

THE HILLS ABOVE POSSUM KINGDOM NATURE NEWSLETTER FALL/WINTER 2024

INTRODUCTION: We can tell that summer is coming to an end. Some of the birds are beginning to leave, some of the birds are beginning to migrate through. Right now (middle of July) the Mississippi Kites (who have nested here as well) are beginning to pass through. A pair of Canyon Wrens have decided our house (and especially our back patio) is the ideal place for them. We're certain they have mated but have not seen any young. And then here comes Fall and then Winter. Hopefully they will stay around to entertain us through this season.

The first day of fall is Saturday, Sept. 23 at 1:50 a.m. Central Time. Officially, that day is called the autumnal equinox. And there is so much to learn about nature and things that can be within our natural community. All living things, from human to butterflies to birds to mammals to mushrooms are related to one another. Walt Disney has been great at showing us nature and how we are all connected. Here in The Hills we are lucky to be living in our own Disney world – a place that continues to contain the multiplicity of all that has been created and perhaps we share a responsibility to help in assuring it remains a place of peace and beauty. Our intent is to entertain you and inform you on the many different aspects of our natural habitat and the wildlife that lives in them along with the importance of preserving this beautiful development for our own enjoyment.

We begin this newsletter with information and an update something that is important for all of us here that live around Possum Kingdom Lake. The TCEQ is in the process of reviewing Abilene Texas's application to recertify its effluent discharge permit. This will impact our Lake tremendously. This article, written by Monte Land, will explain all of this very well and ends with an update on the status of the permit at this time.

This issue is long but we think you will enjoy the information in this Newsletter and all of the interesting, informative and fun articles we've done. Your Committee members are: Lynne Aldrich, Peter Gottschling, Wolf Patrick, Ron Ritchie, Debra Wallace, Magyn Whitaker)

AN UPDATED NOTE FROM PKLA PRESIDENT MONTE LANE: This post contains an update on the TCEQ permit renewal for the City of Abilene. The update is at the bottom of this note, but the full note gives the detail of the permit renewal.

The Texas Commission on Environment Quality ("TCEQ") and the City of Abilene (the "City") will host a Public hearing that will be held Tuesday, June 18, 2024, at the PK Chamber of Commerce building from 7:00-9:00pm.

The purpose of the meeting is to receive comments from the public about the City's application to recertify its effluent discharge permit. Permit No. WQ0005213000
Comments will be received orally and in written form.

The City of Abilene purchased rights from the Brazos River Authority (“BRA”) for 20,000 acre/ft of raw water to be pumped out of Possum Kingdom Lake from the Caddo area.

Subsequently in 2018, the City secured a permit from the TCEQ for construction and operation of the desalination plant to treat that raw water. That permit must be re-certified every five years. The discharge of effluents resulting from the operation of the City’s desalination plant is matter of concern to Possum Kingdom Lake property owners.

In 2018, when the City’s original water treatment application was submitted, the Possum Kingdom raw water was to be treated at the City’s desalination plant in Breckenridge before going on to Abilene. The effluent from the treatment process in Breckenridge were to be piped back to South Bend area of the Brazos River and discharged into the River. Discovery of an endangered minnow habitat caused TCEQ to request an alternate effluent release location. The next discharge location was identified as the Cedar Creek branch of Possum Kingdom Lake just west of State Park.

The effluent produced from the treatment of the raw water would be very salty, about 60% as salty as sea water. The City’s application modeled the injection point at Cedar Creek assuming the Lake was full and as if there was a constant flow within the Cedar Creek Branch. The City’s modeling ignored that lake levels at Possum Kingdom would likely be very low and that there would be no flow in Cedar Creek during drought conditions.

Possum Kingdom Lake Association (“PKLA”) does not object to Abilene’s desire to have access to this water particularly during drought conditions. However, PKLA’s efforts to have discussions with the City about the discharge modeling and other issues collateral to the discharge like monitoring has fallen on deaf ears.

Because of this, PKLA believes there is serious issue with the content of the City’s renewal application. To follow TCEQ deadlines and requirements, a Public Hearing was requested by State Representative Glenn Rogers. PKLA is hopeful that concerned citizens voices will be present at the hearing and present their thoughts and concerns.

For example, you may have heard a comparison of the PK Water Supply treatment of water and release of effluents back into the Lake as similar to the City treatment of water and release of effluents back into Cedar Creek Branch of the Lake. These two situations are completely different. PK Water Supply does not treat the volume of water that the City of Abilene is requesting to treat. And, PK Water Supply effluent release is in deep water with current with monitors at the site. The City ‘s proposed effluent release would be in a shallow cove with no discharge site monitors and no measurable current at the release location.

Please plan to attend the Public Hearing to make your voice known.

Possum Kingdom Lake Association website is pklakeassn.org.

Updates:

- TCEQ comment period ended at the conclusion of the Public Hearing on June 18, 2024. Before the Public Hearing approximately 100 comments had been submitted to the TCEQ website. With the comments made at the Public Hearing and before closing on the TCEQ website, the final number of submitted comments to TCEQ ended at approximately 350. Thanks to each of you for taking time to submit your concerns.
- TCEQ is in the process of answering these concerns.
- TCEQ decision regarding the City of Abilene's renewal permit WQ00005213 may not be answered until November or December 2024.

PKLA will continue to make every effort to update membership on the renewal process and any information received from TCEQ.

Invite Your Neighbors to Join!

If you know someone who could benefit from this information and would like to join PKLA - please pass this newsletter along and let them know what the Association does for you!

Join PKLA Today!

MOTHS (Wolf Patrick) There are many studies that point to the decline of insects as far more problematic than one might realize. It can be difficult to understand how the decline of a simple insect can have a dramatic impact on other species and the ecosystem, but it can. This dilemma includes **Lepidoptera**; winged insects, which incorporate butterflies and moths. For the purposes of this article, we will concentrate on learning what role the moth plays in all of this.

It seems normal for the mention of a moth to cause one's friend's lip to twist, as images of holes in clothing, or blankets, come to mind. But adult moths are not the culprit of such things as their mouths are too small. It is the larvae that do that - they acquire nutrients from any animal fiber. Small distinction for many, I am sure, but consider gently toweling the adult and sending him/her on their way out the door.

Moths like their butterfly relatives, hatch from an egg and turn into a caterpillar, eventually morphing into a winged creature. In its caterpillar form the moth spends several weeks eating its way to adulthood, and then lives only a few days in that state, which they spend pollinating, breeding, and laying eggs.

It is a common misconception that moths only come out at night, there are many species of moths that are daytime pollinators, and are often confused for butterflies. For the rest, they are indeed active night pollinators. While other pollinators are tucked lazily into bed, these moths are carrying on the nightshift. In fact, one study I read found that moths visit more plant species at night than bees do during the day – this should tell you how important the moth is to pollination.

Incredibly, in North America there are around 14,000 species of moths. To give you a basic idea for comparison, there are approximately 800 species of butterflies in the same region. According to one entomologist at the University of Delaware, “For every species of butterfly on the planet, there are 19 species of moth.”

Moths, which are about 10 times more diverse than butterflies, are an important food source for bats. Yes, bats! A recent bat-poop study (I just love saying that), tested 52 bats to identify what they ate. While two of the 52 bats had eaten some mosquitoes, 94% of them consumed adult moths. In fact, the study concluded that it is only typical for small bats to eat mosquitoes. Moths it turns out are a large contributor as a bat-prey preference.

In the caterpillar stage, birds are highly dependent upon the moth as a food source. Many birds cannot rely on seeds and berries to supply enough protein during breeding season. According to the National Wildlife Federation, “Ninety-six percent of all terrestrial birds rear their offspring on insects, primarily the caterpillars of moths.” These caterpillars provide large amounts of protein and needed fat, and do not come with the difficulties of digestion that hard shelled insects like beetles do. The caterpillar is so important during this period that the Carolina Chickadee for example, requires a minimum of 6,000 caterpillars to raise four to six offspring.

Among the many unique traits of moths are a few that I was fascinated with, like - moths have more scales on their wings than do butterflies, which helps to give them that fuzzy look. Also, when you pick up a moth with its wings, you can damage the scales, which serve as an aerodynamic element of their flight. And the smallest moths are known as micro-moths and are so small they could fit onto the head of a pin. These itty-bitty insects do not feed on nectar, but rather the sugary waste produced by aphids. Who knew waste of any kind could be... sugary.

The **pygmy moth** is the smallest moth in America, with a wingspan of approximately 3mm.



Pygmy moth

The largest is the **cecropia moth** with a wingspan of five to seven inches.



Cecropia moth

If you are interested in helping moths, there are few steps you can take:

1. **Create hiding places.** Tree stumps, dead wood and brush piles are ideal locations for moths to overwinter, seek shelter from rain and hang their cocoons.
 - a. I have areas of my property that are unseen to the naked eye, where I allow a stump or two to remain and have placed some lake washed up dead wood to take refuge. It doesn't take a lot to make a difference, if we all just do a little.
2. **Avoid pesticides.** These kill moths directly while herbicides kill or contaminate host and nectar plants the insects need to survive.
 - a. If you want to deter moths in your closets use essential oils like cedar, lavender, lemon, or rosemary.
3. **Turn off the lights.** At night, switch off unnecessary outdoor lights. Moths that become trapped by light beams will waste valuable time that could be spent foraging or looking for mates.

EXPLORING PK LAKE IN A KAYAK (Ron Ritchie) It's still the middle of summer, and the lake is full of boats and jet skis. I see people having fun tubing and water skiing during the hot afternoons. As the calendar changes from summer into fall, the level of activity on the lake will also change. There are fewer recreational boaters and more fisherman. It'll be quieter and calmer. The cool mornings and warm afternoons will be perfect for taking a Kayak out on the lake.

Late fall is my favorite time of year here at the Hills. Our community resides on the far north end of the lake, where Rock Creek runs into the Brazos river and provides most of the water that fills the lake. The north end of the lake is wide and shallow and seldom has strong currents. It's quieter up here and even in the summer, we don't have the heavy boat traffic you see around the peninsula. All of this makes the north end of the lake perfect for kayaking, and the best time of the year is late fall. I like to kayak in the middle of the week when fewer boats are on the water. I wait for quiet mornings when the winds are calm and the lake is peaceful. If the lake is much warmer than the air,

there may be a mist resting above the water. I prefer to Kayak alone, so the only sounds I hear are the birds, the splash of the oar, and the occasional jump of a fish. Much of this end of the lake is still in a natural state. The west side is mostly undeveloped, and as you travel up Rock Creek there are sections where the shoreline looks ancient. When the lake is low, the Brazos River and Rock Creek get very shallow as you travel upstream. It can get too shallow for a big boat but never for a kayak. I don't always kayak far from home. I often stay within our community, paddling up Ramsey Creek or leisurely around Frog Branch. Unlike a river where strong currents can make kayaking a one-way trip, you can always stay close to home paddling around the lake.

Summer months can also be a good time for kayaking. It's 71 degrees this morning, which is cool for July, and the lake is calm. It's sunny at 7 am and with a forecast high of 93. The wind is five mph out of the north and expected to stay calm all day. The sky is blue and full of big, fluffy white clouds. It's important to check the weather forecast before kayaking as we all know that Texas weather can change quickly. You don't want to be in a kayak when the weather takes a turn for the worse. Today, however, conditions for kayaking are good for July, so I drag my Kayak down to the shore and launch it. Fortunately, I have a lake front lot, but for property owners without direct access to the water, our boat dock works well for launching a kayak.



Ancient looking Shoreline up Rock Creek

At this end of the lake, at night, I can see the blinking white light on top of the red and white striped buoy that marks the Brazos River channel. It's the first of 25 channel markers on the lake that guide boaters south through the deep water 26 miles to the dam. But I don't turn to the south, I head north toward the quiet waters of Rock Creek.

A kayak sits close to the water, so you feel connected to the lake. Possum Kingdom lake is nestled into the low rolling hills north of the Palo Pinto Mountain range. I've taken my boat up Rock Creek, but the experience is not the same. The engine on my boat is loud and reminds me of the reason I moved out here in the first place. I wanted to get away from the hustle and bustle of the city. Get away from the noise, the traffic, the crush of people everywhere. I wanted a community designed to exist alongside nature. The Hills is that community, and the lake is a major ingredient in the joy of living here. There is no better way to connect with the lake than in a kayak.

As I paddle along the shoreline, I leave our community behind. I pass Ramsey creek and see our clubhouse high up on the hill. Paddling past Frog Branch and up Rock Creek is like leaving civilization behind. 30 minutes up Rock Creek feels like centuries

back in time. The north Texas hill country is the prettiest part of the state. As I paddle up Rock Creek between the lush green hills on both sides, I wonder if the landscape I'm viewing is like the landscape Native Americans saw while canoeing along the Brazos hundreds of years ago. I see no signs of people, just bright white Egrets and Blue Herons sitting on dead trees along the bank. Flocks of snowy white birds fly low over the water, contrasted against the dark green of the hills on the opposite bank. I stay close to shore while paddling into a light breeze out of the north. The shore is rugged, with broken rocks and trees growing down to the water line. Paddling takes some upper body strength, and I wear water gloves to keep from getting blisters on my hands. I paddle for a minute and rest for a minute. I'm in no hurry. After an hour on the water and 2.5 miles up Rock Creek, I'm near the point where the creek narrows as it approaches Hwy 16. If I continue upstream around the curve, there will be homes and boat docks along the eastern shore. Not what I want to see so I'm ready to turn around and head home. The wind is at my back now, I can't feel the breeze even as it helps push me along. In only 20 minutes, I can see our community again and the familiar shoreline of home.



Rocky Shoreline of Frog Branch

The wind has picked up some and shifted, it's now blowing out of the NW. Before I head home, I decide to take a tour around Frog Branch and Ramsey Creek. The shoreline along Frog Branch is rugged and rocky, but the waters are calm. To the right, I can see houses built along Frog Branch Court, and in front of me, I see homes built high on the hills across HWY 16. But to the left, I see no sign of civilization. I circle around and stay close to the shore as I leave Frog Branch and head toward Ramsey Creek. The water along this shoreline is very shallow, with a lot of dead vegetation poking up through the water. It's too shallow for a boat, but a kayak will go right through it. I make a left turn up Ramsey Creek and paddle past the community Cabin and boat dock. The water gets very shallow, rocky, and full of wildlife as I get close to HWY 16. The depth of the water is easy to judge by a



Shallow Water up Ramsey Creek

Great Egret and a Great Blue Heron walking slowly in the water hunting for fish. It's time for me to turn around and head home.



Great Egret and Great Blue Heron up Ramsey Creek near HWY 16

Kayaking requires some effort and balance. Getting in and out of a kayak can be tricky. I've fallen in more than once. It's important to know the weather, keep your phone and camera in a waterproof bag, put on sunscreen, and wear a broad brimmed hat. Life jackets are a good idea, and beginners probably shouldn't kayak alone. There are plenty of videos on the internet with tips for beginners. Kayaking isn't for everyone. But as for me, on quiet calm days this fall, don't look for me out on the lake in my boat. You're much more likely to find me somewhere along our shoreline, in my kayak.

THE IMPORTANCE OF TREES (Lynne Aldrich) I guess the first thing we should know is just what is a tree! How do we define it and what makes something a tree? There are lots of different tree species but basically what makes a tree a tree is defined as "a tall plant that can live a very long time. It has a single stem or trunk and branches that support leaves. Beneath the ground, a tree has a root system that acts as an anchor and stores the water and nutrients the plant needs to grow." It is distinguished from other plants by having a tissue we call wood. So, with that in hand we now need to go a little deeper into trees and begin to look at just how unique they are and why they are so important to our natural environment. With a bare stem at its base a tree is often defined as such if it reaches a height of about six feet. Trees can have flowers or fruit, leaves or needles. Some of the trees of our specific area are Cedar Elm, Cedar, Texas Ash, Hackberry, Mesquite, Willow, Sumac, Post Oak, Cotton Wood & Juniper.

These trees help in mediating our water cycle by drawing water from the soils and then transforming it from liquid and then vapor which then helps in making clouds that form precipitation. The trees also help in flooding on land by trapping water so it does not rush through – denuding the soils as it does so. Without our trees we would see a markedly drier and hotter area with droughts taking place more often. And we all know that trees provide shade and comfort during the heat. Farmers have known this for some time which is why you nearly always find their houses and other habitations surrounded by trees – the only shade on those farms which can be very large. Trees absorb heat rather than reflect it helping to reduce the heat effect. Looked at globally – trees help in combating warming by storing carbon in their trunks which helps in

reducing the carbon dioxide in our air. They even help in cleaning our air by absorbing other pollutants.

And last but certainly not least – trees (and nature in general) are GOOD for our mental health. There have been several studies recently which calculate the well-being and faster recovery time and shorter hospital stay of those recovering from surgery who have a view be a green area rather than a brick wall. In fact, Japan has initiated a new medical prescription which is called 'forest bathing'. If you want to learn more about this, click on this link and enjoy yourself and what you will learn.

<https://www.bbc.com/news/av/world-asia-44871301>

The Hills Above Possum Kingdom is filled with trees – but also is slowly losing more and more. As we look at the land we have and the land we want to build on now seems like a good time to begin to think about the trees and how continuing to have many of them can impact our lives as well as the lives of many other things. Our trees and habitat have always provided us with food and oxygen and shelter. Who has not run under a tree during a surprise rain shower to help in staying protected and sat under them for protection from the sun. And as trees everywhere, our trees here in The Hills help in improving the air quality, preserving soil and their deep roots help in keeping erosion down and they support wildlife of all kinds. They absorb and store our rainwater which helps keep our flooding down. And they help in decreasing the heat we have by providing that shading of the tree along with the winds we have help in keeping our heating costs lower by sheltering us from the blasts. Without them the noise we would hear from the roads running near us would be louder and more bothersome.

And, our trees are beautiful and majestic with a myriad of shapes and types and different colors – especially as seasons change. The peace and quiet they bring us is what helps in making our community the wonderful place it is. Who does not like sitting on their porch listening to the breeze majestically whistling through the trees, the calls of birds coming from them, the nests we find built in them and the fledglings slowly growing and then lurching from the nest tree to another tree waiting for mom and dad to bring them one of the juicy insects that also frequent the trees.



Massive Clearing of the habitat for developments

In my travel to other countries I have seen the destruction and destitution that clearing of forests, trees and other natural habitats can bring. Some of the pictures above show

what is remaining in some places and it is clear that where there are no trees there is really no beauty nor feeling of the peace that trees and other natural features can bring to us. There is an economic value that also comes with a more natural habitat that includes trees in any development and the loss of that habitat leaves barren ground with little or no value. Many of the people who have chosen The Hills as their home (and home away from home) have done so because of the natural habitat we have.

The Nature Committee compiled a bird list for our development which now consists of 186 different species of birds. And, we have many mammals as well, although we have not cataloged them but they include Possums, Skunks, Squirrels, Deer, Bobcat, Coyote, Rabbits, Raccoons, and lots of different rats and mice. Our habitat and our trees help in supporting all of these. World-wide habitat that includes trees and other natural features support 75% of the bird species and 68% of the mammal species as well as 75% of the amphibian species. We can hear in The Hills the calls and songs of the birds, the rutting of the deer and the chirps and croaks of the frogs. And, we can sit on our porches and breathe in the magic that helps in resting our souls. It is magical and we can continue to enjoy this if we are careful in managing what nature has bestowed upon us. So when you look at your property begin to think of how you can maximize the natural habitat that is living there and visualize yourself sitting on your patio or even just looking out your windows and basking in the beauty and peace that it brings.

FIREWISE LANDSCAPING (Debra Wallace) You might be wondering why I'm writing about Firewise landscaping for the Fall/Winter newsletter. Wildfire season can actually run all year long in Texas now, but the risk is highest in winter and in the summer.

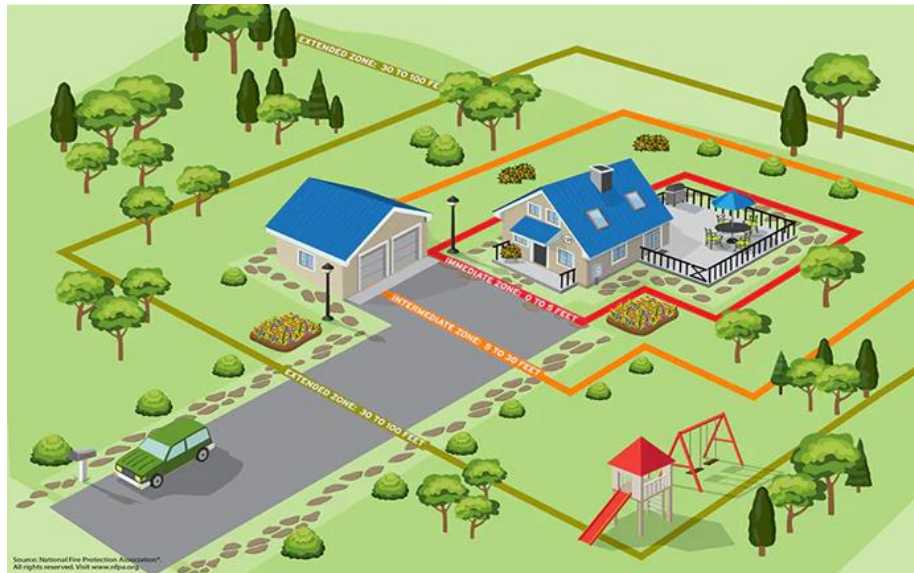
The winter fire season begins with cold temperatures moving in. The lower temperatures cause the growing season to end causing grasses to turn brown, lose moisture and become dormant. This along with high winds can increase wildfire intensity during the winter. The summer wildfire season is due to high heat and extended drought conditions.

The goal of Firewise landscaping is to keep a ground fire low and less intense by reducing fuel, limiting flammable vegetation and materials, and increasing moisture content. This goal can be achieved by having fire resistant plant materials placed in a way that lessens the chances of a wildfire reaching and burning your home.

Did you know that decks and siding can easily ignite when plants that burn quickly and produce high heat are placed close to the home? A burning plant, or group of plants, in front of windows can cause glass to break then allowing fire to get into the home. Taller flames close to the home can enter through the soffits and vents. The flames may then reach combustible materials and cause more damage.

A fire can get into a tree canopy if plants are layered in a way that allows the fire to climb into the top of the tree. This is called ladder fuels. When flames burn through the

tree canopy, intense heat and embers are given off. This causes burning materials to fall on the roof and surrounding vegetation.



The first thing to determine when planning your Firewise landscape is where plants should be located. The first 30 feet from your home in all directions is called your **Defensible** space. Maintaining defensible space around your home is the key to improving your home's chance of surviving a wildfire.

Within the 30 feet of defensible space, there are two zones:

- Immediate Zone: (your home and area 0–5 feet from the furthest attached point). Within this zone you should create a **fuel-free area** within 3–5 feet of your home's perimeter. Use rock, stone or other hardscape there, not flammable mulch. Possibly use movable container plants in this area so they can be moved away from your home if needed.
- Intermediate Zone: (area 5–30 feet from the furthest exterior point). In this zone, you need to thin and space vegetation, remove dead leaves and needles and prune shrubs and tree limbs. Keep areas around decks, sheds and fences clear of debris and vegetation.

Beyond the 30 feet defensible space there is an extended zone:

- Extended Zone: (area 30–100 feet, out to 200 feet). The goal of this zone is to stop the fire's path and keep flames smaller and on the ground. You can use careful landscaping or create breaks to help impact fire behavior.

There are two groups of plants to consider when planning a Firewise yard/landscape:

- Fire resistant: Fire resistant plants are plants that do not readily ignite and can withstand high temperatures. These include plants that have a high moisture

content and stems that are watery (no resins, oils and volatiles). Other characteristics are combustibility, or how much energy the plant releases, and ember production.

- Growth characteristics: The two characteristics in this group are growth rate and growth pattern. Growth rate is important because a plant that grows quickly will produce more fuel to burn in the event of a wildfire. Slower-growing plants also reduce trimming and maintenance time.

Growth pattern relates to how a plant naturally grows. Low growing plants that are less dense help maintain vertical separation of fuels and produce less material to burn. An example being how far above a shrub is the lowest branch of a tree. Also, a dense or compacted plant has more fuel than a lighter more open branched species.

Herbaceous plants are plants that don't have woody stems (like trees and shrubs do). Their stems are flexible and die back to the ground each year. They are also typically lower growing and can be annuals or perennials. Herbaceous plants that aren't grass like can be an excellent choice in the Firewise landscape.

Plants in the 5-10 feet area of the intermediate zone should be low growing and/or moist. Some examples are: Ajuga, Columbine, Geranium, Violet, Creeping Phlox, Winecup, Sedums, Stonecrops, Lambs Ear, Evening Primrose, Red Yucca, Prickly Pear, Agave and many other Cacti.

Plants in the 10-30 feet area of the intermediate zone can be a little taller. Some examples are: Bluebonnets, Asters, Bluebells, Yarrow, Lavendar (slow to ignite if kept watered), Mexican Hat, Salvia, Sages, Coreopsis, Rock Rose, Late Boneset, Penstemon, Larkspur and Engleman Daisy

Plants for the 30 feet and beyond extended zone can include shrubs and trees. Some examples are: Turk's cap, Lantana, Butterfly Bush, American Beautyberry, Crape Myrtle, Abelia, Agarita, Button Bush, Coneflower, Daylily, Iris, Possumhaw, Flame Acanthus and Yucca. Deciduous trees for this zone include Soapberry, Persimmon and Red Oak.

Unfortunately, the Ashe Juniper (aka Cedar) is extremely flammable and one of the largest fuel sources in our area. It is best to remove any of the junipers within the 30 feet of defensible space. Additionally, in the 30 to 100 feet space, limbing up and pruning the junipers off the ground can help keep them from catching fire during a grass fire event. Any trees should be limbed up enough to stop a fire from "laddering up" to the canopy from burning grass and/or shrubs.

In addition to the 5 feet fuel-free area, add fire breaks to your landscape, like sidewalks, gravel paths, fountains, and stepping stones. Break up planting areas with decorative rock, either in the bed or around a bed as edging. Use non-flammable mulch close to your home.

Use smaller odd shape clusters or island plantings of plants rather than large masses. Remove evergreen trees from the 30 feet defensible space. Put evergreen trees, especially conifers like the junipers, further out in your landscape with at least 18 feet between the tree canopies. Existing trees should be removed to create this spacing.

Finally, remove fallen and dead trees from your property and don't store firewood within the 30 feet defensible space.

SCORPIONS – YET AGAIN, MY QUESTION IS: WHAT'S THE POINT? (Magyn Whitaker)

I am a born and raised city girl – I didn't see a lot of scorpions as a kid. I do remember my Daddy getting stung by one on his big toe when I was a little girl and him yelling out in pain and using quite a few curse words. Little kid logic – watch out for and stay away from scorpions!

Fast forward to 2019 when we moved to 'the country' and The Hills Above Possum Kingdom Lake. I have seen so many scorpions while living here and they FREAK me out! I wear shoes at all times inside my house because they blend into our wood floors and you can't see them unless you see a sudden movement out of the corner of your eye. No scorpion I have ever encountered has made it out of my house alive!!

So, here is my question – What is the point of scorpions?

What exactly are they? Scorpions are members of the class Arachnida and are closely related to spiders, mites, and ticks. They are commonly thought of as desert dwellers, but they also live in Brazilian forests, British Columbia, North Carolina, and even the Himalayas. These hardy, adaptable arthropods have been around for hundreds of millions of years, and they are nothing if not survivors.

Hunting and Diet: There are almost 2,000 scorpion species, but only 30 or 40 have strong enough poison to kill a person. The many types of venom are effectively tailored to their users' lifestyles, however, and are highly selected for effectiveness against that species' chosen prey. Scorpions typically eat insects, but their diet can be extremely variable—another key to their survival in so many harsh locales. When food is scarce, the scorpion has an amazing ability to slow its metabolism to as little as one-third the typical rate for arthropods. This technique enables some species to use little oxygen and live on as little as a single insect per year. Yet even with lowered metabolism, the scorpion has the ability to spring quickly to the hunt when the opportunity presents itself—a gift that many hibernating species lack.

What kind of scorpions are most found in Texas? When it comes to scorpions, the Striped Bark Scorpion is dominant in Texas. Although this scorpion is venomous, the venom only induces a mild reaction in humans. Like other nocturnal scorpions, the Striped Bark Scorpion avoids the heat of the day by hiding throughout the day. This scorpion possesses a waxy cuticle across its whole body to conserve moisture.



Striped Bark Scorpion

A medium-sized scorpion that is rarely longer than 70 mm (up to around 2 3/4 in), the Striped Bark Scorpion is a uniform pale-yellow scorpion that can be identified by two dark, longitudinal stripes on its carapace, with a dark triangle above the ocular tubercle. Minor variations on this theme occur, however specimens that are lighter-colored and lack the characteristic stripes have been described as separate species in the past. Their color suits their environment well, providing them with a natural camouflage from predators as well as prey.

Scorpion stings are painful but rarely life-threatening. Healthy adults usually don't need treatment for scorpion stings. Young children and older adults are most at risk of serious complications.

What to do if you are stung by a scorpion:

1. Clean the site of the sting with soap and water.
2. Apply ice or a cold compress to the area.
3. Elevate the area so it's at the same level as your heart.
4. Use an antihistamine or corticosteroid on the affected area.
5. Take an over-the-counter pain reliever such as acetaminophen to reduce the pain.

How do you keep scorpions out of your house?

1. Seal Your Home

Scorpions are great climbers and can enter your home through small openings like cracks in the walls or gaps in doors and windows. To keep scorpions out, it's essential to seal your home as best as possible. Apply weather stripping to windows and apply caulk to any cracks or gaps you find.

2. Sprays and Granules

Barriers are one of the best defenses against scorpions trying to invade the safety of your home.

3. Keep It Tidy

Scorpions are attracted to clutter and debris, so it's important to keep your home clean and free of excess clutter. Sweep or vacuum regularly, and avoid leaving piles of clothes or other items on the floor. In addition, make sure to take out the trash regularly and keep any food stored in airtight containers.

4. Be Careful with Outdoor Lights

Scorpions are nocturnal creatures, which means they are primarily active at night and rest during the day. They are also attracted to artificial light. Many outdoor lights can attract scorpions and the bugs they prey on. Bright white lights are most attractive to scorpions and bugs. Installing yellow or amber lights that face away from your home can reduce this effect and help to keep them away from your home.

5. Reduce Hiding Places

Reducing the number of places scorpions have to hide is another important step to take if you want to keep scorpions out of your home. Because scorpions are very sensitive to light, they have to find somewhere to hide during the day. Some of their favorite places to hide are under rocks, in and under vegetation and even burrowed in loose sand. Essentially, anything that provides a cool shelter from the outside elements is a potential hiding place.

The only benefit that I can find about scorpions is their ability to keep the insect population low. That's it....Seriously??!!

The moral of the story – scorpions aren't going anywhere. Be aware of your surroundings, wear gloves when working outside in your yard or garden and wear shoes inside if you have wooden floors that they can camouflage into.

Cheers to living in the country!!

METEOR SHOWERS FALL 2024 AND WINTER 2025 (Peter Gottschling)

Have you ever wondered what causes a meteor shower? I confess I only had a vague notion myself until a few months ago. Falling stars, as we knew them as kids, are really just motes of dust and debris from outer space burning up high in the atmosphere. Radar studies by NASA estimate there are over 12,000 entering our atmosphere every day. Some are considerably larger rocks than a speck of dust in which case they can reach the ground before burning up and cause damage such as breaking windows or even causing the extinction of dinosaurs. They are called meteorites if they get to the ground. But what about meteor showers themselves that occur on a regular basis every year such as the Delta Aquariids and Perseid showers that peaked earlier in August? It turns out that most regular showers are caused by debris from comets and meteors crossing our Earth's orbit and leaving a trail of ice and dirt when passing close to the sun. They become a regular occurrence because our orbit takes Earth through the

remains of the same debris shower every year. This is why astronomers can calculate the peak of the shower down to a few hours on a given day.

Meteor showers are named for the general direction of the constellation they appear to emanate from, called the radiant. The Perseids come from the constellation Perseus. The Delta and Eta Aquariids are named for stars in two different areas of Aquarius and so on.

Unfortunately, the biggest of the year, the Perseids, peaked on August 12 but remnants are still falling into late August. I saw several fire balls in the days before and during the shower. Officially, a fire ball is a meteor that burns brighter than the brightness of the planet Venus, but you will know one when you see it. They are bright enough to cast shadows of objects on the ground. They also leave a long bright trail where they passed which is caused by ionized air from their high temperature burn.

So, what is coming up (down) this fall and winter? The next major meteor shower will be the Draconids October 6-10 with a peak of Oct 7-8. It has become a weaker meteor shower over time. They have actually traced it to Comet 21P/Giacobini-Zinner which crosses Earth's orbit every 6.6 years. The moon is waxing crescent so just find an area shaded from the moon for the best chance of seeing these meteors.

Next is one of the most active of the year, the Orionids, which is produced by debris from Halley's Comet. It is very long lasting also, from September 26 to November 22 and will peak October 21-22. Unfortunately, the moon is 37% lit so it will interfere with watching (but not as much as living in a city or bright town). The best way to see meteors is to stand where you can block out light getting into your eyes and face the darkest part of the sky. Getting your eyes dark adapted is the most important thing for seeing meteors. Don't ever look at your phone screen because that will immediately kill your night vision for at least ½ hour which is a real waste of time when you are staying up late looking for meteors. If you get bored just look around at the stars, learn the constellations and enjoy the night. Listen for night sounds of birds and animals or just day dream. Meteors will really sneak up on you when you least expect it. Remember, planes have flashing lights, satellites do not flash but move at varying speeds but slow compared to meteors which are fast.

So, what time should you go outside to watch a meteor shower? Most articles advise between midnight and about two hours before sunrise but to maximize your chances go out when the constellation with the radiant (apparent source of the meteors) is high in the sky. For example, the Orionids, which peak from Orion on October 21-22 is just starting to rise about 10 PM on the 21st but by midnight it will be visible in the southeast and highest in the south between 3 and 4 AM so that would be the peak time to look but to cover your bets check all night at various times to see if the clouds have cleared but unfortunately the moon will be up all night just a few days after full moon.

Next up are the southern and northern Taurids which are flying from Sept 22 to Dec 2 and peak on Nov 4-5 for the southern and Nov 11-12 for the northern. These are

considered minor showers and you may not notice them except in a darker sky location such as possibly The Hills if we can prevent our sky from being overwhelmed by new houses that keep bright outside lights on all night. The big boat storage area on FM 2353 and bright TV sign at Rock Creek are already making the sky too bright for people looking towards PK.

As you can see from the date ranges for the last three showers, they overlap considerably and you could see meteors on any clear dark night from many directions.

Then come the Leonids from Nov 3 to Dec 2. This shower occasionally breaks out strong depending on where the source comet, Comet 55P/Tempel-Tuttle, is on its orbit when Earth crosses it. Records show large showers in 1999 and 2001 but no big ones are expected until 2030. They peak at 5 AM on Nov 16 this year, the same night as the full moon so get some sleep instead.

Now the December Geminid meteors come from Nov 19 to Dec 24, which is the second best shower of the year and the peak comes the nights of Dec 13 and 14 which is just a day before the new moon so it will wash away all but the brightest meteors. This shower comes from asteroid Phaethon instead of a comet and are reported to be very colorful but also have short tails. In a clear, dark sky they can produce up to 130 meteors per hour!

OK, now it is officially winter. The next shower is the Quadrantids from Dec 28 – Jan 12. This shower radiates from around the star Arcturus. Follow the arc of the big dipper handle to the next bright star which is Arcturus. This is a very strong and consistent shower with a peak around 5 AM Jan 3. The waxing crescent moon sets about 8:15 PM on the 2nd so viewing should be excellent because the radiant starts rising about 10 PM and is perfect at midnight and beyond (assuming no clouds).

Well, now you have to wait 4 months until Spring for the next meteor shower, The Lyrids with the bright star Vega in the constellation Lyra. This is a medium shower from April 16-25 annually with a peak of April 21-22. Also, the good news is that the moon does not rise until 3:40 AM so viewing should be excellent from midnight to 3:30 AM.

So, remember for the best meteor watching keep your eyes dark adapted with no light shining into your eyes and look in the darkest part of the sky no matter where the radiant is supposed to emanate from. This will remain so as long as we keep The Hills and surrounding areas from becoming any more light polluted which affects people, animals and night pollinators. Please be kind and turn off outside lights at 10:30 or sooner if not using them for outdoor activities. No one is going to admire your landscape or other lighting at any later hour than that.

