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Helping People Help The Land

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The Reverchon Naturalist

Recognizing the work of French botanist Julien Reverchon, who began collecting throughout the North-Central Texas area in 1876, and all the botanists/naturalists who have followed ...

My Piece of Land

Steve Nelle

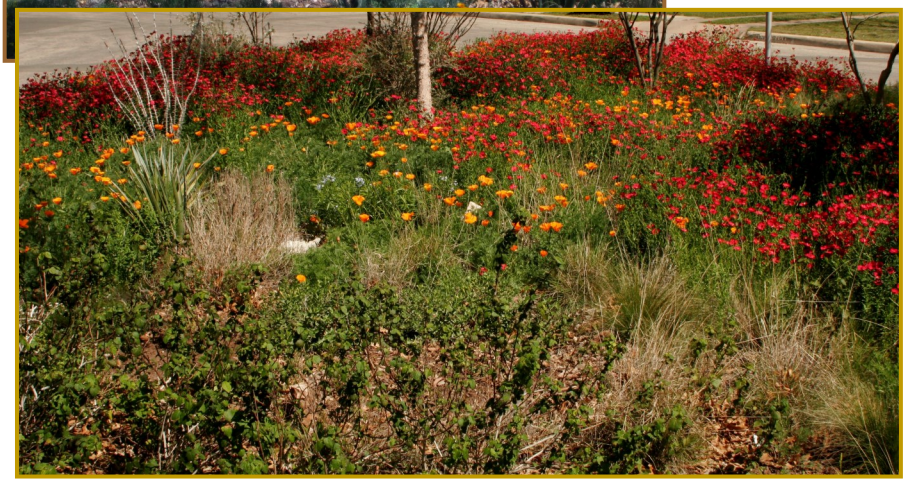


Figure 1 (left). **Author's "piece of land" blooms in early spring even during the great and terrible drought of 2011.**

Figure 2 (below). **Same 40-foot triangle on a city lot thrives as revealed during the following spring of 2012.**

Photos credit: Steve Nelle

Everyone needs a piece of land; a piece of ground they can observe, tend, cultivate, and watch the changes. This is especially important for those of us who are in the business of helping others manage their land. We need our own personal land connection. My piece of land is a 40-foot triangle at the corner of my city lot in San Angelo (Figures 1 & 2).

I have been watching and tending this corner for over 25 years. There is something instructive about watching the same piece of land year after year. If you are observant, you can learn a lot about plant ecology and plant succession by watching even a small plot of land. You will learn things that are not written in any book. I have lived on much larger pieces of land over the last 40 years, including a couple of decent size ranches, but did not live there long enough to establish a strong connection. It takes time to develop a relationship to a piece of land.

Over 100 different plant species are growing on my piece of land; all but a few are perennial. It has more plant diversity than many ranches have. It is mostly an artificial plant community–species that I have assembled together. The majority of species are native within a 100-mile radius of San Angelo. Several are not native to the region.

It is a hodgepodge mixture of plants – nowhere else on the planet does this particular mixture exist. It might qualify for xeriscape since it never needs supplemental watering. In San Angelo, and most other Texas cities, it is irresponsible to have big green yards maintained by watering.

(Continued on page 3)

Any Moisture is Good Moisture

While certainly not a drought buster, the wetter period of January through February has helped cool-season plants get a great start on growth this year. The unusual part of this wetter period is that lately it seems to come as often in the frozen state as it does wet. Sleet, frozen rain and snow all produce much needed moisture and every little bit helps. While most lake levels are still well below normal, most have caught several feet of water during the past couple of months. Sadly those meager gains can be quickly erased with withdrawals by water districts and evaporation.

These late winter rains should help the wildflowers come spring. Another native plant that benefits from winter and early spring rains is annual broomweed. With 2014 going down as a good recovery year for northern bobwhites over much of west Texas, the prospects of another good broomweed year holds promise that the bobwhites may have back-to-back good years. We can only hope.

Now is the time to try your hand at macro plant photography. Seedling plants are just about the hardest stage of growth for identification.

See You Down the Road

Here is something you can do to increase your plant id skills and it won't cost a lot of money or time. Walk out in the pasture or the corner of your yard and put a marker, such as a numbered wire flag, beside any unknown forbs or grasses you find. Take a macro photo of the plant with a coin or some other scale in the photo. Take another photo every two weeks until the plant is up and flowering. By now, you should be able to identify the plant or at least know where to begin looking in the identification guides. Just about all cameras, including smart phones, now have the capability of taking very good close-up photographs. Arrange these photos in files corresponding to your numbered markers so that you can add new photos of that plant taken every two weeks. This knowledge will be very useful as you learn to recognize plants at all growth stages. Send some of these early photos and we will make a plant id quiz for a future issue of the Reverchon Naturalist.

Ricky Linex

Ricky Linex is a Wildlife Biologist with the USDA-NRCS in Weatherford, Texas, and serves as the Co-Editor for the Reverchon Naturalist.

MARK YOUR CALENDAR

SPRING FORAGE WORKSHOP

April 8, 2015 • Texas A&M AgriLife Research Center, McGregor Texas

Breakfast provided by Lone Star Ag Credit, 3 General CEU's, $20 Registration. For more info, contact Dr. Michael "Shane" McLellan, (254) 757-5180, s-mclellan@tamu.edu

TEXAS DEER STUDY GROUP

April 9-10, 2015 • Palestine, Texas

For more info, contact Clint Faas, Texas Wildlife Association, (979) 541-9803, cfaas@texas-wildlife.org

NATIVES AND PRAIRIE DAYS

May 2, 2015 • Bath House Cultural Center, White Rock Lake, Dallas, Texas

North Texas Master Naturalists are sponsoring this event at 521 E. Lawther Dr. in Dallas.

FANNIN COUNTY WILDLIFE PROGRAM

May 8, 2015 • Bonham, Texas

For more info, contact Fannin Co. SWCD, (903) 583-9513, Ext 3, maryjane.godwin@tx.nacdnet.net

PLANT APPRECIATION DAY

May 29, 2015 • Rolling Plains Quail Research Ranch, Roby, Texas

For more info, contact Dale Rollins, drollins@quailresearch.org

Send your calendar items to Ricky Linex at ricky.linex@tx.usda.gov and Melissa Sturdivant, at melissa.sturdivant@tx.usda.gov.

(Continued from Page 1—My Piece of Land)

Most of the plants have found their own niche and are now reproducing naturally. Some species reproduce too well; if not managed, they would tend to dominate. Others seem to be only marginally adapted to their new home and probably will not persist. Some just hold their own space or increase very gradually.

Grasses that would dominate if allowed include sideoats grama (bunchgrass form), green sprangletop, buffalograss, Texas wintergrass, finestem needlegrass, and western wheatgrass. These have "weedy dispositions" under the right conditions. Grasses which increase slowly in this location include threeflower melic, Texas cupgrass, Wright threeawn and fall witchgrass. Blue grama plants have not increased in number, but the clumps are growing larger by tillering. Little bluestem barely survives here and is unthrifty.

Perennial forbs that will take over if given the chance include prairie acacia, Mexican sagewort, Mexican primrose, showy menodora, bush sunflower, orange zexmenia and vine snap-dragon. Without deer, sheep or goat grazing, these require constant management to keep them in moderation. Forbs which stay put or increase slowly include western primrose, winecup, foxglove penstemon, low menodora, bloodberry, white silphium and hairy tubetongue.

Some species I wish I had never planted – they are far too aggressive and I fear I may never get rid of them: trumpet creeper, Texas nightshade, Carolina snailseed, Escobilla butterflybush, and violet ruellia. It is easy to see how in the absence of grazing or browsing that some native plants can become like kudzu.

Some purists might not appreciate that I have some non-native wildflowers on this piece of land.

I admit to an infatuation with pretty wildflowers and have introduced California poppy and scarlet flax to the corner. Their bright colors dominate during early spring, then they fade away and the natives are more visible (Figure 3). These two exotics re-seed naturally each year. Even pretty girls wear makeup.

If you move 50 miles in any direction or have a different soil, these plants may respond completely different. What you learn on your piece of land may or may not apply directly to other pieces of land, but the general principles will often apply to a larger area.

My piece of land is beautiful during some parts of the year and ragged at other times. From March through frost, there may be 5 to 15 species blooming at any one time. Two weeks later, it will look different with other species blooming. Some bloom once a year; some bloom three times a year; some bloom only once or twice in ten years. Even during the dormant season, it has a unique attractiveness.

As with any piece of land, there are weeds which were uninvited. Once they get a toehold, they are impossible to eliminate and must be aggressively managed. Bladderpod sida, prostrate spurge, prostrate pigweed, and wood sorrel are major native weeds; I dislike them very much. It is easy to see how farmers and ranchers develop an extreme dislike for certain weed and brush species. There are also several exotic weeds including henbit and rescuegrass that must be fought.

(Continued on page 10)

Figure 3 (right). **Flax and poppy dominate the garden in early spring but later give way to native perennials.**
Photo credit: Steve Nelle

Range Plants of North Central Texas – Is it Useful in other Areas of Texas?

Ricky Linex

An e-mail from Steve Nelle back in December concerning the number of plants in *Range Plants of North Central Texas* that could be found within the Edwards Plateau vegetational area got me to wondering the same about all ten vegetational areas in Texas. Steve said he thought at least 250 of the plants in the book could be found within the Edwards Plateau.

So, one evening I thumbed through each page and counted the areas each plant could be found. The results were very interesting. The area of Texas covered by the title corresponds to the area of Texas that I work within the Natural Resources Conservation Service's Zone 5. This area being one of five administrative zones in Texas and covers north central Texas representing parts of the Post Oak Savannah, Blackland Prairies, Cross Timbers and Rolling Plains vegetational areas. So, logically calling the book *Range Plants of North Central Texas* seemed appropriate.

Each plant page lists the distribution of that plant among the ten vegetational areas in Texas. Most of the plants can be found in many to all of the vegetational areas, a few are found only in 3 or 4 areas, and only one plant, Amur honeysuckle, is found in only one area, the Post Oak Savannah. I decided to separate the plants as they are in the book, logging distribution by forb (160 total), grass (59 total) or woody (105 total). Refer to data table and map on the next page (Figure 1 & Table 1).

From the data, we can see that Steve was right with his bet as there are actually 310 of the 324 plants located within the Edwards Plateau vegetational area. The numbers for areas 3 (223 plants), 4 (264 plants), 5 (302 plants) and 8 (278 plants) should be high since these were the intended areas represented by plants chosen for the book. While the very high number of Edwards Plateau plants is impressive, it also shows that while many plants are specialists, even endemic to one area, many more of these plants overlap into other vegetational areas.

I was surprised that there were 249 plants (77%) in area 2, the Gulf Prairies and Marshes. Also surprising was the fairly high numbers of plants found on the far eastern and western areas of Texas. The lowest percentages were found in the Piney Woods and High Plains but still these areas are represented by 51 and 54%, respectively, so over half of the plants in the book can be found in these areas of the state and 61% could be found in the Trans Pecos areas.

What does all this mean? To me, it says that the plants chosen for this book, which were chosen based on their food and cover value for livestock and wildlife and/or occurrence in the area, are actually rather common across much of Texas. It also indicates that although the book's title indicates plants of the north central Texas area, the book would actually be useful and have value across all of Texas and southern Oklahoma. In fact, the book's first printing has been purchased by residents in all ten vegetational areas of Texas, so as the old saying goes, the proof is in the pudding.

***Range Plants of North Central Texas* is available online as well as through participating Soil and Water Conservation Districts (SWCD) which office in USDA Natural Resources Conservation Service offices in all Texas counties.**

BRIT

Shop BRIT

supporting the mission of
The Botanical Research Institute of Texas

NATIVE AMERICAN SEED

Figure 1 (left). **Cover art for *Range Plants of North Central Texas.***

Photo of cover art: Ricky Linex, USDA-NRCS.

Get your copy of *Range Plants of North Central Texas*. Contact your local SWCD Office, the Botanical Research Institute of Texas (BRIT) or Native American Seed of Junction, TX.

http://shop.brit.org/products/range-plants

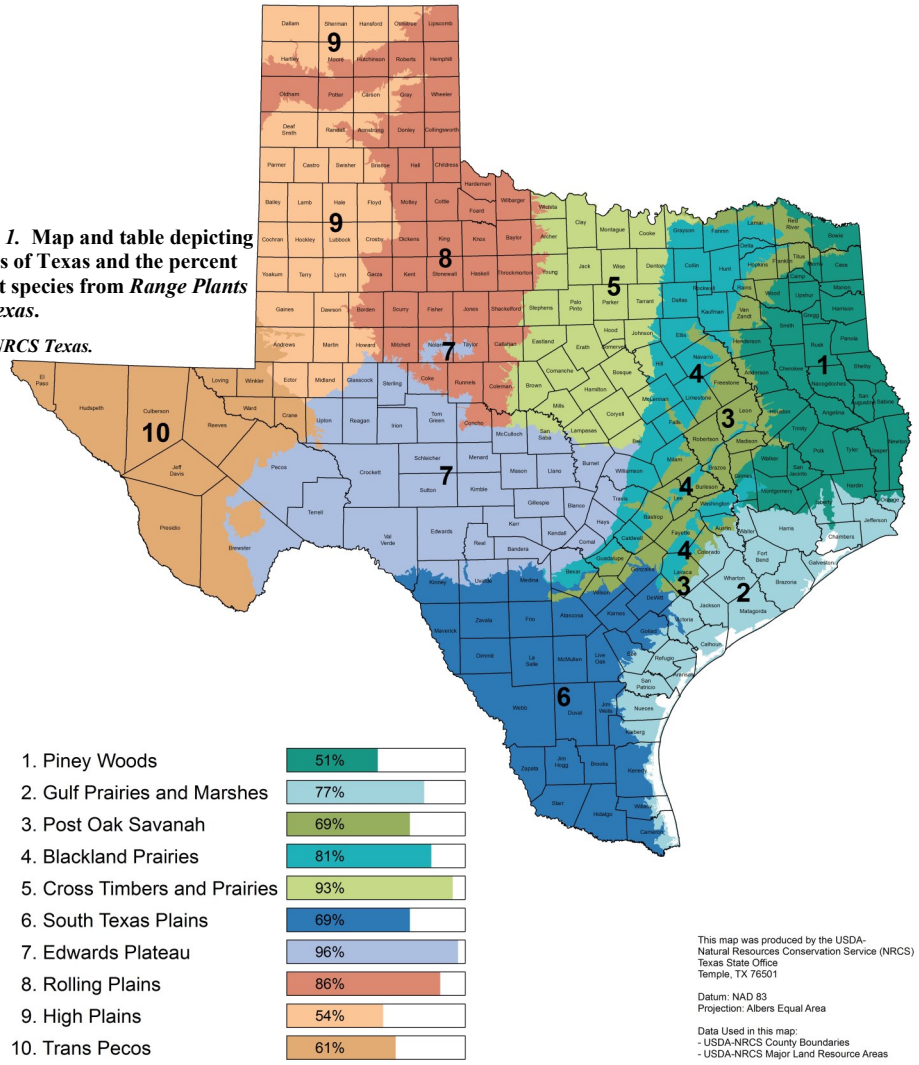
http://www.seedsource.com/catalog/detail.asp?product_id=6069

Ricky Linex is a Wildlife Biologist with the USDA-NRCS in Weatherford, Texas, and serves as the Co-Editor for the Reverchon Naturalist.

Vegetational Areas of Texas with Percent Occurence of Species
from
Range Plants of North Central Texas

Figure 1 and Table 1. **Map and table depicting the vegetative areas of Texas and the percent occurrence of plant species from *Range Plants of North Central Texas*.**

Photo credit: USDA-NRCS Texas.



	Vegetational Area	Forb No. / %	Grass No. / %	Woody No. / %	Overall No. / %
1	Piney Woods	72 / 45%	30 / 31%	62 / 59%	164 / 51%
2	Gulf Prairies and Marshes	122 / 76%	50 / 85%	77 / 73%	249 / 77%
3	Post Oak Savannah	109 / 68%	44 / 75%	70 / 69%	223 / 69%
4	Blackland Prairie	137 / 86%	50 / 85%	77 / 73%	264 / 81%
5	Cross Timbers and Prairies	115 / 97%	55 / 93%	92 / 88%	302 / 93%
6	South Texas Plains	117 / 73%	48 / 81%	60 / 57%	225 / 69%
7	Edwards Plateau	153 / 96%	57 / 97%	100 / 95%	310 / 96%
8	Rolling Plains	141 / 88%	57 / 97%	80 / 76%	278 / 86%
9	High Plains	93 / 58%	48 / 81%	35 / 33%	176 / 54%
10	Trans Pecos	103 / 64%	45 / 76%	51 / 54%	199 / 61%

The Walnut Family

Allan Nelson, Ph.D.

The Walnut family (Juglandaceae) is named for the genus *Juglans*, which is a classical Latin name that may have been used because it referred to the male sexual organs of Jupiter and the family produces fruits called nuts.

The family is a mainly temperate family that is deciduous, with compound leaves, has tiny wind pollinated flowers in inflorescences called catkins (Figure 1) and produces fruits called nuts (Figure 2).

The photograph of the young nut is the size of a pencil tip that produces a mature nut in the walnut, which is the size of a golf ball in some cases. The nuts are edible and the family is also valued for its fine timber and as ornamentals. In our region, we have two genera, *Juglans* and *Carya*, known commonly as walnut and hickory, respectively.

***Carya illinoiensis,* a member of the hickory genus commonly called pecan, is the most abundant member of this family in our area. The genus *Carya* is Greek for nut and the species name is for the state from where it was named. Like other members of the walnut family, pecans have divided leaves and tiny male flowers in drooping clusters called catkins. The tiny female flowers start off the size of a pin head (Figure 3) and end up as the nuts that provide mast for wildlife and delicious foods like pecan pie. Catkins and female flowers are shown in the photograph of a walnut blooming above (Figure 1). I remember lying in my first tree house, which was in a pecan tree in the back of our farmhouse, gazing up at the divided leaves and wondering what the catkins were that had fallen leaving a yellow stain (pollen) on the planks.**

Pecans appear in prehistoric sites in Texas as early as 6150 BC and Native Americans from South Texas would travel for hundreds of miles to harvest the nuts. Texas tribes that consumed pecans included: Caddo, Coahuiltecan, Comanche, Kickapoo, Lipan Apache, and Tonkawa. The Tonkawa preservation method involved pounding together venison or bison with pecan meal to form pemmican.

Figure 1 (above). **Leaflets and catkins of walnuts.**

Figure 2 (*left inset*). Young fruit in development.

Figure 3 (*below*). Young female flower of pecan.

Photos credit: Allan Nelson, Ph.D.

Pecans were adopted as the state tree by the legislature in 1919. The wind-borne pollen can cause allergies. There are over 500 named cultivars and all the ones with Native American names were developed at the United States Department of Agriculture Field Station in Brownwood, Texas.

Diggs, G. M., B. L. Lipscomb, & R. J. O'Kennon. 1999. *Shinners & Mahler's Illustrated Flora of North Central Texas.* Botanical Research Institute of Texas. Fort Worth, Texas.

Turner, M. W. 2009. *Remarkable Plants of Texas: Uncommon Accounts of Our Common Natives*. University of Texas Press. Austin, Texas.

Dr. Allan Nelson is a Professor of Biological Sciences at Tarleton State University in Stephenville, Texas.

Can a Native Plant be a Noxious or Invasive Plant?

Ricky Linex

Part of growing up is learning that words can be hurtful and that we have to be careful with the words we toss around. This article will look at Texas native plants that are often labeled as noxious or invasive but in reality are far from those degrading monikers. Plants with prickles and spines are often targets of brush management efforts. We have long ago given up on calling it brush eradication, even given up calling it brush control, now we are just trying to manage these plants a bit. Plants such as honey mesquite (*Prosopis glandulosa)* and prickly pear (*Opuntia* spp.) are true natives to Texas though both are often thought of as imports to Texas by way of the longhorns being driven northward up the various cattle trails. Though neither is on the official Texas noxious plant list, much in the way of sweat, money, diesel and chemicals are spent each year in an attempt at controlling their spread.

Another native that has become aggressive in its rate of spreading westward is Eastern red cedar (*Juniperus virginiana).* Though originally found in Texas east of I-35, this woody has spread westward into the western Blackland Prairie, the Cross Timbers and eastern Edwards Plateau (Figure 1). Also native in Oklahoma, it has marched west across that entire state and has encroached upon many open grasslands. The main cause for this aggressive behavior is over-grazing of the land and the prevention of fire. Either wildfires or prescribed range burning can quickly and easily control Eastern red cedar.

If the fire browns out all of the green needles, then the tree will die. The lack of fire across the landscape in recent years has allowed this woody to march westward into new territory. Even organic control methods work for this non-sprouting species, using an ax, lopping shears or chain saw to cut the trees off at ground level.

Many people either live in a house or work in an office building that has yaupon (*Ilex vomitoria*) as part of the landscaping. As a beautiful landscaping shrub, this plant can survive in virtually every county in Texas because of the extra care and watering it receives. This native multi-stemmed, thicket-forming shrub can grow into a 25-foot tree in the rich, moist soils of East Texas. It is east of I-35 from the sandy soils of the Post Oak Savannah to the varied soils of the Piney Woods where yaupon has decided to express itself upon its native lands. Yaupon can and has become an aggressive under-story shrub dominating the area for moisture, nutrients and sunlight while shading out other shrubs, grasses and forbs (Figure 2).

Figure 1 (above). **Eastern red cedar quickly spreads across the native landscape when unabated.**

Figure 2 (left). **Red berries of yaupon are the means of it spreading across rangelands.**

Photos credit: Ricky Linex, USDA-NRCS.

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(Continued from Page 7—
Can a Native Plant be a Noxious or Invasive Plant?)

Figure 3 (above). **Native buffalo bur's vibrant and showy blooms are the kinder side of this early colonizer.**

Figure 4 (above). **Seeds of field ragweed have Velcro®-like hooks and are the only ragweed not readily utilized by seed-eating birds.**

Photos credit: Ricky Linex, USDA-NRCS.

Yaupon is readily grazed upon by livestock and browsed by deer leading to a compact growth form with many stiff branches which discourages further use by animals. This trait allows the plant to survive on overstocked land at the cost of plants that are less tolerant of over use.

Forbs or broad-leaved weeds are not immune from being associated with noxious weeds. Buffalo bur (*Solanum rostratum)* (Figure 3) is one that comes to mind especially when it germinates and dominates a piece of recently plowed land. It is poisonous to livestock but they rarely if ever eat it because of the numerous prickles. It is an excellent seed producer for game and song birds, and pollinators visit the many flowers that can bloom most of the summer. It is a native, annual forb and is commonly found across Texas. Many years when it is too dry to get food plots for wildlife to germinate and grow, buffalo bur will appear and save the day for the birds. Since it is an annual, an early shredding will reduce its prevalence for that year.

The timing of beneficial rains usually determines what type and quantity of forbs will appear each year. During 2014, in north Texas, rains didn't come until late April and May so the forbs were no-shows but the later rains benefited the grasses which pleased the livestock raisers.

Many ragweed species are preferred seeds for game and song birds but there is one native, perennial, rhizomatous species that sneaks into cropland, old fields and even native rangeland pastures. This is field ragweed (*Ambrosia confertiflora*) (Figure 4) which grows across much of Texas and is often confused with the more beneficial western ragweed (*Ambrosia psilostachya)*. The downside to field ragweed is that the seeds have tiny hooked barbs, much like Velcro® and these seeds have never been documented to have been found in the crop contents of quail. So you should verify if you have western ragweed, hopefully, or field ragweed in your pastures. Sometimes you will find both species mixed in a location and other times, it will be field ragweed dominating the area.

(Continued on next page)

(Continued from Page 8—Can a Native Plant be a Noxious or Invasive Plant?)

While we often bemoan the invasive nature of old world bluestems, there is a native grass found in South Texas and in the Big Bend region that has become as aggressive as these introduced bluestems. This is occurring on land that has been managed strictly for wildlife and where grazing by livestock has been removed over the past 10-15 years. This grass is tanglehead (*Heteropogon contortus)*, a truly native Texan being a warm season perennial bunchgrass that was once one of many grasses in these southern and western pastures when livestock were commonly grazed (Figure 5). But now that grazing has been removed in favor of managing for various wildlife species, tanglehead has become extremely fast growing and out competes other grasses and forbs.

Figure 5 (left inset). **Tanglehead seed head.**

Figure 6 (below). **A monoculture of Tanglehead results after it easily out-competes other native grasses and forbs.**

Photos credit: Ricky Linex, USDA-NRCS.

Tanglehead can form monocultures with only scattered brush species seen amidst the many acres of this grass (Figure 6). While it forms excellent nesting and fawning cover for game birds and deer, it becomes too thick for small birds to navigate through and few food plants can grow in its shade. Reintroducing prescribed burning and livestock grazing to these areas will help to increase the plant diversity of the sites. The problem remains that there are many thousands of acres dominated by tanglehead so getting the animal impact upon large areas is difficult. It becomes a logistics problem of concentrating enough animals onto areas for enough time to reduce the grass cover and then moving to the next pasture while hoping that the tanglehead has not grown too mature to graze.

Learning to read the land is an important trait to those who make working with the land part of their lives. We need to learn to recognize these changes on the land, whether by introduced plants or by what I have described as aggressive natives. But let's call these native plants by their real names and not belittle them with the misnomer or noxious or invasive. There are enough of those plants to worry about.

Ricky Linex is a Wildlife Biologist with the USDA-NRCS in Weatherford, Texas, and serves as the Co-Editor for the Reverchon Naturalist.

photo spot

Curious By Nature

As nesting season approaches, Black-capped vireos (*Vireo atricapilla)* will soon be returning to our landscapes. The curious glance of this vireo makes you wonder what he's thinking.

Photo credit: Ilse Meier, Native Plant Society of Texas & President of the Tonkawa Chapter.

(Continued from Page 3—My Piece of Land)

Nurturing some species, while controlling others - this is the essence of land management. You decide what you want to grow, and then you learn how to creatively manipulate the land to produce the desired objective.

I have also learned something about soil by watching this piece of land. The soil structure, organic matter content and porosity has improved greatly. The soil, a tight clay loam underlain by caliche, now drinks up water like a sponge. The soil is mellow and is easily dug. A shovel-full of soil has the classic crumb structure of a rich prairie.

Lessons I have learned from watching *my piece of land*:

- **Plant communities are always changing if you watch closely.**
- **Plant communities usually must be actively managed in order to meet stated objectives.**
- **The objectives of the owner dictate the kind and intensity of appropriate management.**
- **There are no cookbook recipes to describe what is right and wrong management; every piece of land is unique.**
- **Aggressive species must be matched with aggressive management.**
- **The more plant diversity you have, the greater animal diversity you will have.**
- **Letting nature take its course may result in an unsightly overgrown mess.**
- **The microbial decomposition process is inadequate to deal with the accumulated growth of grass; hence, the ecological role of grazing to remove or prevent excess buildup.**

If you live in the city like me, your piece of land may have to be a small corner of your yard. Whatever the size, get to know your piece of land. Watch it closely and tend it carefully – it will teach you important things.

Steve Nelle is a retired Wildlife Biologist with the USDA-NRCS and resides in San Angelo, Texas.

MONARCH JOINT VENTURE

Soon, if not already occurring in your backyard, the over-wintering populations of the Monarch (*Danaus plexippus*) butterflies will begin to migrate. Monarch butterflies will journey north into Texas and southern states, laying eggs and nectaring as they migrate and breed (Figure 1).

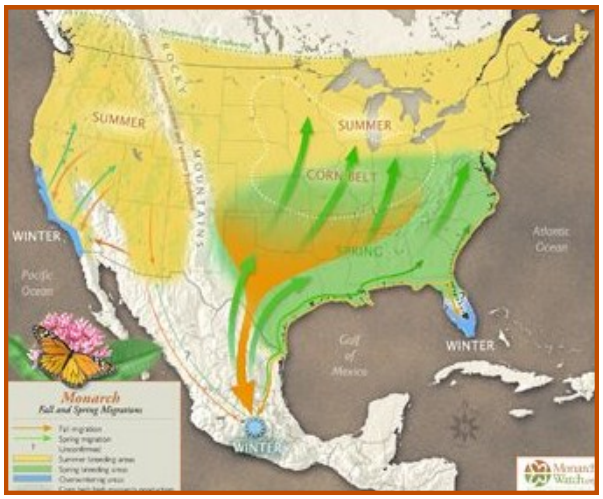
The first generation offspring from the overwintering population continues the journey from the southern U.S. to recolonize the eastern breeding grounds, migrating north through the central latitudes in approximately late April through May. Second and third generations populate the breeding grounds throughout the summer.

The cycle continues with each seasonal migration, and it is generally the fourth generation that begins the fall trek southward. These adult Monarchs migrate through the central and southern U.S. and northern Mexico to bask in the wintering sites of central Mexico.

For more information about the spring migration of Texas' state insect, the Monarch butterfly, visit http://monarchjointventure.org/**.**

Figure 1 (below). **Seasonal migratory paths for Monarch butterflies.**

Image credit: www.monarchjointadventure.org



Angry Ice—I'm Waiting for Spring

Melissa Sturdivant

Last fall on a warmer than normal fall evening, a cold front pushed through the region with a bang as it moved southeast through Coleman, Brown and Mills Counties. In this issue of the Reverchon, there have been a lot of discussions about how weather has impacted the rangeland in recent months, and recommendations for making sound management decisions as you read the land over time. Lots of great advice from conservation stewards. Let me tell you about this little piece of heaven that I call home—about 320 acres in northern Coleman County, and how one storm and some angry ice have set plant succession back for many years.

The cold front that moved through the "Big Country" region on that October night left more than abundant rainfall and cooler temperatures. That one weather event scarred the landscape in ways that are still evident and amazing to see. With that cold front came hail stones the size of baseballs. Yes, from that storm, structural damage occurred, but when compared to the damage on the landscape, that seems much easier and quicker to repair. What was realized immediately was that the four coveys of bobwhite quail that we had come re-accustomed to hearing last year were suddenly gone!

As you may realize, bobwhites nest in open grassland areas and especially rely on bunchgrasses like little blue stem. The waist-high little blue stem in our pastures (Figure 1) was crushed and matted to the ground (Figure 2). The quail? They were most likely killed by the hail stones. Even the protective cover provided by nearby live oaks and browse could not protect them from *angry* ice—hail!

We were lucky, but the plants left in the swath were denuded and free of foliage and any mast. The impact to wildlife was real, too. Throughout this past winter, the wildlife have not moved as they traditionally did so in their habitat. Browse was stripped bare and provided no protective cover. Deer have struggled more recently because the mast crop which would have sustained their diet in these late winter months was dropped prematurely. Little to no forbs or browse have been available for forage.

What has been learned from the land? As Steve Nelle shared of his learnings from his "piece of land" (pg 1), taking photos, keeping journals and records can help with making long-term management decisions. Photos are great, and help when memory fails. Photos taken over time as revealed here capture the extent of damage and will help us with making sound management decisions for the pastures this year and longer (Figures 1 & 2). Obviously, grazing will be deferred until we can determine the adequate recovery of the grasses.

Yes, rain is needed and wanted, but I would rather have had it in another form. The damage from the storm persists today and will for years. Even *angry* ice in the form of a hailstorm can leave more than an imprint in the soil as we have discovered. We are hopeful for recovery of the land and plant community this spring, and we will definitely get to watch and learn from the land and the plant succession process while sitting on the back porch.

Melissa Sturdivant is a Soil Conservationist with the USDA-NRCS in Goldthwaite, Texas, and also Co-Editor of the Reverchon Naturalist.

Figure 1 (above). **Waist-high little blue stem blankets the rangeland in Coleman County (June 2012).**

Figure 2 (right). **No, this hasn't been grazed in 8 years! Forage was beaten and trees stripped of foliage from the hailstorm (late October 2014).**

Photos credit: Melissa Sturdivant, USDA-NRCS.

Spring Forward Observations

Ricky Linex

For the past few years, I have been writing down names of plants first seen this time of year while travelling around north central and central Texas. More than once, I thought the well-worn single sheet of paper had been gathered up and thrown away while cleaning up the pickup. The paper is dog-eared, wrinkled and has a bumpy texture from becoming moist and then drying. I condensed these sightings down into four months to give it a natural flow (see lists).

I need to begin with the first white-flowered forb that will bloom each year, as early as February in most years. This plant is ten-petal anemone, also called windflower. The tri-lobed leaves begin growth hugging the ground and then a stalk emerges with a single flower head. It never fails to be the first white flower seen to predict the coming spring in most locations in north central Texas. The other white-flowered forb that blooms in early March is Draba, whose flowers are almost too tiny to notice.

March for north Texas is when the first blue-bonnets will emerge, and weather this winter should provide good crops of bluebonnets this year. Joining the ever popular bluebonnet are numerous Indian paint brushes. A roadside covered with bluebonnets and Indian paint brushes is an open invitation for photos with children and pets dutifully posing for the camera.

April brings many more flowers to bloom. Most commonly known is Indian blanket. The colorful flowers have a rich history first told by Native Americans. One of my favorite annual forbs is Yellow Texas-star. The robust plant shoots up and produces several flowers with five yellow petals, each with a tiny notch in the end of each petal. Under each matured petal lies a large seed roughly shaped like a flattened turtle shell. Puccoon is an unusual plant that produces two sets of flowers, the first are yellow with frilly petal tips and are un-fertile. Later in the early summer, inconspicuous flowers produce the white seeds which have always reminded me of a knight's shiny helmet.

March Bloomers

Algerita
Bladderpod
Bluebonnet
Blue curls
Draba
Elbowbush
Indian paintbrush
Low menodora
Mexican buckeye
Mexican plum
Puccoon
Southern dewberry

April Bloomers

Chalkhill wooly white
Clammy weed
Cobaea penstemon
Fragrant gaillardia
Indian blanket
Inland ceanothus
Rusty blackhaw
Texas sophora
Vetch
Western indigo
Winecup
Yellow Texas-star

Figure 1 (top). **Puccoon's (*Lithospermum incisum*) frilly blooms are not all they show to be. Yes, the frills are for show, and the true flowers emerge later in the spring.**

Figure 2 (above). **Windflower (*Anemone berlandieri)* shows off ten petals which are actually sepals that protect the true flower structures.**

Photos credit: Ricky Linex, USDA-NRCS.

(Continued from Page 12—Spring Forward Observations)

Plants beginning to bloom in May include the very showy American basketflower. Not eaten by livestock nor deer, this plant is a great pollinator plant as well as a tremendous producer of shiny black seeds relished by game and song birds. Another desirable pollinator for bees and butterflies, especially the troubled Monarch, is butterfly weed whose bright orange flowers are hard to ignore. Butterfly weed in north central Texas is mostly seen in nature in deep sandy soils often growing in full sun near post oaks. Inland ceanothus is a small shrub that is commonly seen in caliche cuts in the highways where it can find cracks to send down roots and survive the harsh growing conditions presented by the steep slopes and low water infiltration. Catclaw sensitivebrier is a desirable forb and a very deep-rooted plant. It can grow in a caliche road or even broken asphalt which shows how tough it is. Orange flame flower grows from a fleshy tuber that rest 3-4 inches below the soil surface. I once dug one that was maturing flowers and beginning seed production. I kept the plant in my office with the root in a glass of water for a month and the plant stayed green and matured seed. Quite amazing in its ability to go from direct sunlight to florescent lighting and continue as though nothing had changed.

It is often really hot in June and those flowering during this time period are capable of withstanding the heat. White rosinweed likes it hot and the growing conditions harsh; shallow, rocky soils fits this plant just find. American beautyberry is often an understory shrub which has nice pinkish-white blooms but whose magenta to rose colored fruits are the most eye-catching. Bluebells are a favorite plant of mine and of many others who in the past used this plant for cut flowers to the point of almost causing it to become next to impossible to find. Thankfully the plants have recovered and are often seen in seepy, low areas. Golden dalea and standing cypress are also pollinator magnets and neat plants for native plant gardens.

We are just now coming into the period of blooming forbs, grasses and woody plants. California filaree and Elbowbush have already started blooming, although the freezes have setback the Elbowbush flowers. Start making your own list and see if the plants change over the months in future years. Aldo Leopold noted, in *A Sand County Almanac*, that "This year I found the Silphium in first bloom on 24 July, a week later than usual; during the last six years the average date was 15 July." Being observant is a good trait for any naturalist to learn to see the environment and how the parts all fit together.

May Bloomers

American basketflower
American germander
Annual sunflower
Butterfly weed
Catclaw sensitivebriar
Corn salad
Eastern gamagrass
Engelmann's daisy
Green thread
Horsemint (Beebalm)
Orange flame flower
Prairie sunflower
Rough-leaf dogwood
Western soapberry
Wild plum
Yarrow

June Bloomers

Beautyberry
Bigtop dalea
Blacksamson
Bluebells
Buttonbush
Carolina snailseed
Golden dalea
Partridge pea
Prairie coneflower
Standing cypress
Texas bluegrass
Texas bullnettle
Three flower melic
White rosinweed
Wooly croton
Wooly ironweed

Figure 1 (below). **Orange flame flower (*Phemeranthus aurantiacus*) fleshy root was historically a food for Native Americans.**

Figure 2 (below right). **Flower clusters of Rusty blackhaw are very showy and noticeable from a distance.**

Photos credit: Ricky Linex, USDA-NRCS.

Ricky Linex is a Wildlife Biologist with the USDA-NRCS in Weatherford, Texas, and serves as the Co-Editor for the Reverchon Naturalist.

Hickories—*more than meets the nut!*

Across our great state, native hickories such as walnut and pecan thrive along bottomland and riparian areas. As Dr. Allan Nelson shared in his article about the Hickory family, there is archaeological evidence documenting their long use by various Native American tribes.

Definitely more than meets the eye—this nut, tree and other plant parts of several Hickory species offer promise for use as a medicinal. Although the American Cancer Society sites no official curative properties, it does suggest that from laboratory research, juglone, a chemical compound found in plant species of Juglandaceae, may have antitumor activity and may provide for future development with cancer treatments.

Several Hickory species' plant parts have a long history for use in medical treatments among many Native American tribes. Leaves and bark were used for treatment of skin disorders, gastro-intestinal inflammation, pulmonary infections and general use as an anti-inflammatory.

Oil from the black walnut is a strong astringent and fungicide. Ground poultices and juice extracted from the green hulls were used in teas and decoctions for treatment of fungal infections. The Comanche reportedly ground up pecan leaves to create a poultice and applied it directly to the skin for treatment of ringworm. The Kiowa used the bark from pecan in a tea decoction which was drunk for the treatment of tuberculosis.

The Tarahumara Indians of Mexico reportedly mixed crushed leaves and bark of black walnut to create a stupefication agent to catch fish. Caddo Indians used the bark of black walnut to weave as a rope fiber to bind the frames of their houses. There is a lot of evidence that the oily resin from walnut hulls was used to "tan" or darken animal hides or to dye other fibers and clothing. Try shelling some of them and you will quickly learn why the hulls were great when used as a dye.

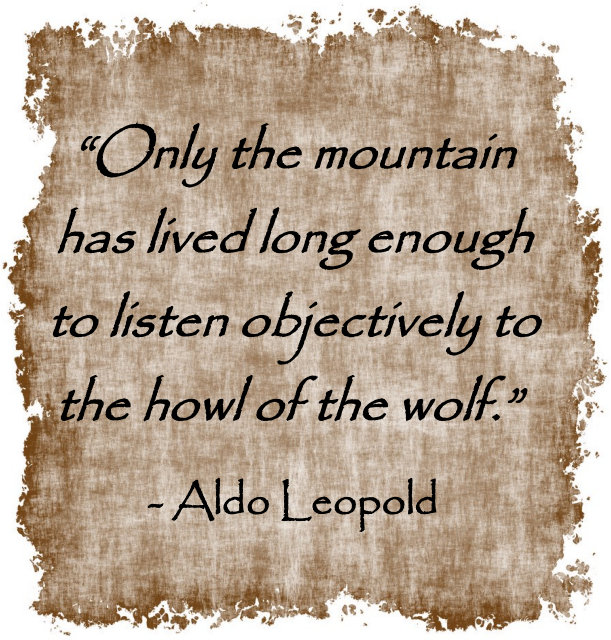
Hickories have been used for thousands of years on the Texas landscapes, and we continue to value these native trees. There is also hope for exploring its many medicinal properties, too—in the future. We learn from the past.

Melissa Sturdivant is a Soil Conservationist with the USDA-NRCS in Goldthwaite, Texas, and serves as the Co-Editor for the Reverchon Naturalist.

As part of the ongoing outreach efforts of the Monarch Joint Venture, learn more about the Monarch butterfly and how to provide the best habitat by watching these webinars.

Visit the US Fish and Wildlife Service (USFWS) online learning portal to view a series that teaches about Monarch biology and also what's needed for habitat restoration.

These webinars are free and available at the USFWS National Wildlife Conservation Training Center, http://nctc.fws.gov/topic/online-training/webinars/monarch-conservation.html



See anything happening on your Texas rangeland? Articles *and* photos related to the flora and fauna of our native landscape are welcome. We'd really like to hear from you; please share what's happening in your part of the state.

Send your 300 to 500-word essay to Ricky Linex at ricky.linex@tx.usda.gov and Melissa Sturdivant at melissa.sturdivant@tx.usda.gov

Melissa Sturdivant

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