Spring is all about color: colorful flowers, brilliantly feathered birds, and bright blue skies. Many living things use color to communicate messages to the outside world. At other times, colors appear as a result of chemical reactions or due to the unique properties of light.
Of course, color is not the sole domain of spring. If seasons can be said to have favorite colors, the overwhelming fall favorite is red. Many people visit the Nature Center during fall to see the flame-colored sumac leaves. These plants are usually the first to react to changing weather patterns. Red oaks and even poison ivy add their own shades of burgundy and crimson to the mix, while cottonwoods and cedar elms contribute yellow. This color change occurs when the green chlorophyll in the leaves breaks down, revealing hidden secondary pigments. Some tree species will actively produce red pigments for a while until the leaves drop. By the way, those leaves poetically falling to the ground are how some trees eliminate crystallized waste that has accumulated throughout the year. I often tell children that autumn is the time when we appreciate all the trees simultaneously using the bathroom.

Fall and winter are also when the possumhaws are at their finest. Like many other members of the Ilex (holly) genus, female plants make bright red berries in the fall—usually, many bright red berries—and you wonder how you missed this small tree while hiking during the summer. Red is a signal for birds to “come and get it.” Plants cannot move on their own and must rely on wind, animals, or gravity to transport their seeds. Plants that rely on birds must signal that their fruit is ready to be consumed and transported elsewhere. This is why many bird feeders have red accents to attract the attention of feathered residents that may be hanging about. Conversely, red means “stop” for mammals. Many items that are red in nature are not meant for mammal consumption and may even contain toxic compounds to deter hungry deer, squirrels, or humans.

As surprising as those pops of red in winter are, spring takes the prize when it comes to color in nature. Being in Texas, most of our residents and guests eagerly await the appearance of bluebonnets. This hardy and slow-growing flower first appears in winter but doesn’t put on its
blossoms until the time is right to attract pollinators. Both insects and birds can see into the ultraviolet range, so it is impossible for us to really know what flowers look like to them, but we can guess that the bright white spot on a bluebonnet blossom shines like a beacon under UV light emitted by the sun to advertise that the flower contains a nectar reward for industrious insects. Older blossoms have dull maroon centers that are not attractive to pollinators. You can often guess what kind of visitor a flower is attempting to attract by the color and shape of the flower. Red standing cypress, with its trumpet-shaped flower, is attempting to attract—you guessed it—birds. Specifically, ruby-throated and black-chinned hummingbirds. Our bird feeding courtyard is filled with Turk’s cap, flame acanthus, and standing cypress in the early summer—all red and all advertising a hummer buffet.

Ray flowers such as sunflowers are often white or yellow and great for insects, including flies, bees, and wasps. Many ray flower species have additional markings when seen under UV light that point the way to the nectar stores. The center of these flowers is comprised of many tiny flowers arranged in a tight disk. A large bumble bee can land on a cowpen daisy and get a hundred-for-one deal without worrying about precious protein-rich pollen stocks being knocked off in the process. It’s the best bargain on the prairie!

Guests at the Hardwicke Interpretive Center are often amazed to see their first painted or indigo bunting at the bird feeders in the courtyard. The males of this songbird species are showing off their fine, colorful feathers that act as a certificate of health for any single females. Growing feathers is an energy-intensive business, and only healthy birds can grow these complex and colorful structures. Blue feathers are one of the most impressive feats of nature. The color comes not from a pigment, but from tiny microstructures that reflect blue light. Many birds have
these structures and additional ones that reflect UV light for extra flair. For dull-colored birds of prey, the ability to see additional colors under ultraviolet light seems to help them find food faster. Urine trails left by rodents glow in the sunlight and give diurnal raptors a handy tip on where to hunt for prey.

Remember that what colors we see depends greatly on the biology of our eyes and how we communicate with each other. “Seeing” blue is a fairly recent phenomenon among humans. Ancient Greeks, Chinese, and Hebrews did not have a word for blue but recognized many shades of other colors. Experiments today on non-Western cultures reveal that some people still cannot pick a blue square out of a field of green squares, but they can detect many more shades of green than a typical American and have many words for this important color. The ancient people who lived at the Nature Center might have overlooked the bluebonnet entirely while noticing every single vine of edible greenbrier. Who knows how they perceived the sky, something that seems so obviously blue to the eyes of Westerners. We can never truly know how animals, or even other people, perceive the colors of nature, but we can make educated guesses, and we can each appreciate them in our own way and in every season at the Fort Worth Nature Center & Refuge.