



The Seed 2020

Nebraska Statewide Arboretum

Planting Nebraska for healthy people, vibrant communities and a resilient environment

In a year when everything changed..

Plants Provide

Hanna Pinneo, NSA Interim Executive Director

In a year when everything changed so did many people's outlook on gardening and landscapes. As COVID-19 gripped the world many people turned to gardening to literally ground themselves. From a pot on the windowsill to a backyard vegetable garden to lawn-to-prairie conversions, people found solace and peace in yardwork and caring for other living things. This phenomenon isn't new. Most of us understand the pull one feels to get outside and get your hands dirty during tough times. The garden is a great place to process your thoughts. However, for many, the magnitude of this gardening boom reminded them of the Victory Gardens of the World War I and II. It led many to ask if it is time again for more victory gardens.

Then the murder of George Floyd rocked the nation and really the whole world. Like too many black people before him, Floyd died at the hands of police officers as he pleaded for his life. The video was hard to watch as he called for his mother in his final moments. Unfortunately he was just the latest in a long

line of black people to die at the hands of police or those claiming self-defense. Black Lives Matter. For the first time, Black Lives Matter protests were held in every state in the nation. In Nebraska, protests were held in Lincoln and Omaha, something we hadn't seen before.

So 2020 has been, to say the least, a tough year. We've all had to wrestle with pain, grief, loss, inequities and how privilege colors our experiences. These are not easy issues to wrestle, and many of us had to do it alone.

So, where do we go from here? What do we do? How do we make changes? All of us here at NSA have been asking these questions. While it hasn't necessarily been a slow spring and summer, we have had the time to reflect and talk about our hopes for the future.

Here's what we know: we're proud of our work, but there is room for improvement. Since our founding in 1978 we've worked to build communities through plants, or flora as it says in our articles of incorporation. As we look at the communities we've touched with our work, we can see that important parts of the state



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Close to Home

Kendall Weyers, Sustainable Communities Coordinator

“One touch of nature makes the whole world kin.” William Shakespeare

It is clear that the world is a crazy place right now, and it often feels like every day brings another level of folly beyond our control. Although keeping up with the news is important, it's also important to give ourselves time to step away to find things more within our control, things that calm our frayed nerves and bring us perspective, joy and gratitude. My suggestion? Step outside.

Outside we can find nature reliably going about its business, whether in the deep wilderness or our own backyards. It doesn't give a darn about the news, but instead just keeps moving forward in its wonderfully complex way, always offering us beauty, wonder and peace.

Also outside are our neighbors, many spending more time closer to home. Look in the thesaurus for “neighborly” and you'll find words like friendly, kind, helpful and caring. Being neighborly is good for everyone and always a good idea, especially now.

We can all contribute to both nature and our neighbors by the actions we take outside. There is no one perfect way—wherever we're at on the spectrum we can always find little ways to move the needle in a more positive direction. A good way to look at it is “more of this, less of that,” and below is a short list to get started, in both our own yards and in our neighborhoods.

🌿 More low maintenance beds, less high maintenance turf. Turf can require significant inputs (water, fertilizers, pesticides, mowing, time), resulting in wasted resources, chemical drift or runoff and noise and air pollution, none of which are good for nature or our neighbors. Low maintenance beds, especially ones with native plants, provide a wide range of resources for our friends in nature, and beauty and better health for ourselves and our neighbors.

🌿 More plant diversity and natives, less reliance on a short list of exotics. Cookie cutter designs and plant lists are not only boring, but they're often demanding of time and inputs while offering



The community that plants together, stays together. Photo credit: Keep Omaha Beautiful.

few benefits. The better option is using a diverse list of native or well-adapted non-native species. This approach offers many benefits to all of us and is both more resilient and less demanding.

🌿 More tree planting and care, less tree neglect, abuse and removal. Whether in newer neighborhoods with poor soil and a focus on turf, or older neighborhoods with poorly pruned and over-mature trees, many community forests are suffering. This equates to the erosion of the wealth of benefits provided by trees for nature and neighbors. What do we need more of to reverse this trend? It starts by giving trees more value and focus, then follow up with proper practices, like more attention to placement, species selection, planting and care.

🌿 More connections, less turning away. Many neighbors are now closer than ever, despite keeping their physical distance for the last several months. With more time spent walking, doing yard work and projects, or just sitting on the front porch, there have been more opportunities—and the need—to connect. Strengthening our local network, taking time to at least say hi to our neighbors is especially important now, but an option we'd be wise to remember we always have.

🌿 More involvement, less isolation. It's tempting to use these times as an excuse to not be involved, but our communities need us now more than ever. Join your local tree board or neighborhood association, start a community garden, volunteer to care for a neglected lot or park. Although these and other volunteer options may be more challenging now, they are a great way to make a difference when your neighbors need you the most.

🌿 More time, tolerance and patience, less anxiety, urgency and perfec-

tionism. A wise quote from Lao Tzu says “Nature does not hurry, yet everything is accomplished.” It offers an essential lesson for these times, whether dealing with our yard, our neighbors or even our wacky world. Listen, observe and appreciate more, judge, hurry and worry less. The typical speed of the world has become frantic but it's not the pace for which humans are best adapted. We are all better off when we take a cue from nature and tune in to its, and our, more peaceful pace.

Plants Provide continued from cover

haven't been helped as much as others. So we are committing to change. Right now we are in the process of learning more about ourselves and the needs of communities throughout Nebraska. We know we need to work hard to build meaningful relationships with new partners that will move all of us forward. Once we have a solid plan in place, we'll invite you to take part in the changes we want to see in the world.

Don't get me wrong, we are very proud of the work we've done over the last 40 years. We've had a positive impact on the livability of communities and the resiliency of the environment in every corner of the state. We've made great friends and built wonderful relationships through all of our work. Now we're looking for more friends and more relationships as we seek to support new communities. We know 2020 will leave an impact on history, and on our private and public gardens. From remembrance gardens for loved ones we've lost, to peace gardens, to the latest iteration of Victory Gardens, to gardens where we can listen and learn, NSA is looking toward the future.

Planting and Managing Regionally Native Trees

Justin Everson, Green Infrastructure Coordinator

A common way to delineate the trees we plant is whether they're native or not. A big advantage of native trees that's been revealed in research by ecologists such as Doug Tallamy (*Bringing Nature Home*) and others is that they generally do more to support native insects and wildlife than non-native species. Native oaks, hickories, maples, elm, willows and cherries, for example, can support hundreds of species of beneficial insects, while non-natives such as ginkgo and callery pear sustain practically none. This is due to the fact that native insects evolved with our native trees in a generally mutually-supportive relationship.

Another important advantage of native trees is that they're generally well-suited to the climate they come from. This is especially important here in the Great Plains where the weather fluctuates dramatically from hot to cold and wet to dry—not to mention our frequent storms and strong winds! It's important to point out, however, that native trees are not perfect. Native species often grow in protected locations with other trees and they don't always adapt easily to tough community conditions. But by and large, adding more native trees to our community forests is a good goal to work toward.

Defining a native tree is obviously important to this discussion. In a state like Nebraska, which was only 3 percent forested in 1850, it could be argued that few trees are native to most community locations. However, since the retreat of the last Ice Age glaciers about 10,000 years ago, many tree species have pulsed in and out of the state depending on climatic conditions and other factors. Species that are no longer in a given location, may have been there hundreds of years ago. Bur oak canyon southwest of Culbertson reveals this quite dramatically. The bur oaks there are far from any other bur oaks and are likely stranded from when the species was much more common in the region. And some trees in the canyon reveal genetic mixing indicating that both post oak and gambel oak, which are not naturally found in Nebraska today, were also likely part of the regional mix at one time.

Another thing we've learned is that many Great Plains natives have a genetic



Oaks native to neighboring states may help broaden our options, diversity and adaptability to changing weather conditions. From top: closeup of shingle oak (*Quercus imgricaria*); fall color of post oak (*Q. stellata*); and the wide girth of an overcup oak (*Q. lyrata*).



capacity for climate tolerance and fairly wide-ranging soil adaptability. When we add it all up, we can think about native trees in a regional context. When we think about it this way, the list of adaptable "native" species for Nebraska more than doubles from the 20-30 species growing naturally within our borders to well over 50 species from across the region.

One of the most important groups of trees is oaks. Nebraska has seven native species: bur, red, chinkapin, white, black, blackjack and dwarf chinkapin oak. But when we add adjacent states, we can add several more adaptable species like swamp white, shingle, post, cherrybark, overcup, shumard, hill's, buckley, gambel oak and others. Other proven regionally native species that we should grow more are pecan, bitternut hickory, soapberry, Caddo sugar maple, black gum, serviceberry, smoketree, hornbeam, persimmon, etc.

It's relatively easy to identify regionally native trees that we should plant more of in Nebraska. The harder part is to make those trees more available to the tree-buying public. A few years ago, the Nebraska Forest Service cooperated with the Kansas Forest Service on an initiative called Environmentally Adapted Trees, with the goal of testing and expanding the palette of regionally native trees for use in community plantings. Over 20 species were

targeted and planted at trial sites across the state, including several NSA affiliate arboretums. In addition to testing these trees, we're working to make seeds and cuttings from these trees more available to the nursery industry. In recent years we've noticed more nurseries carrying more native species and some nurseries are even doing the hard work of collecting their own seeds and growing trees from native sources. The trend is good!

In summary, we should all be working to help plant more regionally native trees in our communities and planted landscapes. These trees offer many important environmental and ecological advantages over non-native types. However, this does not mean that all non-natives are bad. In fact, there are many well-behaved non-natives that help expand the diversity and resiliency of our planted forests.

For more information, please note the following article about the ever-changing community forest.

The Ever-Changing Community Forest

Justin Evertson, Green Infrastructure Coordinator

In a year of change, we're reminded that our community forests are forever changing as trees come and go, some years faster than others. In the last 60 years, Nebraska's community forests have been altered dramatically by invasive insects and diseases. The first significant alteration occurred in the 1960s and 70s when Dutch Elm Disease (DED) killed most of the state's American Elms. It's hard to imagine now, but at one time American Elm was the most common street tree across the state and most communities had streets that became wonderful tunnels of green in the summer as elms canopied above them. In a matter of a few years they were almost all gone—millions of them.

In more recent years, pine wilt disease has wiped out millions of Scotch and Austrian pine, greatly altering both community and shelterbelt plantings across much of the state. Now Emerald Ash Borer (EAB) has arrived and will likely kill most of our ash trees in the coming years as it slowly spreads across the state. This includes millions of trees in communities and many more on farms and in natural woodlands. It's going to alter the landscape dramatically and it's going to be heart-breaking.

A cornerstone of any healthy forest is species diversity and this is also true for community forests and other planted landscapes. For some reason we seem to keep relearning that lesson. After DED killed all those American elms, the most commonly planted replacement tree was the green ash – a big “uh-oh” now that EAB has arrived. As we go forward, we need to keep this lesson in mind as we work to make our planted landscapes as resilient as possible. There is no doubt that there will be new insects and diseases that will threaten some of our most cherished trees. In fact, serious threats are already emerging, including Asian longhorn beetle, mountain pine beetle, thousand-cankers disease of walnut, bur oak blight and others.

Although there is no hard and fast rule, community foresters generally agree no single species should comprise more than 5 percent of a community forest in-



The trees that are the backbone of our communities today may not be the ones future generations rely on. Trials are underway so that we, along with our trees, can adapt to change.

ventory. And no single genus, such as oak or maple, should comprise more than 10 percent of that inventory. With these numbers in mind, at least 20-30 species should be well-represented across a community and preferably more. Unfortunately for many if not most communities, the majority of inventories are usually represented by 5-10 species. Species that have come to dominate some Nebraska communities and neighborhoods include green ash, hackberry, honey locust, Siberian elm, callery pear, pin oak, Norway maple, and silver maple among others. Nearly every community in the state would benefit greatly from a wider tree diversity.

As we discussed in the previous article, a sizable portion of community trees can and should be regionally native species as they generally do the most good for ecology and biodiversity. However, for various reasons, it will be nearly impossible to achieve our best community forest resiliency relying only on native species. When it comes to native vs. non-native trees, here are some things to consider.

Many native species have unique sets of problems that limit their use. Silver maple is prone to storm damage, sycamore is very messy, hackberry is overplanted, lindens can be defoliated by Japanese beetles, American elm is prone to Dutch Elm Disease, walnuts drop heavy

nuts, oaks can be messy and are now prone to significant herbicide damage, etc.

Some of our best native trees, including oaks and hickories, evolved in organically-rich and well-drained forest soils. The soils of our communities are generally nothing like that. The top soils are often scraped away, leaving inorganic and poorly-drained clays. And trees have to compete with a lot of fussed-over lawn that further limits soil suitability. Tough urban growing conditions greatly limit the kinds of trees we can grow.

It's important to remember that the environmental services provided by trees goes well beyond ecology and biodiversity. The canopy of the community forest is hugely important for summer cooling, winter wind protection, energy conservation, stormwater capture, shade on parking, economic viability and public health/safety, etc. The value of green canopy over paved surfaces is incredibly important and some of the best trees on tough sites are non-natives.

The most limiting factor in tree diversity is availability via the nursery industry. The easy part is identifying trees that should be planted more. However, if they're not commercially available, the point is moot. Tied to this is the fact that most of the tree-buying public, especially homeowners, are less interested in ecolo-

gy and much more interested in trees for beauty and cleanliness. We hear it all the time that people don't want a "messy" tree and they want something that has good spring flower or fall color. In that context it's still better to plant a well-behaved non-native tree than no tree at all.

Some non-natives are actually better than their native cousins in certain ecological ways. For example, silver linden is an Asian species that is genetically similar to American linden, but is not defoliated by Japanese beetles, which are quickly expanding their presence in the state. Like its American cousin, the silver linden produces wonderfully fragrant flowers that help sustain a wide variety of pollinating insects. Another example is Chinese chestnut, which is genetically similar to American chestnut but actually much more adaptable to Nebraska and not prone to chestnut blight. The flowers are similar and they too attract a wide variety of pollinating insects. Other non-native species that have ecological merit include Mongolian oak, Manchurian apricot, crabapples, various elms, Turkish filbert, laurel willow, common alder, Swiss stone pine, Korean fir, Meyer spruce, Chinese juniper and others.

In western Nebraska where it's harder to grow trees and where the palette of native trees is much more limited, introduced species are likely more important to achieving better diversity. And generally speaking, the threat of invasiveness is a lower concern in the west (though still an important concern).

Now, having said all that, it's important to point out that non-native species can become invasive and can damage native ecosystems if they escape into them. Anyone planting trees near important native woodlands should be especially cognizant of the potential for escape. As such it would be wise to limit the use of non-natives to only well-behaved species that can be trusted. A good place to start is the watch list of the Nebraska Invasive Species Program (neinvasives.com/ecoregions/all) which lists trees, shrubs and other plants that are causing problems in Nebraska or which likely will. Species on that list should be avoided: ornamental (callery) pear, Russian olive and saltcedar (*Tamarix ramosissima*). Others of concern include Norway Maple, Amur maple, gold-enraintree, sawtooth oak, tree-of-heaven, common mulberry and Siberian elm.

So, what is the correct balance between natives and non-natives? Every town is different with its own set of concerns and limitations, but we would be wise to plant as many regionally native species as possible and then fill in the gaps with well-behaved non-natives, especially in tough urban growing conditions. In eastern Nebraska we can probably achieve a ratio of 75 percent

native to 25 percent non-native in canopy trees (less so in ornamental species). In western Nebraska it will likely be closer to 60/40. But that is not written in stone. The important thing to remember is that large canopy trees are very important to the functional well-being of a community and wider species diversity is vitally important to achieving better resiliency and sustainability in the long run.

Five Trees to Plant More— Eastern Nebraska

1. Northern Pecan (*Carya illinoensis*) is nearly native to Nebraska, reaching as close as Iowa, Missouri and Kansas. It's a member of the hickory/walnut family and is a great tree for biodiversity as it feeds and shelters countless insects, birds and other creatures. Its strong branch



structure helps it resist storm damage. Unlike its cousin the walnut, pecan is not a messy tree as squirrels and birds typically clean up the nuts before they fall. Grows 60-80' tall and 40-50' wide.

2. Chinkapin Oak (*Quercus muehlenbergii*) is a very adaptable and underutilized tree native to southeast Nebraska. Its common name refers to its leaves that resemble those of the chestnut which were called "Chinquapin" by Algonquin tribes in the eastern U.S. It's tolerant of a wide range of soil conditions and grows to a lovely rounded shape 40-

60' tall and 30-40' wide. Chinkapin oak is less prone to herbicide damage than other white oaks.

3. Cucumber Tree (*Magnolia acuminata*) is a Midwest native magnolia that grows to 40' tall and makes a terrific yard tree. Its fragrant strap-like yellowish green flowers in late spring and bright red fruits in fall add seasonal interest.

4. Sugar Maple (*Acer saccharum*) is nearly native to Nebraska, reaching into eastern South Dakota and Iowa. Lots of red maples get planted in eastern Nebraska, but relatively few sugar maples, which is actually the better tree for storm resistance and longevity when properly sited. And you can't beat the orange-red fall color of sugar maple. The Caddo strain from Oklahoma is especially heat- and drought-tolerant. Grows 50-70' tall and 40-60' wide.

5. Meyer Spruce (*Picea meyeri*) comes from China and is similar in shape and color to the Colorado Spruce but may be better adapted to eastern Nebraska's



higher humidity. It needs further testing in the state but will likely have fewer disease issues in our warming climate. Grows 40-60' tall by 25-35' wide.

Five Trees to Plant More—Western Nebraska



1. Bur Oak (*Quercus macrocarpa*) grows well in every community in Nebraska, yet is woefully under-represented in community inventories. It's our toughest and most common native oak and is wonderfully long-lived. It tolerates almost any kind of soil and sustains hundreds of insect species, birds and other wildlife. Grows 50-70' tall by 50-70' wide.

2. Gambel Oak (*Quercus gambelii*) is a Rocky Mountain cousin of bur oak, but is typically multi-stem and shrubby in its early years. In favorable locations it can grow 30-40' tall and 25-30' wide. It's incredibly drought-tolerant and can have a nice orange-tan fall color.

3. Manchurian Apricot (*Prunus mandshurica*) has proven itself adaptable to the Great Plains for many decades and is often used in shelterbelt plantings. A member of the plum/cherry family, its early spring flowers are susceptible to frost damage and the tree rarely fruits. The tree is typically low-branched and has a striking resemblance to redbud, growing 15-25' tall and equally as wide. It often has a nice orange-red fall color.

4. Triumph Elm (*Ulmus* x 'Triumph') is one of the newer hybrid elms that has Siberian elm as part of its parentage, giving it good drought- and cold-tol-



From top:
Gambel oak;
Manchurian apricot;
Pinyon pine opposite.

Five Trees to Plant Less

1. Ornamental Pear (*Pyrus calleryana*) is an attractive, tough and adaptable species covered with white spring flowers and turning a nice red in the fall. It is one of the most commonly planted trees across the U.S. and is sold in several cultivar names including 'Aristocrat', 'Bradford', 'Chanticleer', 'Redspire' and 'Whitehouse'. However, the tree has very poor branching structure, making it prone to storm damage, and is quickly becoming invasive into native woodlands in the eastern U.S. as well as eastern Nebraska.

2. Autumn Blaze Maple (*Acer* x *freemanii* 'Autumn Blaze') is a variety of freeman maple, which is a natural hybrid between red maple and silver maple. Autumn Blaze is fast growing and has a nice red fall color and is one of the most commonly sold trees across the U.S. It's becoming over-planted and has very



erance. It develops a nice, rounded crown with age and has better branch structure than some other hybrid elms, making it less prone to storm damage. Will grow 50-70' tall by 40-60' wide.

5. Pinyon Pine (*Pinus edulis*) is native to the central and southern Rocky Mountains and is incredibly heat- and drought-tolerant. It is slow-growing and will likely top out at 25-30' tall and nearly as wide. Its cones possess large seeds or "pine nuts" that are edible to both people and wildlife.

poor branch structure, making it prone to trunk-splitting during storms. It's also prone to chlorosis (yellow leaves) on high pH soils.

3. Russian Olive (*Elaeagnus angustifolia*) is a tough-as-nails tree with attractive silver color but has it escaped into Nebraska's waterways and has become invasive across the state. It should no longer be planted in communities.

4. Ash species (*Fraxinus* spp.) including green ash should not be planted in the state until varieties that are resistant to Emerald Ash Borer are identified.

5. Siberian elm (*Ulmus pumila*) served the state well after the Dust Bowl years of the 1930s. It's a tough tree, but prone to large limb dieback and general shabbiness. There are many elms on the market now that are equally as tough but with much better form and attractiveness.

From Curiosity to Climate Change— Bloom Times Track Yearly Changes

Emily Levine, Research Horticulturist

I can't remember just what motivated me in 2005 to begin recording bloom times in UNL's Earl G. Maxwell Arboretum on East Campus. At the time, I was working for the Landscape Services Department and served as the Grounds Supervisor for the arboretum and I found myself jotting down the dates when I noticed herbaceous and woody plants' first flowers. That first year it was just a list—plant names and dates, but as I got more serious about it, I realized I needed a better way to keep track of things. So began the Excel spreadsheet file of the Maxwell Arboretum Bloom Time Chart.

I soon began stopping at the arboretum a few times a week after I left work to walk through and record on my own time so that I could devote the time needed. An Excel format has proven useful because it has the ability to sort the data by scientific or common name, or by bloom date. It can also provide an average bloom date for each plant.

The chart now contains about 500 species/cultivars. There has never been enough time to record every plant every year; in 2017 I did no recording at all, and for many critical weeks this spring campus was off-limits to me due to COVID. And as I've never been able to check plants every day, some dates are extrapolated from when I am able to view them based on their progress at the time.

So, I now have 15 years worth of data and it is interesting to see which plants are most affected by temperature as opposed to simply day-length. One can determine years with early or late springs, cooler or warmer springs, by studying the records. (At some point a volunteer or graduate student could track the daily temperatures of each year against the bloom dates and see what patterns emerge.)

But a larger force than year-to-year temperature changes can be tracked by studying bloom times over a longer duration: climate change. The earliest flowering records we have for East Campus come to us from S.W. Perin, the Superintendent of the "Farm Campus." Perin kept journals from 1893 to 1916 as well as in 1929 and, although they are at times

completely illegible, he often noted bloom times like these for April 1899:

11th Maple trees blooming . . . Elm,
Lilac Budding
23rd Cottonwood in blossom
27th Plum trees in Bloom

In the 1970s, Professor Richard Sutton of the Agronomy and Horticulture Department began recording first bloom dates in Maxwell Arboretum and around campus. And last year as I was out recording data, I ran into someone else doing the same thing! It was recent Entomology Department hire Research Assistant Professor Autumn Smart. We engaged in a lively conversation and I shared my Excel file with her. While I am due to retire in a few years, Smart will be here and plans to continue to record—and hopefully after her, there will be others, giving us a long stretch of data.

While plants in Maxwell Arboretum may come and go, and some trees are limbed too high to observe their blossoms, over time we should be able to accumulate enough data to track and verify phenological effects of climate change. For years my records (available on the UNL Gardens web site at unlgardens.unl.edu) have been useful in answering queries by arboretum visitors—both locally and from all around the country. And I refer to them often to provide accurate information in my educational UNL Gardens Facebook posts about the plants on campus (as opposed to when books and gardening web sites *say* a certain plant will bloom).

But this data also serves an important scientific purpose. My hope is that the Nebraska Statewide Arboretum can act as a repository for these growing and ongoing records of its flagship site, and that future faculty, staff, students and Citizen Scientists can continue to collect this data in the years to come. The Bloom Time chart is online at unlgardens.unl.edu/arboretum-bloomtimechart.



Above: Fringetree blossoms and bud and blossom of Loebner Magnolia. Tracking bloom times at UNL's Maxwell Arboretum began in 2005 out of curiosity for Emily Levine, but the database has great potential for future tracking and for connection to weather and other scientific data.

Bloom Box Program—Lessons Learned

Sarah Buckley, Bloom Box Coordinator

The Arboretum has been helping create pollinator habitat at homes, workplaces and schools since 2016. After applicants fill out a survey about their site and personal preferences, we handpick a collection of plants to help them grow a pollinator-friendly garden of various sizes for anywhere in Nebraska, whether it's in hot sun, a wetland area, or a moist woodland. After 5 years and 385 Bloom Boxes, we've learned a few things that might be helpful to gardeners beyond this program.

🌻 **Big plants prefer big spaces.** In eastern Nebraska, many of our native plants came from the tallgrass prairie, and it can be hard to fit them into the garden (literally and aesthetically). Especially the plants that were already large in the native landscape but grow even bigger in rich garden soils with less competition. Most of us don't have the space in our yards to devote to a true tallgrass prairie landscape. We've found that using short or mixed grass prairie species fit the scale of an urban yard better, and that sometimes a slightly different seed strain or smaller size works better. The pollinator research done so far suggests that plant selections chosen only for smaller size don't reduce the benefit to pollinators in the same way as double-flowered or different color varieties might.

🌻 **Helicopter gardening not recommended.** Most of our Bloom Box gardens are designed to be low-maintenance so a helicopter approach isn't necessary. While it is important to mulch new plants and water them until they are established, in the long run native plants require less attention. Mulch is often applied with a heavy hand to perennial gardens to help keep out weeds but our prairie natives can easily be smothered by the extra depth. Keep mulch light, especially around the base of the plant. Flopping is a common symptom of overwatering, especially for drought-tolerant plants. Some of our best pollinator plants, like goldenrods, get a bad rap for being "floppy" but really they're just asking us to back off with the hose.



This garden planted in Morrill by Laurie Zitterkopf is one of 385 statewide where the Bloom Box program added pollinators, and beauty, to the landscape.

🌻 **Some hands-on gardening can help with tall natives.** Most folks come to the Bloom Box program looking for a more hands-off style of gardening and that has always been one of our goals. However, if you are interested in growing some of the larger Great Plains species, a more hands-on approach can make them more manageable. Taking a few minutes to cut a plant back mid-spring or early summer can result in a cleaner look without sacrificing flowers. Many of our Great Plains favorites are also prolific seeders so removing seedlings or spent flowers later in the season can help keep them in check.

🌻 **Look to the soil.** While it is true that native plants are best adapted to our local conditions, remember that if you live in town you are living in a "built" environment. Cities and towns create their own microclimate, and soil in developed areas is often dramatically changed by construction. This certainly doesn't mean you can't plant natives. Just be sure to evaluate your conditions and not make assumptions based on the larger, natural environment. This is especially true for water; you need to consider how much rain and irrigation the site receives as well as how long that moisture is retained in your particular soil.



🌻 **A new look.** Gardening with natives often requires adapting to a different style of landscape than we're used to. Many native plants have a period when they look their best but fade into the background when they're finished blooming. Prairie plants are adapted to growing close together in communities and often need that support to look their best all summer. Planting close together and mixing seasonal partners gives plants the support they need to keep standing tall the rest of the year, or to fade into the background while the next plant comes into its prime.

🌻 **Mix and match.** Along the same lines, if you aren't ready to go fully native there is certainly no harm in starting with a mixture of different plants. Sometimes keeping a few tried and true comfort plants in the garden can ease us into the wilder personality of native species.

What about the gardens?

Spring 2020—the impact of COVID

Lucinda Mays, Chadron State College Arboretum

For those of us who take care of the landscape plants at Chadron State College, our seasonal tasks have been especially welcome during the COVID-19 pandemic. Pandemic or not, the plants still benefit from regular care. Here's a photo of Steve Weber, one of our



groundskeepers, doing some spring pruning on an American elm tree at dawn on May 1, 2020. Bird song, no crowds, no traffic, handsaw noise only. The perfect mix. The work of taking care of CSC campus landscape needs has been of real benefit to those of us out in the field. I can personally recommend fresh air, sunshine and hands in the soil as effective ways to combat the worries of the world.

Note: Lucinda also sent a photo of striped squill, *Puschkinia scilloides* var. *libanotica*, her “absolute favorite spring



blooming bulb; it comes up every year in March, even during a pandemic. It's slowly spreading through the leaf litter in the filtered shade under our front yard trees.”

Vicki Beilke, Secretary, Stella Garden Club

The Stella Arboretum was started as a school project with Southeast Nebraska Consolidated Schools in 2000. The Science Club was in charge and the



Arboretum was developed by students and staff—hand digging the pond, preparing and planting all of the plants and maintaining a greenhouse that was built as part of the project. When the school closed in 2009, a group of women in Stella decided that the Arboretum was of value to the town and formed the Stella Garden Club to maintain the landscape.

Keeping a garden up is not an inexpensive effort. Our beautiful 40' diameter pond had to be completely rebuilt several years ago because the liner was deteriorating. Water pumps, heating costs for the plant growth, tree maintenance and other expenses occur on a regular basis. But with much thanks to our local community, the area has been well-maintained and is used as a great venue for photos, ceremonies, picnics and even a couple of Art Shows. It is also a Certified Butterfly Garden.

The Garden Club plants annual vegetables and flowers each year and relies on donations for these plants to cover the costs of maintenance. We advertise the plant donations and set up a stand in a local Farmer's Market and at the spring Brownville Flea Market. People

have been generous and the club has always been able to fund all maintenance and repair costs.

As far as the pandemic... since all local events were cancelled, the Club expanded the plant sale promotion by advertising in local newspapers and the response was absolutely outstanding. With the shutdown limiting other activities, more people in the area became involved in gardening. Our Club has always operated on the honor system to collect donations and our donations reached an all-time high this year. Since the greenhouse was open 24/7, people could come and go as they wished without fear of violating social distancing guidelines, a benefit we mentioned in all the advertising.

Over 200 trays of individually transplanted items were available for

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Gardens continued from previous page



customers. All the seeding, transplanting and care of the vegetables and flowers was done on a volunteer basis and the Club was careful to maintain social distancing throughout the work schedule. Routine maintenance of the garden was maintained with the same work plan. As the average ages of club members range from 60-85, the virus is a real concern for our members.

In short, the Stella Arboretum didn't "miss a lick" from the pandemic. With careful planning, we have been able to continue this project and keep the Arboretum as a valuable asset in our community.

Dan Wheeler, Vintage Heights Neighborhood Association Arboretum in Lincoln

For Vintage Heights Neighborhood in Lincoln, the impact was not only COVID-19 but also the loss of help. We had hired NSA's intern Patrick Murphy to help us last year with mundane tasks like weeding, tree trimming and removing wild cucumber—as well as for help designing landscapes and writing grants—but were no longer able to work with him this spring. Since most of our Landscape Committee members are retired and have underlying conditions, we're seldom able to work together but periodically I ask people to work on specific tasks. My wife

and I single-handedly kept the Pollinator Greenway cleaned up by working early in the morning and before dusk. Some things we can and have gotten professionals to do, but we've found it needs very direct explanations. Certainly another intern would be wonderful.

Most of the plants at the Greenway have done well, especially butterfly milkweed, *Liatris*, coneflower, prairie blue star, purple mallow, false indigo, leadplant, hoary vervain, Fireworks goldenrod, New Jersey tea, red osier dogwood, buttonbush and all the grasses.

Plants not doing well are the swamp milkweed, which was devastated by



aphids last year, and some asters. We lost a few trees but overall the trees are doing well. Unfortunately, we are trying to locate someone who is trimming trees inappropriately and without authorization (if you want, you can join us in a stakeout!).

Weeds that have taken advantage include: bindweed, dandelions and assorted others, some of which I can't identify! We have resorted to more chemical control as it's the only way we can control the weeds—ugh.

Marie Hélène, Gifford Park Neighborhood Association Board President, Omaha

The COVID-19 pandemic forced GPNA to cancel many of its activities—the Easter egg hunt, spring cleanups, neighborhood meetings, the youth garden, Adventure playground, youth soccer and tennis programs and so many other occasions to gather. We had hoped summer would bring back some sense of

One of the state's most active and diverse public gardens, Gifford Park has experienced some loss and seeks even greater diversity and outreach in 2021.



normality, and the neighborhood would buzz again. Unfortunately, we have also had to cancel future events: Slip'n'Slide, 33rd Friday Block party mid-August, Porchfest early October, potlucks, movie nights, and more...

On top of this seemingly endless pandemic, the country witnessed horrible events leading to racial tensions and social upheavals. Our reality and our beliefs are shattered; we are trying to make sense of what is happening and find answers to existential questions. We are now in a time of great changes and we have entered uncharted territories. The crisis did not spare our community in Gifford Park Neighborhood. Although the Association already promotes diversity and inclusion through its numerous programs, we realize we can do more so that everyone really feels welcome, recognized,

respected and valued in our neighborhood. So as we look ahead to 2021, we are working toward more diversity at all levels of GPNA, starting with the Board, and we are interested in your suggestions.

Karen Creswell, Garden Volunteer, Beattie Elementary School in Lincoln

In most years, the school families at Lincoln's Beattie Elementary help with the garden tasks and no one person is left with all the work in the six-acre garden. But with the school grounds closed to the public, I did spring cleanup mostly on my own with the help of my partner. To help reduce weeding, we did something we had never done in the past and put down pre-emergent in early April. We



pulled all of the Sticky Willy (also known as cleavers or *Galium aparine*) out of the groundcovers at the same time. It took longer with just two of us doing the spring chores, but we smiled to ourselves, thinking we had outsmarted Mother Nature.

With the pre-emergent in place, we thought we could sidestep all of the weed growth that would occur while we waited for the go-ahead to tend the school gardens. But Mother Nature had another plan for us; no spring rains came to water in the pre-emergent. So we had more weeds than we had seen in a long time and all of the Sticky Willy came back and set seed.

At the beginning of June we got permission for a limited number of volunteers to resume garden activities. If you remember, that's right when a

record-breaking heatwave occurred, so we were reseeding a buffalograss lawn and starting a vegetable garden at that critical time. Keeping the seeds wet enough to germinate in the heat was an ongoing challenge; many of the vegetable seeds simply refused. So for us, the challenges of weather were as great as the shutdown of public spaces.

With a partner who kept saying "we'll do a little bit each day and we'll get everything weeded," I was able to keep it together and not get discouraged. Finally, as the end of July approached, we were able to get back to routine tasks.

I have to admit that it wasn't all work, we stopped to enjoy the cherries in June and harvested over 70 pounds of cherries.

We did learn to look for ways to simplify garden tasks:

- Find plants that cover the soil better so that weeds can't take hold.
- Plant tightly to suppress weed growth.
- Since our school garden, like many others, has very rocky soil, we learned to use plants that could withstand this harsh environment.
- We learned that big stuff like trees and shrubs can handle the challenges much better than small plants.
- We gave in to using chemicals when absolutely necessary and as a last resort.

Purslane arrives every summer and stubbornly makes her presence known. It felt reassuring to struggle with a familiar weed at a familiar time in a familiar way. Because of the strange weather patterns, weeds appeared that I was not accustomed to handling. Spurge and shepherd's purse (*Capsella bursa-pastoris*, a flowering plant in the mustard family) have not been prominent parts of the school garden but they certainly were this year. I'm still plotting how to eradicate them.

So just call me Purslane, that's where I've been spending my time.

Denise Wally, Property Operations Supervisor, Prairie Pines, Lincoln

From April 10 to May 26, Prairie Pines Nature Preserve, managed by the Nebraska Forest Service, was left to its own devices, due to university-wide shutdowns in response to the covid-19 pandemic. Sometimes nature does not need humans (though humans need nature). The established trees took care



Were there more birds than usual this year, or did we just give them more attention?

A wren house at Prairie Pines.

of themselves and each other, without us meddling humans. The "weeds" did fine too, being plant species adapted to being neglected and surviving in harsher conditions. The plants that suffered most were the garden bed plants, which were over-run by more aggressive "weeds", and small, young, un-established trees which were crowded out by grasses. The plants that did well were common broom, poison ivy, Virginia creeper, smooth brome, pokeweed, burdock, cat-briar, stinging nettle, Amur honeysuckle, bindweed, wild violets, Virginia beggar's lice (sticktight) and many other undesirables.






The biggest issue with the shutdown was not being able to mow the firebreaks and trails at the property. Once we were back at the property, it was so tall we had to use the tractor to mow the first time. I also missed the spectacular transitions of spring, apple blooms, wildflowers, and the greening up of the forest.

Being away from the property gave me insight about how much I enjoy and need nature and natural places. While at home, I spent a fair amount of time in my own gardens/yard to keep my sanity. I added a few new species to an already diverse collection of plants, and there was not a weed to be found. Now that I have gone back to the property, the weeds are mounting their assault on my gardens at home.

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Lots of Ways to Connect, Learn, Get Ideas...

-  JOIN US for for online First Thursday brownbags on “All Things Green”
-  BUY NATIVE & recommended plants from us, many with local seed source
-  RECOMMEND us to friends, family and co-workers
-  GIVE. We are a grassroots nonprofit that relies on our members
-  BE PART of the community on Facebook, Twitter, Pinterest and Instagram

Pinterest



Facebook



Instagram

