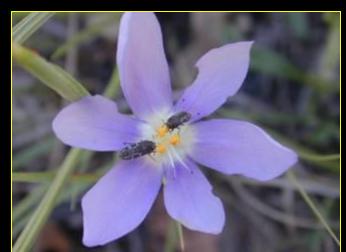






Native Plants Decrease













Invasive Exotic Plants Increase











European Starling



English Sparrow

Invasive Exotic Animals Increase



Red Imported Fire Ant





Lose Diversity of Native Bees!















- •800 species in Texas!
- Much more beautiful
- True conservation need

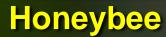
- Much better pollinators
- 1 native bee = 10 to 300 honeybees!



Scopa



Corbicula



Native Bee

- More flowers/minute
- "Belly flop"
- Greater weather tolerance



Sweat Bee



Furrow Bee



Mining Bee

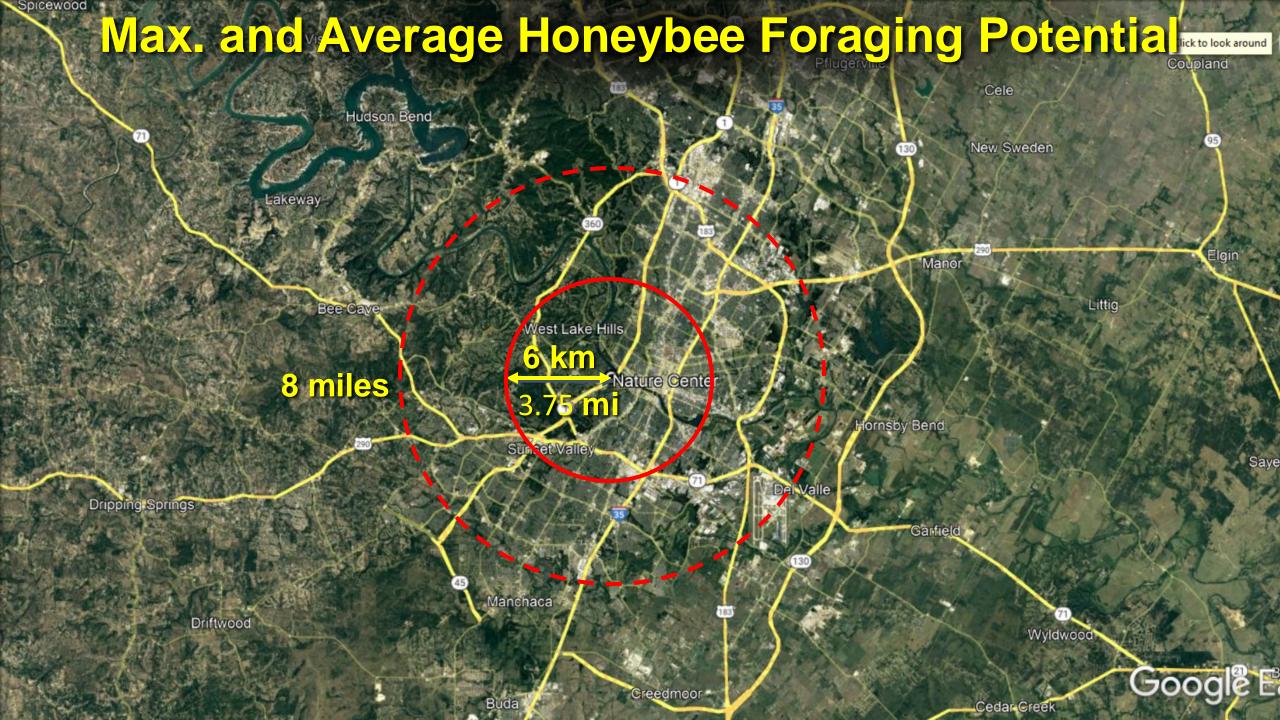
- "Personal pollinators"
- Central place foragers
- 0.6 miles or less (most ~300 yards)
- Some only 15 yards

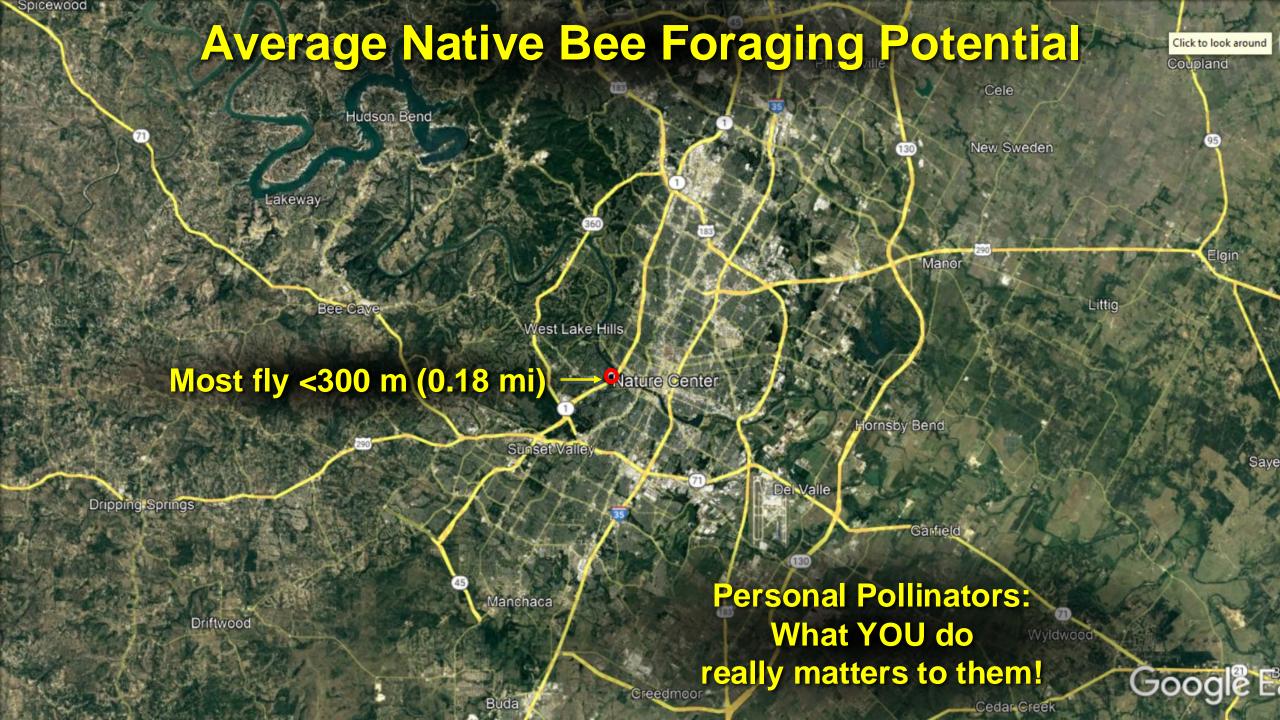


Leaf Cutter Bee (15mm or 0.6")



Metallic Sweat Bee (4mm or 0.15")





- Much safer
- >90% are solitary no hive to defend
- Reluctant to sting at all
- Venom composition = low anaphylaxis risk



Honeybee = social



Leaf cutter bee = solitary



Gulf Fritillary

Greatly Impact Invertebrate Herbivores (basis of food web)



Striped Sweat Bee



Leafcutter Bee

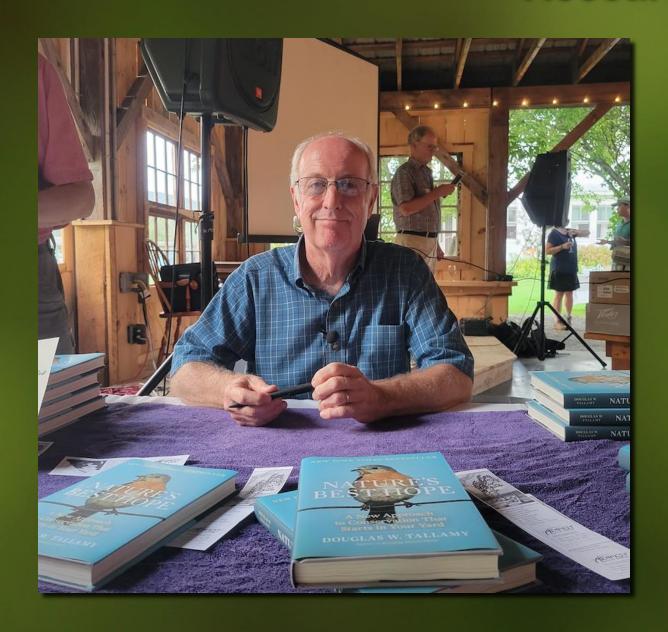


Furrow Bee



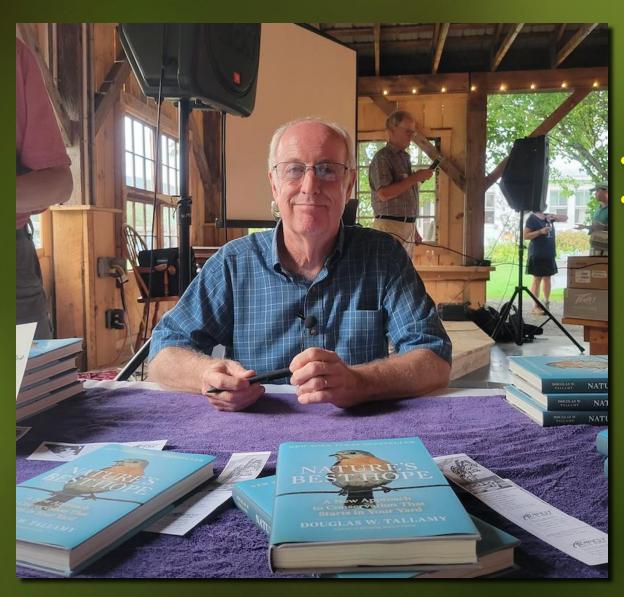
Metallic Sweat Bee

Research



Doug Tallamy, PhD Entomologist, Univ. of Delaware Author: Nature's Best Hope, Bringing Nature Home, and The Nature of Oaks





Simple, yet profound truth...

- Exotics don't feed most native insects
- •No native insects = no food web



Harsh Impact of Exotic Landscapes







- What is "native" plant?
- What's happening?
- •What can you do?









Trees - Oaks...

- Blackjack Oak
- Post Oak
- Live Oak
- Shumard Red Oak
- Chinquapin Oak
- Bur Oak



Quercus sp.

Species Fed: (Fruit/Mast) -Wood Duck, Bobwhite, Turkey, Jays, Nuthatch, Brown Thrasher, Woodpeckers, Raccoon, Squirrels, Wood Rat (Foliage) – White tailed deer, Javelina, LHP many species of lepidopterans

| | Spr | Sum | Fall | Win |
|-----------------|-----|-----|------|-----|
| Nectar | | | | |
| Seeds | | | | |
| Fruit / Mast | | | | |
| Veg. | | | | |

Trees - Elms

Species Fed: (Fruit/Mast) –Songbirds, Squirrels (Foliage) – White tailed deer, rabbits, LHP for various lepidopterans

- Cedar Elm
- American Elm
- Slippery Elm



Ulmus sp.

| | Spr | Sum | Fall | Win |
|-----------------|-----|-----|------|-----|
| Nectar | | | | |
| Seeds | | | | |
| Fruit / Mast | | | | |
| Veg. | | | | |

Trees - Hackberry

Species Fed: (Fruit/Mast) –Songbirds, Bobwhite, Golden fronted Woodpecker (Foliage) – White tailed deer, LHP for Question Mark, Mourning Cloak, Snout & Hackberry butterflies.



Celtis laevigata

| | Spr | Sum | Fall | Win |
|-----------------|-----|-----|------|-----|
| Nectar | | | | |
| Seeds | | | | |
| Fruit / Mast | | | | |
| Veg. | | | | |

Trees – Black Walnut

Species Fed: (Fruit/Mast) – Woodpeckers, Squirrel, Beaver, Fox (Foliage) – LHP for many Lepidopterans



Juglans nigra

| | Spr | Sum | Fall | Win |
|-----------------|-----|-----|------|-----|
| Nectar | | | | |
| Seeds | | | | |
| Fruit / Mast | | | | |
| Veg. | | | | |

Trees - Mexican Plum

Species Fed: (Fruits) – Various birds and mammals (Nectar/Pollen) – Bees, Butterflies, numerous insects (Foliage) – LHP for Tiger Swallowtail butterfly







Prunus mexicana

| | Spr | Sum | Fall | Win |
|-----------------|----------|-----|------|-----|
| Nectar | Mar, Apr | | | Feb |
| Seeds | | | | |
| Fruit / Mast | | | | |
| Veg. | | | | |

Trees - Texas Redbud

Species Fed: (Seeds) – Numerous Songbirds (Nectar/Pollen) – Bees, Butterflies, numerous insects (Foliage) – White tailed deer, LHP for Henry's Elfin butterfly



Currant Mason Bee





Cercis canadensis var. texensis

| | Spr | Sum | Fall | Win |
|-----------------|-----|-----|------|-----|
| Nectar | Mar | | | |
| Seeds | | | Sep | |
| Fruit / Mast | | | | |
| Veg. | | | | |

Shrubs – American Beautyberry

Species Fed: (Fruits) – Bobwhite, Mockingbird, Cardinal, Thrashers, Robin, Finches, Towhees, Raccoon, Opossum, Gray Fox, LHP for Rustic Sphinx Moth



Callicarpa americana

| | Spr | Sum | Fall | Win |
|-----------------|-----|-----|------|-----|
| Nectar | | | | |
| Seeds | | | | |
| Fruit / Mast | | | | |
| Veg. | | | | |

Shrubs – Turk's Cap

Species Fed: (Fruits) – Various songbirds and mammals (Nectar/Pollen) – Bees, Butterflies, Hummingbirds, LHP for White Skipper



Malvaviscus drummondii

| | Spr | Sum | Fall | Win |
|-----------------|-----|-----|------|-----|
| Nectar | May | | | |
| Seeds | | | | |
| Fruit / Mast | | | | |
| Veg. | | | | |

Shrubs – Autumn Sage

Species Fed: (Nectar/Pollen) – Bees, Ruby Throated Hummingbird



Salvia greggii

| | Spr | Sum | Fall | Win |
|-----------------|-------------|-----|------|-----|
| Nectar | Apr, May | | | Dec |
| Seeds | | | | |
| Fruit / Mast | | | | |
| Veg. | | | | |

Shrubs - Coralberry

Species Fed: (Fruits) – at least 12 species of birds including cardinals, bobwhite, quail, wild turkey bluebirds, robins, mockingbirds, thrashers & cedar waxwings (Nectar) bees and other insects (Vegetation) LHP for Snowberry Clearwing



Snowberry Clearwing



Symphoricarpos orbiculata

| | Spr | Sum | Fall | Win |
|-----------------|-----|-----|------|-----|
| Nectar | | | | |
| Seeds | | | | |
| Fruit / Mast | | | | |
| Veg. | | | | |

Vines – Coral Honeysuckle

Species Fed: (Nectar/Pollen) – Butterflies, Hummingbirds, Orioles (Fruit) – Some Songbirds (Foliage) – LHP for Spring Azure butterfly



Lonicera sempervirens

| | Spr | Sum | Fall | Win |
|-----------------|-----|-----|------|-----|
| Nectar | | | | Dec |
| Seeds | | | | |
| Fruit / Mast | | | | |
| Veg. | | | | |

Vines – Passionflower

Species Fed: (Fruit) – Several species of birds (Nectar) – Butterflies, insects (Foliage) – LHP for Zebra Long Wing, Gulf Fritillary, Julia butterflies



Passiflora incarnata

| | Spr | Sum | Fall | Win |
|-----------------|-----|-----|------|-----|
| Nectar | | | Sep | |
| Seeds | | | | |
| Fruit / Mast | | Jun | | |
| Veg. | | | | |

Grasses – Canada Wildrye

Species Fed: (Seeds) – Various songbirds and mammals (Foliage) – White tailed deer, LHP for Zabulon Skipper



Elymus canadensis

| | Spr | Sum | Fall | Win |
|-----------------|-----|-----|------|-----|
| Nectar | | | | |
| Seeds | May | | | |
| Fruit / Mast | | | | |
| Veg. | | | | |

Grasses – Little Bluestem

Species Fed: (Seeds) – Various songbirds and mammals (Foliage) – LHP for Delaware Skipper & Crossline Skipper



Schizachyrium scoparium

| | Spr | Sum | Fall | Win |
|-----------------|-----|-----|------|-----|
| Nectar | | | | |
| Seeds | | | | |
| Fruit / Mast | | | | |
| Veg. | | | | |

Grasses – Inland Seaoats

Species Fed: (Seeds) – Various songbirds and mammals (Foliage) – Various mammals, nesting material for birds, LHP for Bell's roadside skipper & Bronzed roadside skipper



Chasmanthium latifolium

| | Spr | Sum | Fall | Win |
|-----------------|-----|-----|------|-----|
| Nectar | | | | |
| Seeds | | | | |
| Fruit / Mast | | | | |
| Veg. | | | | |

Forbs - Milkweeds

Species Fed: (Nectar/Pollen) – Bees, Various Butterflies, LHP Monarch, Queen

- Antelope-horns
- Zizotes Milkweed
- Texas Milkweed
- Butterflyweed
- Green Milkweed
- Etc.



Asclepias sp.

| | Spr | Sum | Fall | Win |
|-----------------|-----|-----|------|-----|
| Nectar | Apr | | Sept | |
| Seeds | | | | |
| Fruit / Mast | | | | |
| Veg. | | | | |

Forbs – Engelman's Daisy

Species Fed: (Veg) high protein – Livestock, Deer, Rabbits (Seeds) - Birds (Nectar/Pollen) – Bees, Various Butterflies



Engelmannia peristenia

| | Spr | Sum | Fall | Win |
|-----------------|-----|-----|------|-----|
| Nectar | Mar | Jul | | |
| Seeds | | | | |
| Fruit / Mast | | | | |
| Veg. | | | | |

Forbs – Blackfoot Daisy

Species Fed: (Seeds) - Birds (Nectar/Pollen) - Bees, Various Butterflies



Melampodium leucanthum

| | Spr | Sum | Fall | Win |
|-----------------|-----|-----|------|-----|
| Nectar | Mar | | Nov | |
| Seeds | | | | |
| Fruit / Mast | | | | |
| Veg. | | | | |

Forbs - Winecup

Species Fed: (Nectar/Pollen) – Bees, Various Butterflies, LHP for Gray Hairstreak – Recognized by Xerces Society as a plant with Special Value to Native Bees



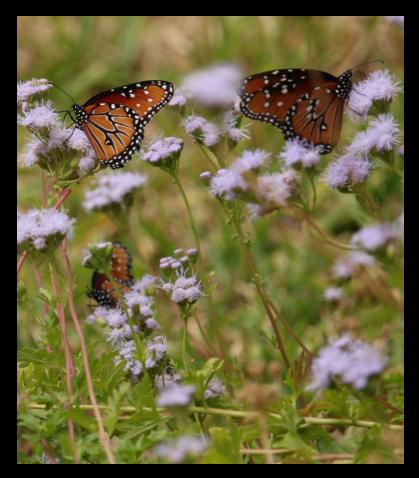


Callirhoe involucrata

| | Spr | Sum | Fall | Win |
|-----------------|-----|-----|------|-----|
| Nectar | | | | |
| Seeds | | | | |
| Fruit / Mast | | | | |
| Veg. | | | | |

Forbs – Gregg's Mistflower

Species Fed: (Nectar/Pollen) – Various insects, Queens and Monarchs love it!, LHP for Rawson's Metalmark



Conoclinium greggii

| | Spr | Sum | Fall | Win |
|-----------------|-----|-----|------|-----|
| Nectar | | | | |
| Seeds | | | | |
| Fruit / Mast | | | | |
| Veg. | | | | |

Forbs – Sunflowers

Species Fed: (Nectar/Pollen) – Various Insects and Butterflies, Seeds eaten by granivorous birds, esp. sparrows, LHP for Lepidopterans

- Common
- Maximilian



| | Spr | Sum | Fall | Win |
|-----------------|-----|-----|------|-----|
| Nectar | | | | |
| Seeds | | | | |
| Fruit / Mast | | | | |
| Veg. | | | | |

Forbs - Mealy Blue Sage

Species Fed: (Nectar) – Various Insects and Butterflies. Occasional hummingbirds.



Salvia farinacea

| | Spr | Sum | Fall | Win |
|-----------------|-----|-----|------|-----|
| Nectar | | | | |
| Seeds | | | | |
| Fruit / Mast | | | | |
| Veg. | | | | |

Forbs - "Weeds"

Smallflower Desert Chicory, Texas Dandelion (Pyrrhopappus pauciflorus)

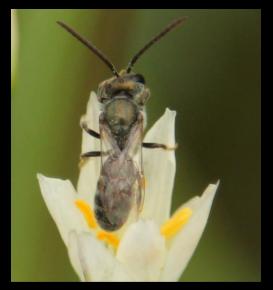




Mining Bee

Mining Bee

Green Metallic Sweat Bee on a "weedy" aster



Sweat Bee on Crow Poison

Forbs - "Weeds"



(very tiny) Metallic Sweat Bee on a "weedy" aster

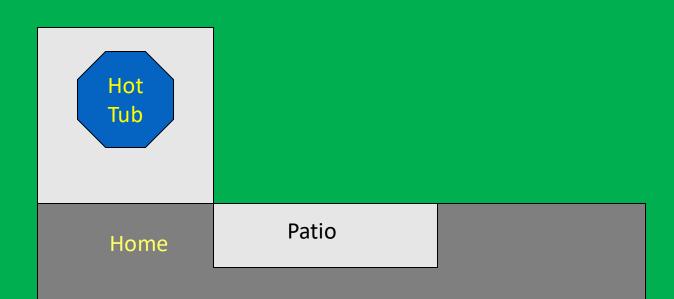
(white heath aster)



Furrom Bee on Mx Hat

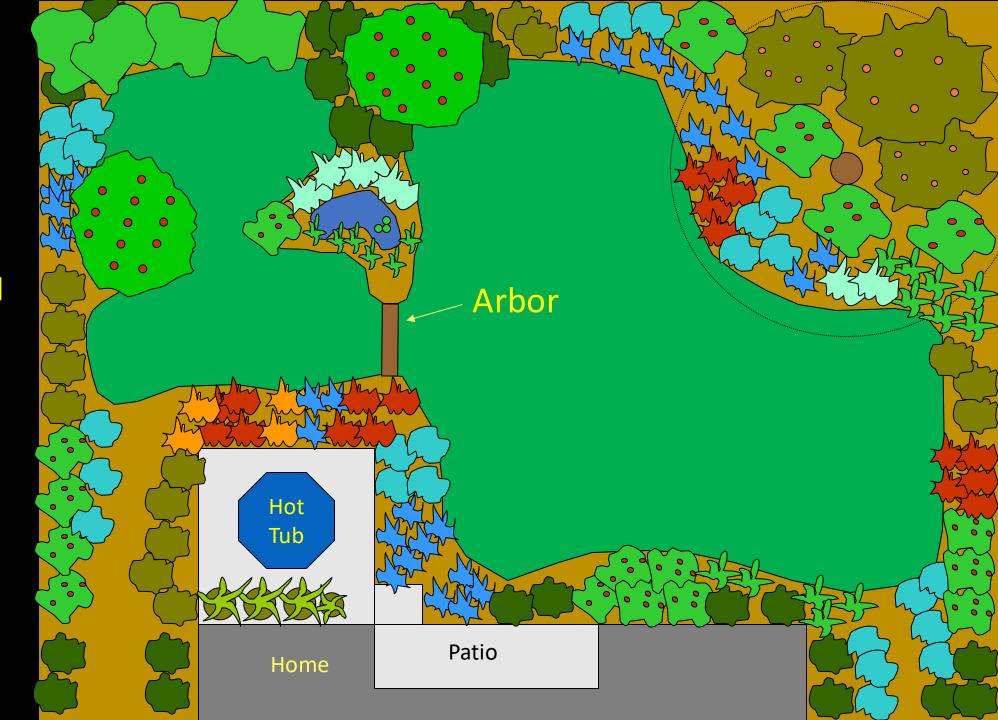
Space – How to arrange things

Typical
Landscape
Without
Native Plants

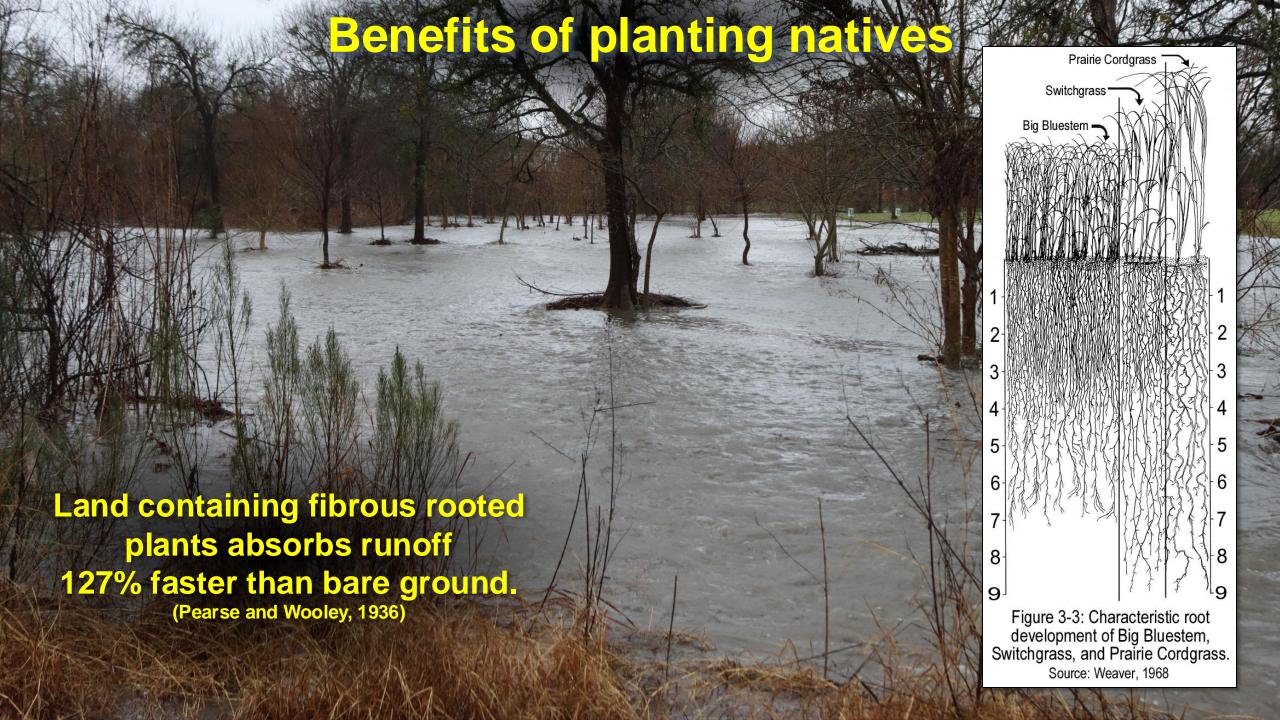


• "More Accessible" **Approach to Native Plants** Hot Tub Patio Home

Heavily Planted with Native Plants















- •What is "native" plant?
- •What's happening?
- •What can you do?

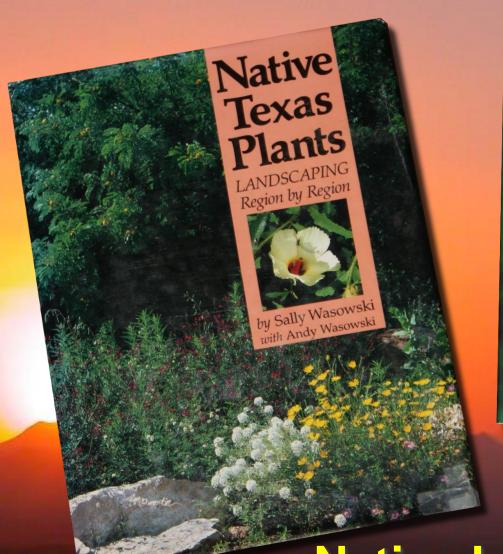


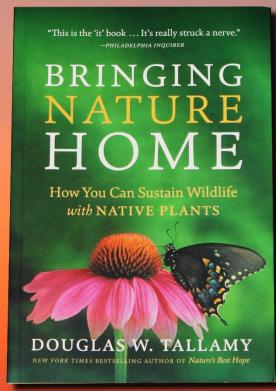


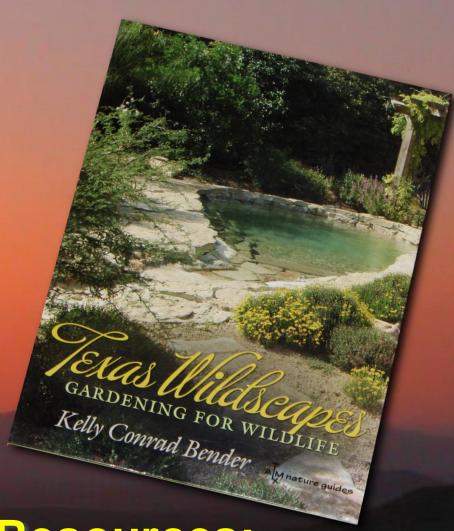




Create Habitat!







Native Landscaping Resources:

Books

U.T. Ladybird Johnson Wildflower Center

https://www.wildflower.org/collections/

Plants for Pollinators

Butterflies and Moths of North America - Plants that are valuable to moths and butterflies.

Special Value to Native Bees - Attracts large numbers of native bees.*

Special Value to Bumble Bees - Attracts large numbers of bumble bees.*

Special Value to Honey Bees - Important pollen or nectar sources (honey plant) for honey bees.*

<u>Provides Nesting Materials/Structure for Native Bees</u> - Plants that native bees nest beneath, within, or harvest parts from to construct their nests.*

<u>Supports Conservation Biological Control</u> - Plants that attracts predatory or parasitoid insects that prey upon pest insects.* California Pollinator Plant List*

*This information was provided by the Pollinator Program at <u>The Xerces Society for Invertebrate Conservation</u>.

Native Landscaping Resources: Online

Xerces Society for Invertebrate Conservation

https://www.xerces.org/pollinator-conservation

Conserving Pollinators In Your Landscape

The Xerces Society works across a broad array of landscapes to conserve pollinators, and can offer information to support your efforts.



Yards & Gardens



Farmlands



Rangelands







Native Landscaping Resources: Online

U.T. - Dr. Shalene Jha Lab

https://w3.biosci.utexas.edu/jha/native-bees



Dr. Shalene Jha

Native Bees

The content of this page was developed by Laurel Treviño (UT Austin) and Margarita López Uribe, Assistant Professor of Entomology at Pennsylvania State University. Educational resources linked to this page were developed by Laurel Treviño. You may print the linked PDFs for education and conservation purposes. Photo copyrights apply. For questions or comments, please contact Laurel (see bottom of page).

Pollination Services



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(Native bee, Apis mellifera. Photo: Kathy Keatley Garvey, The University of California Regents).

Beyond honey and wax, bees provide important ecosystem services by pollinating ~87% of wild plants. Bees are key pollinators that visit flowers for nectar and pollen and facilitate pollination by consistently transferring pollen between plants of the same species (floral

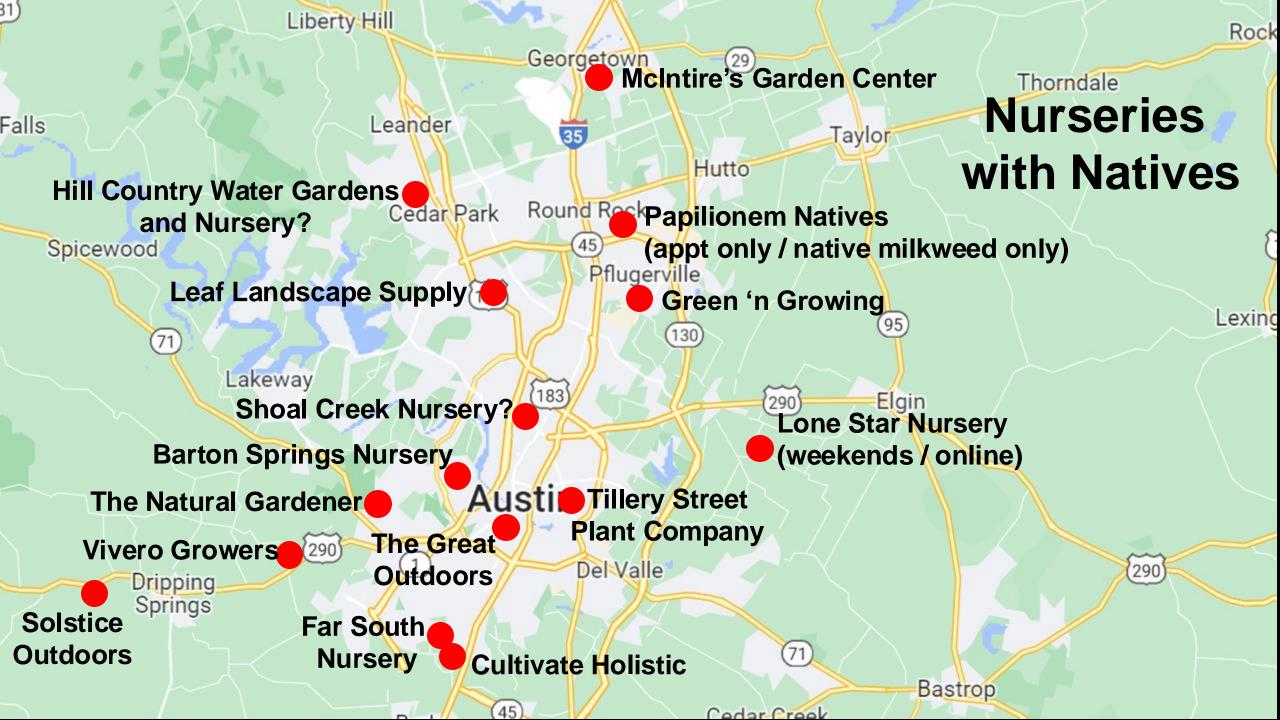
Address - Phone

205 W. 24th Street BIO Labs 401 The University of Texas at Austin Department of Integrative Biology College of Natural Sciences Austin, TX 78712

(512) 232 3521



Native Landscaping Resources: Online





Native Landscaping Resources: Plant Lists

https://www.wildflower.org/collections/

https://npsot.org/wp/resources/plant-lists-by-ecoregion/





Native Landscaping Resources: Certifications

National Wildlife Federation https://www.nwf.org/CERTIFY

Native Plant Society
https://npsot.org/wp/nlcp/about

Texas Wildscapes

https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/wildscapes/wildscape_certification.phtml

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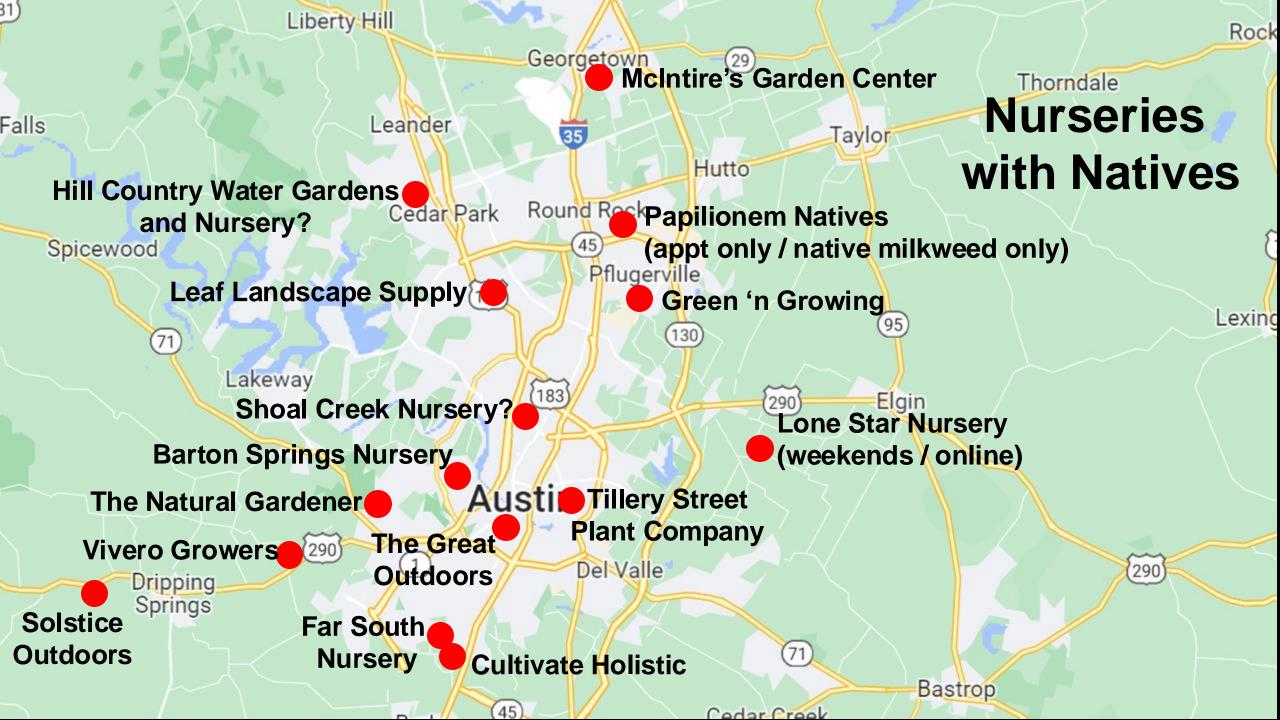
Ecoregions of Texas

https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/wildscapes/ecoregions/ecoregion_4.phtml

OR...

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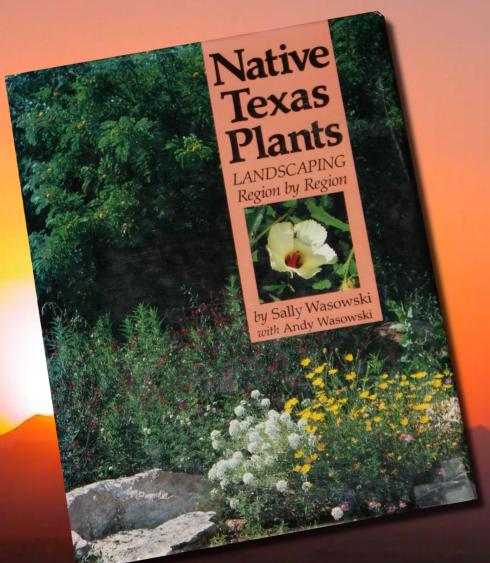
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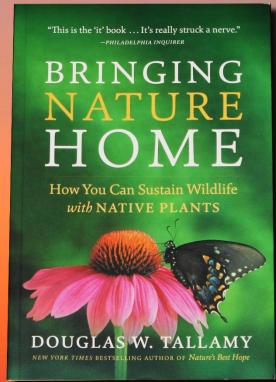
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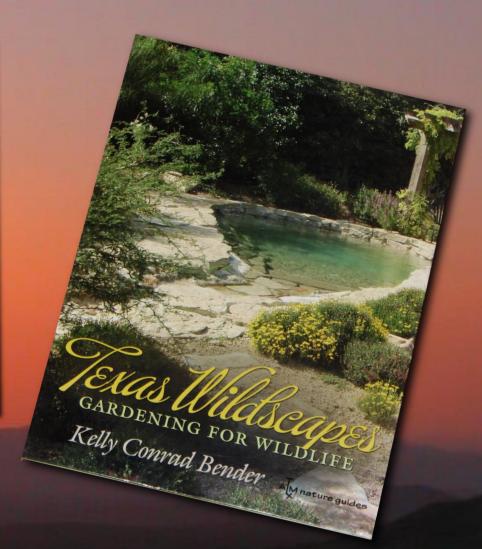
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Dr. Shalene Jha

Native Bees

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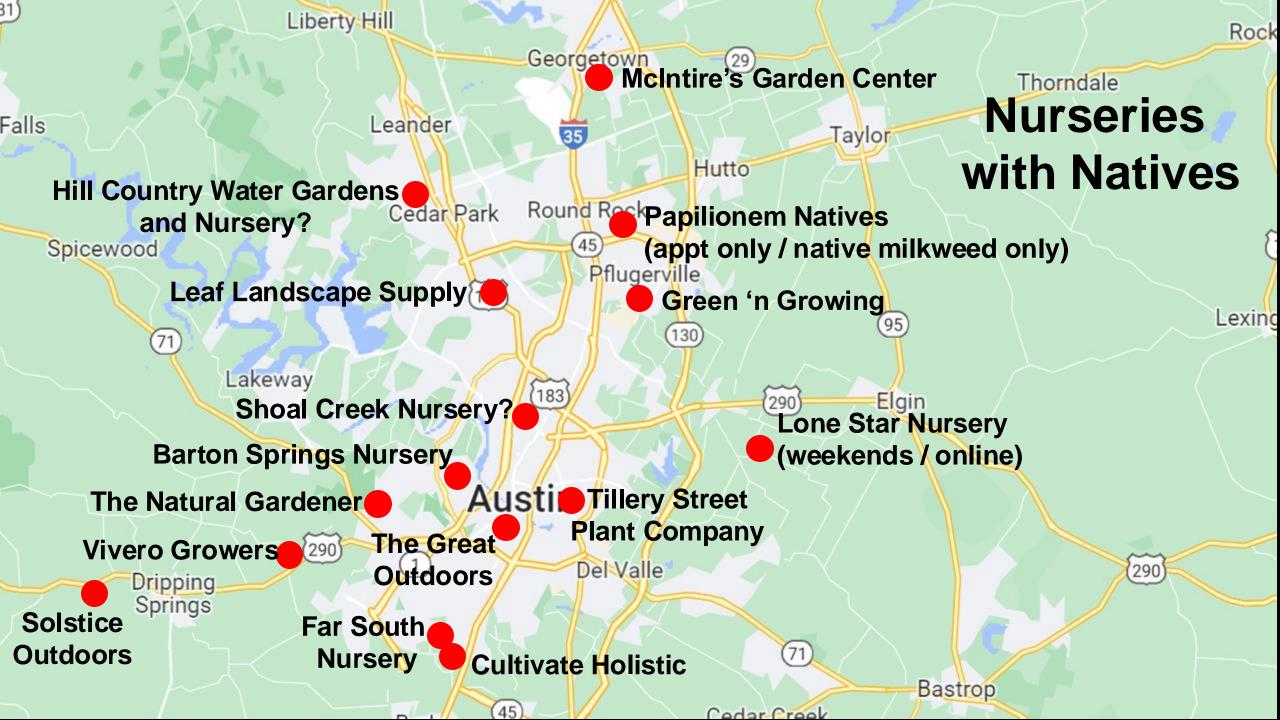
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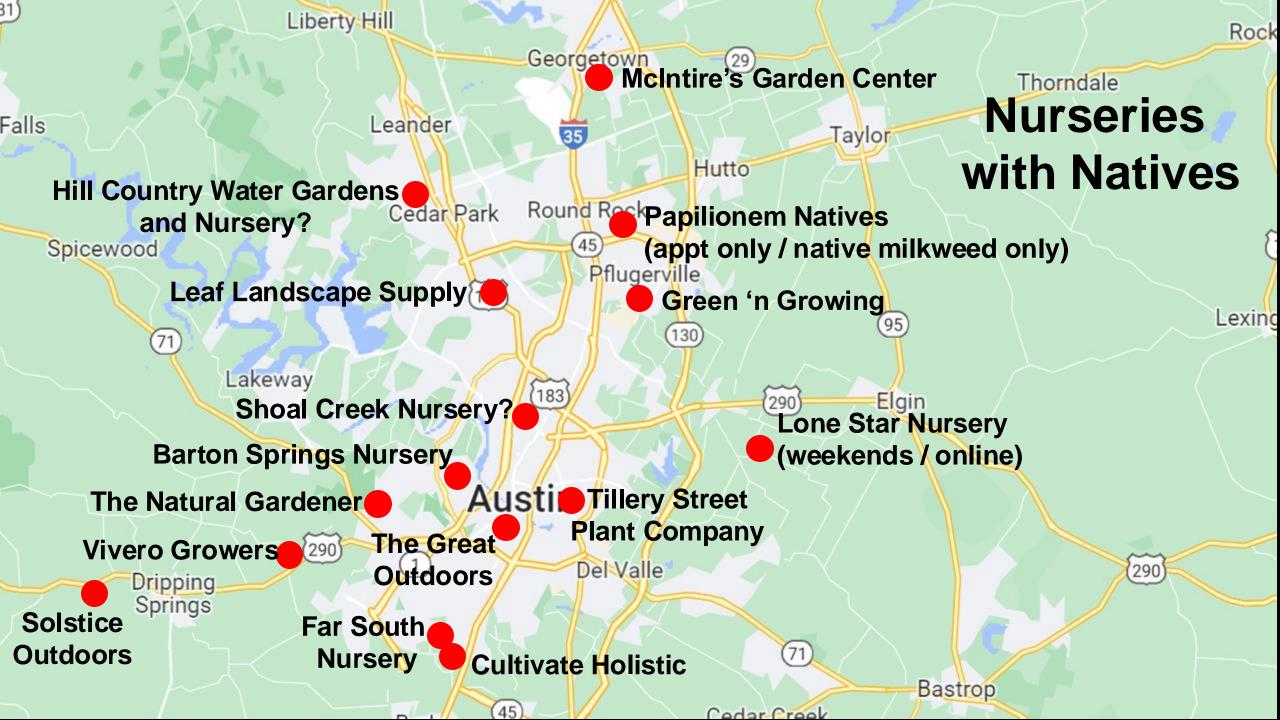
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Native Landscaping Resources: Plant Lists

https://www.wildflower.org/collections/

https://npsot.org/wp/resources/plant-lists-by-ecoregion/





Native Landscaping Resources: Certifications

National Wildlife Federation https://www.nwf.org/CERTIFY

Native Plant Society
https://npsot.org/wp/nlcp/about

Texas Wildscapes

https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/wildscapes/wildscape_certification.phtml

Native Landscaping Resources:

Ecoregions of Texas

https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/wildscapes/ecoregions/ecoregion_4.phtml

OR...

https://www.wildflower.org/collections/





THANK YOU!

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