

Nature Committee Newsletter
Fall/winter 2016

BALANCE OF NATURE – Many throughout our community here in The Hills have noted that they are seeing WAY more rabbits, mice and rats this year than ever before – while also noting fewer coyotes. That make us (Nature Committee members Lynne Aldrich, Lynne Brown, Colleen Stegall, Wolf Patrick and POA Board Liaison Peter Gottsching) begin to think about the balance of nature – how different species interact, prey upon one another and either help or hinder keeping in check some of those things we humans find to be bothersome.

So, just what does balance of nature mean? **(Written by Lynne Aldrich)** Not an easy concept in actuality. In general it is thought to be equilibrium within organisms – animal and plant – in which the stability of those communities remains somewhat constant and stable with small, natural changes over long periods of time. But outside influences can change that balance dramatically – natural influences like the fire that consumed our area five years ago talked about in our last newsletter or un-natural changes that man himself makes on a habitat that leads to an introduction of a new species or an explosion of the population of one species. Some of these impacts can be good and some can be bad – throwing off nature in a way that no longer allows a balance to be maintained so we no longer have a mixed species environment, producing a limited few species that become pests because their natural prey have been eliminated.

How do different species interact and how can they help us – or when should we begin to become concerned over a balance that no longer seems to be natural? All species are important and each one, in their own way, helps in keeping our ecosystem balanced. Co-existence is the essence of balance and each of us plays a role in that co-existence. Disturbances of any kind make a change – wind storms, fires, disease, over hunting, over feeding, pesticides, floods, removing natural vegetation instead of incorporating them into our landscape planning. The removal of even one species can have a huge impact on the rest of the species left in place.

Birds in particular play a large role in helping to maintain balance. We have birds that eat insects and I suspect most of us have observed the Roadrunner lurching after some of the crickets and grasshoppers that we have around here. The Roadrunner will also tackle snakes and one of our residents has even seen the Roadrunner take on a rabbit!! Our hawks and our owls swoop down to take up a rodent as well as a snake. Turkeys love insects – spiders, snails, lizards, small frogs, small snakes along with the vegetation that include nuts, berries (sumac around here) All of our birds are helping to keep things in balance for us.

And those **snakes** that are being picked off by their predators are also predators themselves – being important in playing their own role in the balance by keeping different populations in check from worms up to rabbits and yes, even other snakes!! They play an important role in the control of rodents as well so I ask myself – where are those snakes this year??? If we are getting rid of them perhaps we are also bearing responsibility for increasing our rat, rabbit and mouse populations which we have seen exploding this year.

But – who is at the top of our food chain here in The Hills. Well, you guessed it – the **Coyote**. But did you know that 42% of its diet consists of rodents? Yes, they will take food where ever they can find it but they primarily feed on rodents, insects, snakes, birds (yup) and fawns which helps to keep the balance in our deer population - another species we should know we have an impact on. The Coyote is one of the major species that people for many years have targeted for removing. A very interesting article in the New York Times refers to a study done in Yellowstone that shows when coyotes are left alone, their populations stabilize. This article also briefly discusses the attempts to remove this species from the American landscape. A quote from the article says “Pressured, they engage an adaptation called fission-fusion, with packs breaking up and pairs and individuals scattering to the winds and colonizing new areas. In full colonization mode, the scientists found, coyotes could withstand as much as a 70 percent yearly kill rate without suffering any decline in their total population.” In fact they discovered that all that happened was that the coyote dispersed widely throughout the country and into our cities. Leaving this species alone as said may be the actual way to begin to stabilize the population itself and return that natural balance that helps keep other species in check. Here is the link to the full article (it is short) but very interesting study and research. <http://www.nytimes.com/2016/08/11/opinion/stop-killing-coyotes.html?ref=opinion>

How does **habitat** impact the different species? We talked a lot about this in our last newsletter so feel free to refer back to that article on the POA webpage (<http://www.pkhillsassociation.com/>) We have had a re-growth of vegetation after our fires and then for the first time in some time we had plenty of rain – all of which is providing plenty of food for our rats and mice. Coupled with perhaps fewer predators we are having an explosion. Our rats are probably wood rats and we do have some pocket gophers as well. Then, there are those pesky mice that seem to love hanging out in BBQ's. Rats and mice have long, bare tails and Pocket Gophers have shorter tails – and from our perspective are little larger and fatter. Pocket Gophers love to raid gardens just as the rabbits do. Here are some pictures of a gopher and a rat. Very difficult to identify those we are able to see but these two below could be found in our area/habitat. I think we all know what the mouse and the rabbit look like!! The Pocket Gopher size is 7 – 10 inches in length and the Woodrat is 7 ¼ to 8 inches in length.

The Woodrat clearly has very light/white feet that can help identify it. It will eat in our gardens as well – even feeding on the thorned rose bushes!!



Plains Pocket Gopher



Southern Plains Woodrat

Rabbits are herbaceous but seem to particularly like fresh vegetables and fruits from a garden (tomatoes for instance). They also chow down on some of our cactus paddles. Another species that is benefitting from the rains we have had and the new growth after fires that are keeping them all well fed. They unfortunately breed profusely with several litters of four to seven during a year. With good food availability, fewer predators and the good weather we had in the spring they thrived. You can tell whether it is a deer or a rabbit grazing on your plants by noticing whether the browsed plant is smooth, clean angled, neatly clipped appearance (rabbit) or ragged and torn (deer). Some natural ways to keep rabbits out are to plant or scatter around lavender and catnip. Marigolds are also deterrents. We can tell you from personal experience that the fox pee suggested by a local garden supplier did NOT work for us and our tomatoes never reached our table

All of these species (rats, mice, rabbits) perhaps need to be controlled by us in some way and traps of one kind or another can be the main line of defense for rats and mice. Poisons can be detrimental to species other than those we are trying to rid ourselves of (lizards, frogs, etc.) so should be used sparingly if at all. We can probably co-exist with rabbits using some of the controls around those things we want to protect mentioned above. Rats and mice might be another story – at least for a while.

In the long term, allowing some of the predators we see as threats – the snakes, the coyote - to grow in population may help in beginning to return a better balance for all over the years. Making certain we help in playing a positive role the best we can will perhaps help in keeping or even returning a natural balance to the nature we have in The Hills.

Deer (Written by Lynne Brown), another species some of us have thought are not as common as they had been in the past. Why do we have so few deer in The Hills?

Many of us have asked this question, and there are several possibilities, but no clear answer. The ranch manager of the property that was formerly the Richie Ranch (now The Hills) said that there used to be quite a few deer on the property. He feels that the fires drove many of them away. Another suggestion is that many of the ranches surrounding our property actively manage their deer population, therefore also reducing our numbers. Whatever the reason, if we would like to increase the numbers of white-tailed deer around us we need to know a little more about deer habits – what they like (and don't like).

White tail deer usually live within a one square mile, with the exception of breeding season. **Good habitats for deer include:**

Food Availability- forbs (non-woody flowering plants (see Wolf's article for suggestions on planting). These are eaten throughout the year and are a high source of protein.

Browse- particularly eaten in drought or late summer when forbs are scarce. Examples are hackberry, cedar elm, shinoak, post oak, blackjack oak, flameleaf sumac, Texas redbud, greenbriar and bumelia. **Mast-**short-term food source such as fruit, acorns, nuts. **Grasses-** make up only 5% of diet. **Cultivated crops-**your garden!

Cover-deer need a place of safety in bad weather and protection from predators. The best cover for the deer is a 2 to 1 ratio of woody trees and brush to open land.

Water- deer drink up to 6 quarts of water a day. They can absorb some of this water from plants.

Supplemental Food – all supplemental food should not be a substitute for a lack of native plant species. Deer feed should be specifically developed for white-tailed deer, with at least 16% protein. Deer also love fruits and vegetables from a garden, so if you don't mind planting some extra, they love much of it. Have a plot of winter wheat or oats? Deer love that too.

The best deer habitat relies on the quantity and quality of browse in your landscape. A wide variety of the species listed above might help to encourage a larger deer population. Promote native grasses and annual and perennial forbes.

Plants (Written by Wolf Patrick in coordination with Colleen Stegall) play a role in the balance of nature too. Each species has its own need and making certain those plants are available may need our help in making certain it is or remains available. Ricky J. Linex-Naturalist, biologist, conservationist, and author of Range Plants of North Central Texas (ISBN: 978-1-4951-2165-4) reminds us "a genuine land steward will combine his knowledge of the land with an appreciation and respect for the land." In my mind, that is what we are here in the Hills, we are stewards of this vast plain of vegetation and wildlife that we have been blessed with. After all, isn't that why we live here? If we are

to achieve that needed balance between our desire to live in nature and have nature remain - we must be stewards of the land they survive on. Knowing what plants grow here and which ones are necessary to that survival is key. This knowledge allows us to incorporate local vegetation into our landscape designs rather than eradicate what is already provided to us naturally and instead plant something non-beneficial. In addition, Laura Jackson; executive director of the Tallgrass Prairie Center, explains prairie plants are a responsible part of our ecosystems, helping to keep water clean and soils in a healthy state. In our area in particular, we should consider the fact that they need much less water (usually only what nature provides), support our many species, lower emissions where not required to be mowed, and in the end saves time, money and most importantly, creates balance.

Leavenworth's Eryngo is an upright plant with a deep bluish purple - almost pineapple looking flower-head, that may not seem very important; however, in the potential ice storms to come it is a life-saver for birds. The seeds which have remained secured within the grasp of that thistle-like seed head will be pecked at in a time when many other seeds are long gone. In contrast, the invasive **Scotch Thistle** is considered so aggressive in its ability to populate acres into dense impenetrable foliage, that it essentially eliminates productive grazing areas for wildlife. The edges of the leaves remind me of Bull Nettle. Though Scotch Thistle also has a pretty purple flower it is not a plant you would want to incorporate into your landscape.



Leavenworth's Eryngo



Scotch Thistle (1)



ScotchThistle(2)

Here in the Hills we are considered to be in the Cross Timbers and Prairies vegetation area where Ragweed thrives, and though Ragweed is not your allergies best friend, the **Western Ragweed** is a wildlife pleaser. Turkey, Quail and Dove all eat the seeds, and Deer consume the leaves, which provides an approximate 19% protein value. On the other hand, **Field Ragweed** is not a crowd pleaser. This perennial spreads into colonies and is of meager use to Deer or any other wildlife.



Western Ragweed



Field Ragweed

Spiny Aster is a tall grass-like plant common to our area as well. It can usually be found near creeks, where its strong roots are said to help stabilize the banks. It can also be found in ditches, but also likes most any place where ground has been distressed. You may not know it until close inspection, but it has really small yellow and white flowers displayed in a disc shape. Though Deer eat the Spiny Aster only when it is a non-mature plant, its most beneficial property is that Deer favor it for Fawning cover. Without these types of hiding places, Deer will not have their young in our community.



Spiny Aster (1)



Spiny Aster (2)

The Common Mullein is a tap-rooted plant whose leaves resemble velvet. Yellow flowers form in its upper stalk. The plant does not provide any real survival abilities as far as Deer and most birds go, but it has vast historical use as candles, wicks for candles and even tea. So why do I mention it then? Because there is one species who does benefit from this odd 5 to 7-foot tall biennial, and that is a Hills favorite - the Hummingbird!! Hummingbirds take the itty bitty hairs that grow on those velvet leaves and line their nests with it. Want Hummingbird nests around your house, try leaving this native plant where it is, perhaps developing it and surrounding local plants into a “native prairie garden”.



Common Mullein (1)



Common Mullein (2)

Narrowleaf Gayfeather is another nature favorite. This plant likes gravelly soil like we have in the Hills, and is considered good forage quality for Deer. The seeds do not fall to the ground until winter is pretty well under way. So, much like the Leavenworth's Eryngo mentioned above, it provides birds a good meal in hard times. In addition, the plant flowers in early Fall producing a purplish spike that pollinators adore and Monarch Butterflies have been known to pay a visit: *for more information on ways to feed Monarchs go to saveourmonarchs.org*. Another plant to retain is the White Prairie Clover which has small white fragrant flowers on rounded heads. This woody stemmed plant is eaten by Deer and is packed with protein in early summer, but for its growing season remains of wholesome value. It is also an insect attractor, which in turn gives our insect eating birds a reason to visit your yard. You may come across some Pokeberry in the Hills too, it likes to grow where land has been previously burned; especially from brush pile burning. Though Pokeberry is poisonous to livestock, it is eaten by Deer and its red and black berries are eaten by Quail, Dove, and Turkey. Songbirds are said to "relish" the berries.



Narrowleaf Gayfeather (1)



Narrowleaf Gayfeather (2)

Silverleaf Nightshade is considered a bit of a weed in Texas, but Europeans favor the plant as a quite a beautiful wildflower. Perhaps we can learn from the Europeans on this one; Silver Nightshade provides Deer up to a 20% protein value in early summer, while Quail eat the seeds and Turkey consume the berries. Pollinators also like the plant, it's a win all the way around!!



Silverleaf Nightshade (1)



Silverleaf Nightshade (2)

In the “Valley” as I call it (runs on either side of PK Boulevard), the **Sunflower** is pretty common. The Sunflower is a tap-rooted plant almost everyone recognizes on sight. But besides being a large spotlight on the range, it is a vast provider of high energy food to song birds, not only through the oily seeds, but from the variety of insects it attracts. Deer also like the plant, eating the leaves. This local likes all kinds of soils, and endures drought and extreme climate change well.



Sunflower

Now for mention of a very beneficial plant you may not want to retain, the **Tall Bread Scurfpea**. Though this light to deep blue flowering plant feeds Deer and Song-Birds, it has large roots that Ferrel Hogs have been known to like; digging them up and causing boundless damage to property. So if you are providing other good sources of plants for wanted species, you may want to forego this one.



Tall Bread Scurfpea(1)



Scurfpea (2)

Last but not least, the **Texas Blue-Bell**. My personal favorite in our community. This bright flowered local is known as one of the most beautiful wildflowers we have in the North Texas region!! Though, unless I am color blind, the flower is closer to a deep purple than it is blue. Once you spot it in its sprouting stage you will recognize its uniquely smooth bluish-green leaves. Stems will grow erect up to 2ft and you will notice the leaves arrange themselves opposite of each other. You can't miss it, once you

know what it is. Unfortunately, as a provider for wildlife it is poor. However, pollinators do like it, so that combined with its eye appeal is a no brainer for me. Sadly, the plants popularity as a flower to cut and display indoors has decreased its proliferation. The seeds are described as having the consistency of dust, which make them very hard to develop, so if you want to try and spread more of them about your property, Linex says to gather a layer of soil from around matured plants and spread it over areas where you would like to try and populate them.



Texas Blue-Bell(1)



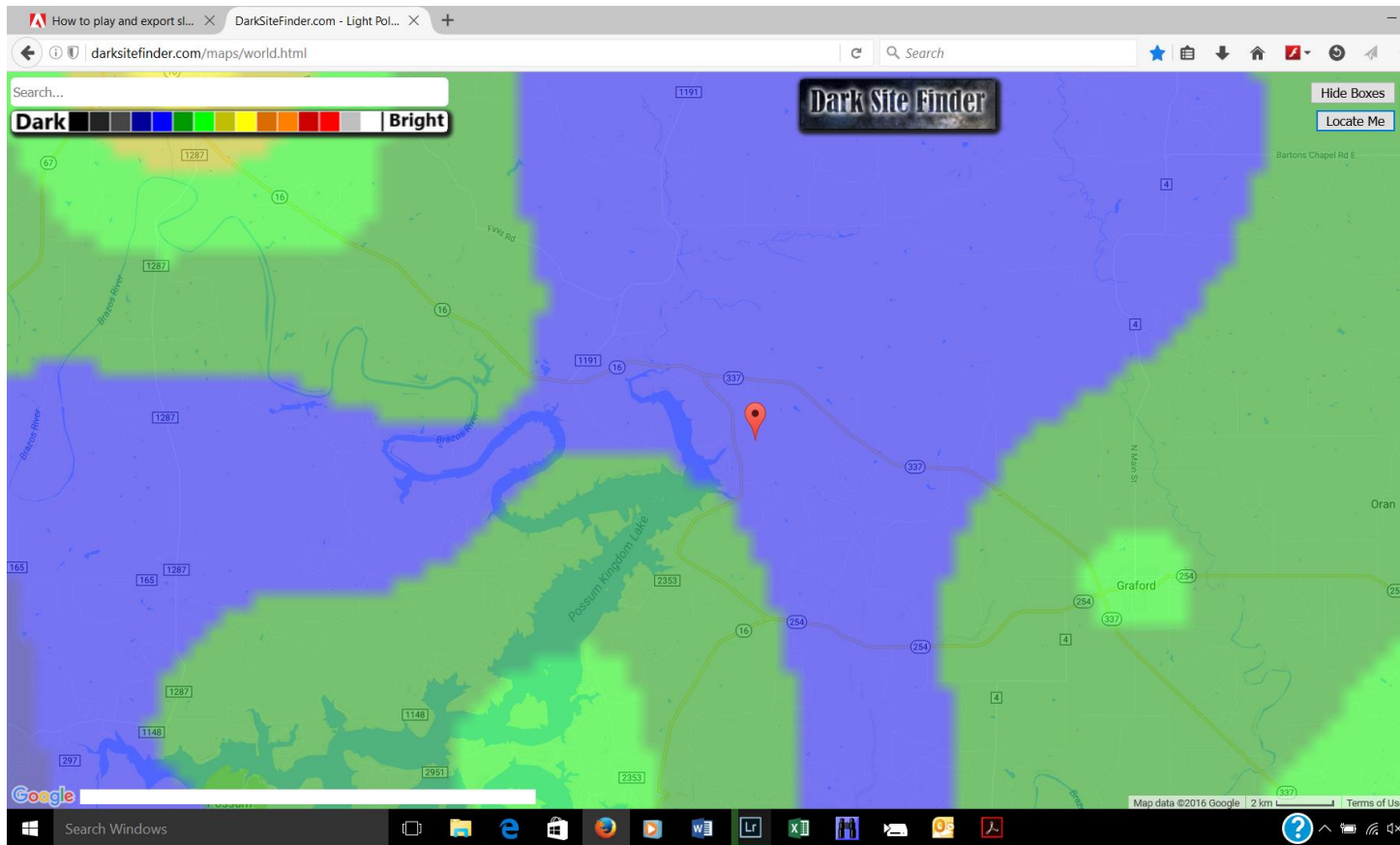
Texas Blue-Bell (2)

And remember, if we want to preserve the nature around us we must become good stewards of what we have been privileged to be surrounded by.

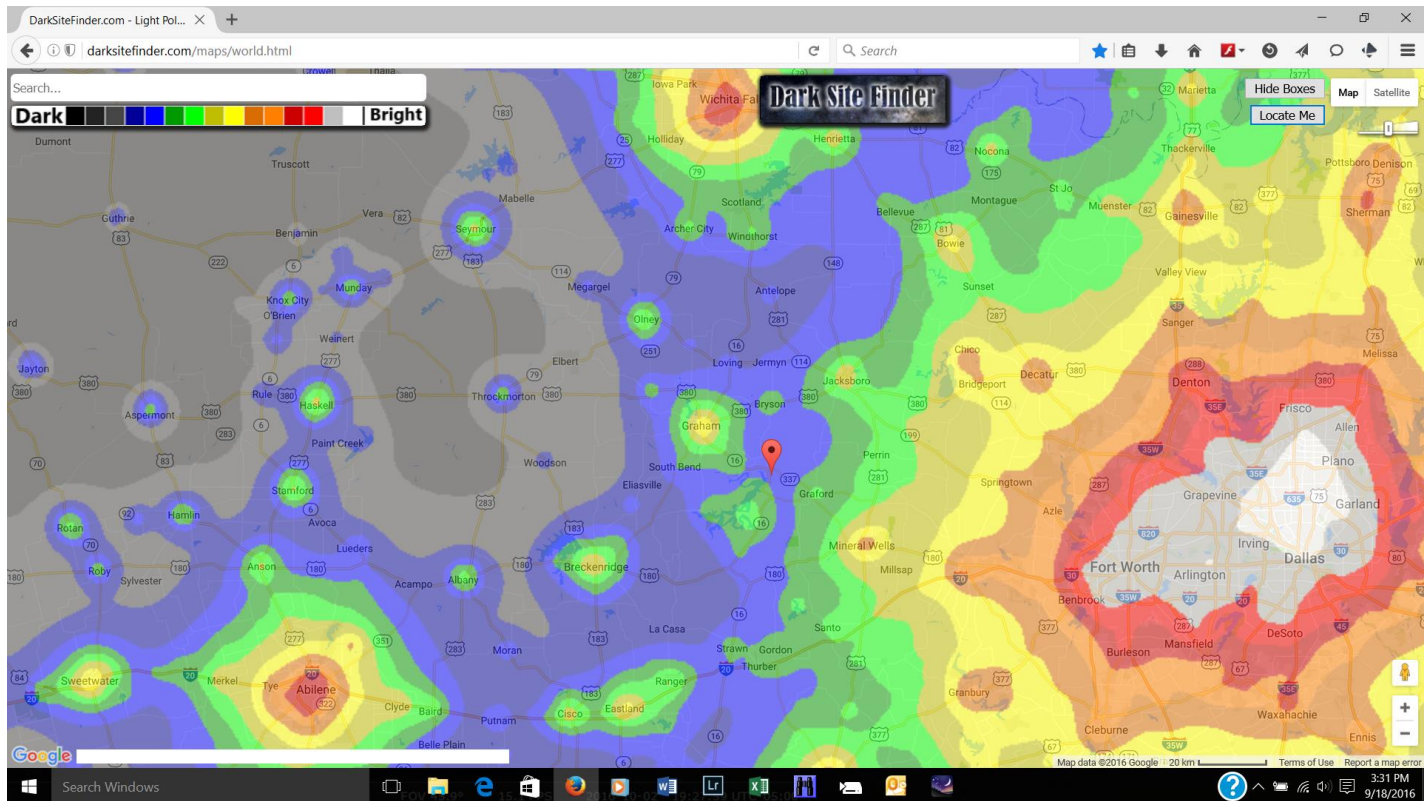
Dark Skies over The Hills above Possum Kingdom or We the Fortunate Few. (Written by Peter Gottschling)

On a clear moonless night have you ever looked up at the sky in The Hills and been amazed at the Milky Way and the number of stars you can see? Do you also see the huge dome of light in the east that blots out the stars? Do you know how fortunate we are to see this sky? I have included a few maps that show just how good our dark sky is compared to the rest of the country. With few exceptions The Hills are darker than almost anyone east of the Mississippi can experience (see map 3). The Hills are situated in a dark corner near the conjunction of the huge DFW light dome and the small domes of Graham and Graford which are especially visible on a hazy night due to light reflection off the water vapor in the air. The second map shows that you have to get west of Graham to get any better, darker view of the night sky. This article is to prime you for the next PK Hills Nature Newsletter where I will discuss how we can keep our dark skies even with more development which is surely coming soon. The good news is we can do this simply by being prudent with efficient shielded light fixtures that are good for preserving dark skies and will also be kind to your neighbors.

PK Hills dark sky map from <http://darksitefinder.com/map/> . The pin marker is The Hills.



PK Hills in perspective of DFW and the darker west country



Dark sky map of United States lower 48

