

Essential Gardening: Public Gardens in the Spring of COVID-19

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The spring of 2020 has been defined by upturned plans. As the number of COVID-19 cases skyrocketed, lives across the United States were reconfigured. Eight-year-olds learned how to take school classes remotely. Grocery stores began limiting the number of shoppers who could be inside at once. Restaurants reinvented their menus for takeout. Businesses large and small closed their doors, sending millions of workers to unemployment. Even hospitals—while stretched beyond the max on one front—began furloughing employees, given that routine and elective appointments were canceled. Streets in cities like Boston became veritably empty, with no morning rush, no evening rush.

Public gardens, like other cultural institutions, were confronted with the same stay-at-home mandates that shuttered their communities. According to the American Public Gardens Association, more than 25 percent of gardens closed on a single day (Monday, March 16), and by the end of March, only 4 percent remained fully open to the public. The plants, of course, did not wait to begin growing until gardens reopened. The sunshine-colored blossoms of forsythia and daffodils put on their radiant shows no matter what.

The unrelenting arrival of spring was, in many ways, incongruous with the national mood. It also meant that horticulturists at public gardens continued working despite closures and event cancellations at their institutions. Schedules changed. Procedures changed. But there were plants to be tended. Below, thirteen horticulturists from gardens around the country describe the on-the-ground realities of car-

ing for their collections during the first months of the pandemic—the months in which an old normal faded and a new normal was created.

January 24

On January 21, 2020, our nation's first case of COVID-19 was reported in the Seattle area, just a few miles from Bellevue Botanical Garden. I was not paying attention to the news. As garden manager, I was deep into planning our first big event of 2020: a Lunar New Year Celebration scheduled for February 2. We had been snowed out the year before, which would have been our first year celebrating this event, so excitement was high over the favorable weather forecast. We expected over one thousand visitors. I could imagine red-and-gold lion dancers snaking through entry gardens that would be redolent with witch-hazels and sarcococca. The hot pink blossoms of *Camellia* 'Mary Christian'—evocative of the tea plant (*C. sinensis*)—would be punching through the winter gray.

One of our community partners, Lily, began each planning meeting by serving different varieties of Chinese tea. Her gracious habit kept me connected to the mission of our collaboration: teaching the public about botanicals used in Chinese teas. Lunar New Year was to be the first of four events celebrating Chinese tea arts through the seasons. At our pre-event check-in on January 24, Lily was visibly shaken. She was wracked with concern over the news out of China. She had been in touch with friends and family there and felt it would be disrespectful to hold a large public celebration at a time when so many were suffering. She and her colleagues feared the virus would spread here. I

Facing page: Horticulturist Jessica Kaplan cares for the New York Botanical Garden's Native Plant Garden.

PHOTO BY THE NEW YORK BOTANICAL GARDEN



agreed to cancel the event out of respect for the Chinese community. At the time, I didn't think it was necessary to add "out of an abundance of caution." It was a scramble to put the brakes on with just a little over one week's notice: cancel the lion dancers, the musicians, the tea ceremonies. Notify the public, the volunteers, the dignitaries.

While our garden was deep in winter dormancy, with so much unseen beneath the surface, novel coronavirus was silently making its way through our community. Our area was destined to be the first epicenter of the outbreak in the United States. Events and programs fell like dominos, one after the other as our understanding of the pandemic evolved, until our governor issued a stay-at-home order and everything ground to a halt on March 25. Our facilities closed. A handful of crew members would continue coming in to care for the garden, which remained open for walking, free as always. Everyone began panic shopping for toilet paper, which I could not understand. I stocked up on veggie seeds and compost.

On January 24, I didn't see any of that coming. I now feel haunted by that day, by my ignorance in thinking that the virus was far away, not our problem. Thanks to our Chinese friends, we made the right call and that decision may have saved lives. I remember that we, at Bellevue, are the lucky ones: no staff layoffs, volunteers eager to return, and all of them healthy. I remember that we are strong and resilient. And I remember that, in the garden, the hidden promise of winter dormancy burst into an early spring, with daffodils, daphne, and rhododendrons coming into bloom, each, in their turn, providing respite from pandemic fears.

—Nancy Kartes, *Garden Manager*

March 15

I was at home on Sunday, March 15, when we decided to close the New York Botanical Garden indefinitely to the public and nonessential staff to help prevent the spread of COVID-19. For several weeks prior to this decision, we had been following the news of the virus, communicating regularly with various government agencies, and planning for at least a partial shut-down. In spite of our preparation, the decision

to close the garden at the height of our annual *Orchid Show* and on the eve of spring felt nonetheless sudden and severe. Even though we had dealt with temporary closures after 9/11 and during various hurricanes and blizzards, none of us had ever experienced a long-term shut-down with no clear path to reopening. Gardens shouldn't close in spring.

Starting at about seven o'clock that evening, I set out to call every member of the garden's horticulture team (nearly seventy people in all) to relay the news and to assemble a small crew to come in the next day. With 250 acres of designed gardens and curated plant collections and two glasshouses, the New York Botanical Garden needs tending every day. Fortunately, New York State deemed us an essential business, which made our horticulturists essential workers. Unfortunately, due to social distancing protocol and budgetary concerns, we could only bring in a reduced staff on an intermittent schedule.

By ten o'clock, I had reached everyone and had confirmed twelve staff for the next day. Even as I grimly delivered the news of the closure to one colleague after another, I was buoyed by their hope and desire to help however they could. Hope in the face of COVID-19 was no small thing. At the time, none of us knew how severe the pandemic would become, but all of us were aware that New York City, with its densely packed humanity, could be fertile ground for a highly communicable virus. Many of my colleagues live in the five boroughs and take public transportation to the garden. Many are in close contact with elderly parents, or have partners with respiratory conditions, or care for small children, or have some other legitimate reason to be especially scared of contracting COVID-19. Despite their personal concerns, the horticulture staff knew what was at stake and gamely signed up to come in. They understood the essential nature of their work keeping the New York Botanical Garden healthy and beautiful so the garden can achieve its mission of serving and delighting the public.

This spring has taught me a lot about the profound impact our garden has on peoples' lives. It has also deepened my respect and gratitude for the professional horticulturists who



At the Arnold Arboretum, in-person horticulture meetings have shifted to Zoom. Here, horticulturist Conor Guidarelli attends from the landscape.

JONATHAN DAMERY

care for our collections, displays, and natural landscapes. These are New York horticulturists: a bit jaded perhaps, and suspicious of authority (e.g., me), but as tough and serious as they come. Many have worked here for decades and are deeply proud of what we have built together on the foundation laid by the generations of horticulturists who came before us. And so, through the height of the pandemic, our now officially essential horticulturists came to the garden, albeit on significantly reduced and altered schedules, to care for our plants, COVID-19 be damned.

—Todd Forrest, Arthur Ross Vice President
for Horticulture and Living Collections

March 17

On Tuesday, March 17, I was in the nursery at the Arnold Arboretum with five other horticulture staff, digging trees and shrubs for the spring planting. It was the day after buildings at the

Arnold were closed to non-essential personnel. Originally the closure was described as a “trial” work-from-home week, but for most, it would become a new normal. Horticulture staff would also set up home offices to reduce essential staff densities. Those who were juggling work, parenting, and teaching duties were home first. Our team in the nursery was the only horticulture and greenhouse staff on-site that day.

The nurseries consist of three plots that are tightly spaced around the greenhouses, located on a central edge of the landscape. Visitors can see the nurseries and greenhouses through a chain-link fence. Almost all the one-hundred-plus trees and shrubs that were slated to be dug this spring were growing in a single nursery plot, and everything was to be balled-and-burlapped. This method involves hand-digging a teacup-shaped mass of roots and soil (the children’s song “I’m a Little Teapot” always runs through my head) and lacing sisal in an inter-



woven drum-like fashion to hold on a covering of burlap. One person can do the digging and burlap dressing, but it takes at least two to hoist the plant to the surface. We managed to keep several feet away from one another by lifting with ball-and-burlap straps. At that point, we were all wearing makeshift masks fashioned from cotton rags and handkerchiefs.

We normally dig several specimens and then go out onto the grounds to plant them on the same day. This spring, however, everything was to be dug at once. Given the small size of the nurseries, space is constantly in demand. New seed arrives from plant-collecting expeditions every year, and the seedlings work their way into the greenhouses, to the shade nursery, and eventually either into containers or into one of the nursery plots. If plants were not dug from the nurseries it would stop the production line. Because many of the plants are collected in the wild, throwing out the inventory is not a choice. The plants are impossible—or exceptionally hard—to replace. These are not mass-produced Knock Out® roses.

When the coronavirus was first being reported in the United States, back in January, I was grimly aware that the pathogen would be exceptionally disruptive. In our horticulture meetings, we began creating a game plan for how we would prioritize our operations under a series of scenarios. The fourth scenario was a near shutdown of operations, with only one or two people on-site. As it ended up—and as I worried would happen—we went straight from the modest precautions of the first scenario to the intense shutdown of the fourth within a matter of weeks. Before scenario four could occur, however, spring planting had to be completed. We had initially planned to tuck the balled-and-burlapped plants into another space in the nursery for a fall planting, but halfway through, the plan would shift: everything would be planted, including another two-hundred-odd plants that had been grown in containers.

From the nursery, we could see through the fence to the main roadway that winds through the Arnold, which offered a view of a tremendous influx of visitors. The landscape is free and would remain open despite other closures.

It is tucked directly within Boston residential neighborhoods, and with businesses around the city sending employees home—or worse, laying off workers—wave after wave of visitors were taking midday walks in the landscape. It felt like everyone was arriving for our largest event of the year, Lilac Sunday, but the lilacs were still more than a month from blooming. Tree branches were still bare and leafless. But our relentless pace of digging continued. This task was essential.

—Greg LaPlume, *Arboretum Horticulturist*

March 25

In the early days of the pandemic, the pervasive singing of birds at Filoli was uncanny. The garden is nestled in the mountains between the San Francisco Bay and the Pacific, halfway between San Francisco and San Jose. While the gardens are formal—part of a sprawling estate that was established on gold-mining profits more than a century ago—wildlife is always abundant. Birdsongs provide a sense of vibrancy during the day, and large animals (like cougars, coyotes, foxes, and raccoons) leave evidence of nighttime visits. On March 25, I was in the Sunken Garden, snapping a social media photo of yellow ‘West Point’ tulips that were blooming within the low, clipped hedges of the *parterres*. The calls of sparrows, towhees, crows, and finches were inescapable, but they were now an eerie reminder of the lack of human voices in the garden. Filoli had closed the week before, on March 17, and although the horticulture team would continue to care for the landscape, the garden had to lay off some of our frontline staff at the beginning of our closure. Wildlife was becoming more brazen in their activities, but it was very bittersweet when all who would normally be enjoying the garden, along with the birds, were missing.

Filoli has blooms 365 days a year because of the moderate climate along the coast of northern California. Camellias and daphne begin blooming in January. In summer, the formal *parterres* showcase a bounty of colorful designs. But spring continues to be our biggest draw. Locals and visitors from around the globe are captivated by the spring experience of seeing

‘West Point’ tulips at Filoli Historic House and Garden.

PHOTO BY JIM SALYARDS



At Ashton Gardens, a horticulturist cuts tulips from the Italian Gardens for online sales.

ESTHER TRUITT HENRICHSEN

daffodils and tulips in our meadows and formal beds. Wisteria clammers on the side of the mansion, and peonies are showstopping. But this year, our spring peak of mid-March to mid-April was completely missed. All the planting and tending on the part of the staff, all the expectant calls and emails that started at the beginning of the year asking the best time to visit were for naught.

I did my best to share photos and videos through our social media outlets, but it's just not the same. A few thumbs-up or heart emojis are a poor substitution for the "oohs" and "aahs" and the thank-yous we receive from guests each day—the guests who call out compliments while we are weeding and pruning or who pass along the praise to our colleagues in visitor services and interpretation. Public gardens like Filoli are champions of environmental education and conservation, yes, but we also

provide substance for people's souls. Hopefully, in the near future, the garden will once again become a space of healing, just when the world needs us most.

—*Jim Salyards, Director of Horticulture*

April 6

The first week of April, three weeks after Utah went on voluntary shutdown, I spent two beautiful days pruning at Ashton Gardens where I work. The gardens were closed to the public, and the gardeners were "social distancing," a term that was new to our everyday vocabulary. I was on my own, pruning and listening to music within the walled Secret Garden, an enclosed space among the designed ruins of gothic arches that drip with honeysuckle (*Lonicera japonica* 'Halliana') and Virginia creeper (*Parthenocissus tricuspidata*). As the garden designer, I don't often have a chance to work directly in the

gardens, but during the pandemic, the entire staff was stepping up to help with horticultural care. I love to prune. I worked my way through the collection, shaping and thinning shrubs. I pruned branches from an indecisive willow-leaved pear (*Pyrus salicifolia* 'Pendula'), removing those that were sticking straight up and keeping those that were draping down. It was just me, the blue skies and sunshine, and ten thousand tulips in the Secret Garden—yes, ten thousand of the quarter million that we had planted at Ashton Gardens for our annual Tulip Festival. Like so many things this spring, the event did not happen, so only the gardeners and the birds were there to see the show.

Ashton Gardens lies thirty miles south of Salt Lake City in the foothills of the Wasatch Range. We are part of Thanksgiving Point Institute, a complex of gardens, a farm, and museums in the middle of a rapidly developing area called Silicon Slopes. The Secret Garden is one of our guests' favorite spaces within our fifty-five-acre landscape, and its charm lends itself as a place to stage marriage proposals, as well as for meetings of the local crochet club. There were no marriage proposals in the gardens this spring. Utah went on voluntary lockdown on March 14, before the gardens officially opened for the season. The office staff of Thanksgiving Point mostly worked from home, and staff with service jobs were paid to stay home. Due to our ability to distance ourselves while working, the garden staff had the good fortune of continuing to work every day.

On March 18, four days after lockdown, a 5.7-magnitude earthquake hit the Wasatch Front. I was in my office and, true to my elementary school earthquake-drill training, dove under my desk. The staff working outside in the gardens didn't even feel the quake. Over the next several weeks, over two thousand aftershocks occurred, and COVID-19 was always there just beyond the garden gates. While we worked in the gardens, nature helped us to find solace in the storm and feel less unnerved than many in our community. Throughout the weeks that would have been the Tulip Festival, we cut fifty dozen tulips from the garden each day. Thanksgiving Point members could pre-order bouquets and have them delivered to their

front porch. Or they could drive past the Ashton Garden Visitor's Center, pop the hatch so that garden volunteers could put the flowers into the car, and then drive away with their little bit of the Tulip Festival.

—*Esther Truitt Henrichsen, Garden Designer*

April 13

On Monday, April 13, I was at the Mary May Binney Wakefield Arboretum, located just south of Boston. As the arboretum director but one of just four employees, I normally work in our gardens every day. It's a twenty-five-acre property, listed on the National Register of Historic Places, and we are recognized for our collection of more than three hundred kousa dogwoods (*Cornus kousa*). The dogwoods were grown from seed that Mary (Polly) Wakefield collected at the Arnold Arboretum, where she took propagation classes for more than forty years. Our grounds had officially closed to the public following the statewide stay-at-home order that went into place on March 24. Due to the size of the landscape and staff restrictions—one week on and one week off—I had only seen my coworkers in passing and felt so fortunate to still be employed, working in the garden that had become such a place of peace and solitude.

On that day, however, pouring rain kept me inside catching up on paperwork. In an effort to create distance between staff members, I had moved my office from an old farmhouse to the main historic residence: a 1794 Georgian mansion. As the rainy and blustery spring day progressed, I looked out of the windows of the antiquated kitchen where I had set up my workstation and observed several of our massive hemlocks swaying back and forth. Mature trees before the Civil War, these hemlocks withstood the 1938 hurricane that destroyed many native trees all over New England. More recently, these giants survived hemlock woolly adelgid with attentive care. As winds strengthened, I received an alert from the Blue Hill Observatory, just a mile away, that gusts were recorded at eighty miles an hour. I heard a loud crack and saw that a large limb had come down and obliterated our ten-foot privacy fence. I stepped out of the mansion to survey the damage and quickly realized it was not a good time to be

standing among so many towering trees: hemlocks, sugar maples, and red oaks that are the oldest in our collection. Instead, I locked up the mansion, hopped in my car, and headed toward the gate and home.

Ten minutes later, the largest hemlock snapped about ten feet up and with its huge girth took another massive tree with it, narrowly missing the mansion. I received an alarmed text from my colleague saying, “We lost the big ones.” I could not fathom these trees falling until the images appeared on my phone. It seemed almost cruel that these hemlocks would no longer record history from their stately position. As a wave of sadness came over me, I recalled a moment standing in an ancient hemlock grove in graduate school, listening to Mark Ashton, my favorite forestry professor. He spoke with deep passion and amazement about the hemlock’s ability to survive in the understory for hundreds of years, biding their time until one of their cohorts comes down leaving growing space for a young tree to continue the legacy. Perhaps this would be an opportunity to plant some of the Chinese hemlocks (*Tsuga chinensis*) that I had been raising in our nursery. Or perhaps a young self-sown hemlock seedling would rise within the gap and thrive. I took great comfort in the fact that plants are so resilient and will go on, as will we in this challenging time.

—*Debbie Merriam, Arboretum Director*

April 15

One morning, around April 15 (time has lost a lot of meaning during quarantine), I came into work at Phipps Conservatory and Botanical Gardens to a desk covered with plant samples. As the associate director of integrated pest management, I handle our plant health care, including the diagnosis of all pests and disorders and the prescription of management and scouting protocols. I typically expect interesting new mysteries to appear. But looking through these samples, my first thought was, “These are all known issues. Why were they turned in?” Then, it hit me. Of course. With our new coronavirus-altered schedules, horticulturists were caring for spaces and plants they never had before. Everything they encountered

was new to them—the day-to-day simply didn’t exist anymore.

While gardens may not have been deemed officially life-sustaining during quarantine, we certainly are in the business of sustaining life—plant life that is. Phipps, located in Pittsburgh, closed to the public on the afternoon of March 14 due to COVID-19. While our glasshouses—a mixture of original Lord & Burnham Victorian-style rooms from 1893 and some modern additions like our Tropical Forest Conservatory—were shuttered to visitors, our plants still needed attention. Before coronavirus, horticulturists managed specialized areas including production greenhouses and collections of palms, ferns, orchids, cacti, bonsai, and more. During the coronavirus closure, we had large changes to our team structure. Instead of furloughing staff, we reorganized our horticulture department into three small teams that rotated on-site coverage on continuous five-day schedules starting March 27. All other Phipps staff worked from home, including horticulturists during the off-site portion of their rotations. This meant horticulture staff cared for more spaces than they typically would, often outside of their plant specialty. Pieces of our pest management plans, such as syringing this or that palm to suppress spider mite populations, were not always tended to since staff were working hard to perform basic plant life support like watering over large areas. These sorts of pest management tasks that were second nature to a room’s usual horticulturist were unknown to other staff.

In normal times, a handful of volunteers are at Phipps nearly every day, helping horticulture staff pot plants, clean beds, sow seeds, and more. One volunteer comes in every week to help me by scouting greenhouses for pests, carefully washing and cleaning plants to manage insect issues, and collecting samples of leaf spots and rusts. Like the other volunteers, she has not been on-site since we closed to the public, and without her, these simple but time-consuming tasks fell by the wayside. On May 3, according to my notes, I was finally able to check a particular cycad that my volunteer would regularly clean but that hadn’t received her attention in almost two months.

The poor plant was overwhelmed with mealybugs, its newest set of growth fuzzy with wax and deformed and stunted from the mealybugs' toxic saliva. I cleaned it, arranged for augmentative biocontrol releases, and even identified some wonderful brown lacewing predators that were already present, feasting on the mealybugs. I, and all our staff and plants, are really missing our volunteers.

Integrated pest management and plant health care more broadly are team efforts. As we adapt to whatever our new daily "normal" will look like, I've come to see how cross-training staff in many areas would produce knowledge and skill redundancy in all aspects of plant health care. Colleagues at other gardens have had similar realizations. These and other conversations and innovations will move gardens forward and better prepare us—and our plants—for whatever the future may hold.

—Ryan C. Gott, Associate Director of
Integrated Pest Management

April 20

The headhouse sits at the southern end of Filoli, among the greenhouses, nursery, and a few oaks. Inside, the air was cool and faint with the soft scent of aged cement and redwood. Working in the dim light, I slowly organized my desk. My fellowship had ended early due to the pandemic, and this was my final day. I sorted through the years of accumulation drawer by drawer, encountering fragments of the many lives that had passed through here: a handwritten reminder, a hair tie, a playing card, a dead spider. My mind drifted as I worked. I had been working off-site for a month and a half, and my last memory of the garden was in early spring. The hellebores and magnolias had just given way to a few blousy spring camellias, but most of the garden still slumbered. While my life took a pause, the strengthening sun and late spring rains had coaxed the garden out of its winter dormancy. Now, the fresh green growth of redwoods, coastal oaks, and arbutus enrobed the Santa Cruz Mountains. Irises and tree peonies stretched their satiny crepe petals in the spring sunlight. Masses of tulips swayed cheerfully in the gentle breeze as voles darted between their beds. With so many flowers in bloom and no

one to admire them, the garden was rejoicing, blooming for itself without judgement. A little space to breathe, a moment to grow.

After labeling the stacks of important documents and wiping down all surfaces, I headed out to the staff vegetable garden. Tucked away behind the headhouse, the garden is protected by a tall cherry laurel hedge and brick wall. The winter crops had finished. I saw evidence of recent activity, but not a single soul was there. Future plots were weeded, tilled, and enriched. Rows were marked and irrigation laid waiting. Soon rows of tomatoes would glisten in the sun, their leaves releasing a resinous fragrance. Swollen squash would hide under their giant prickly leaves. Multicolored carrots and potatoes would be unearthed like crystals and geodes, while sun-warmed strawberries and bright lemon verbena perfumed the air. The abundance would provide more than enough for human, beast, and microbe. For me, this was a place of refuge that had sustained me for a year, a place where I cultivated community with the earth and between people. I will miss the way the soil crumbled in my hands and how laughter floated over the garden hedge. Walking down the gravel path one last time, I took in the peace before heading out through the garden gate.

—Terry Huang, now Assistant Director of
Mildred E. Mathias Botanical Garden at UCLA

April 30

I dragged my eyes away from yet another Excel spreadsheet to the tall casement windows in my office. From my vantage at the northwest corner of the Horticulture Building at Longwood Gardens, I could see threatening clouds lumbering towards me. Located forty miles southwest of Philadelphia, Longwood doesn't normally receive such severe weather in late April. The sky darkened in minutes and began hurling something between hail and enormous raindrops into the windows, blurring my view of the forest edge across the deserted employee parking lot. The forecast was for a straight-line wind, but the tree branches were swirling in circles. The tops of the tall oaks and tulip poplars swayed in an unnatural dance.

It was late on April 30, and six weeks had already passed since the mandatory closure

of our doors. Like the closures at many other gardens, this prolonged shutdown has been a first for Longwood. Even after a long career, I had found myself making the most challenging decisions I have ever had to make—reducing budgets, furloughing all of the part-time staff, preserving our precious and rare plant collections—all within the span of a few weeks. We had already removed thousands of plants slated for our spring display, ripping out hundreds of beautifully planted beds of tulips and lilies. Our greenhouse staff had meticulously grown *Echiums* for a full year, and although the plants were magnificent, towering at four feet high, they never made it to display but instead were diverted to our compost stream, along with thousands of other crops. For a gardener, shuttering such beauty is heartbreaking. I hadn't expected to have such an emotional response to all of this (after all, they're only plants). Musing about the challenges being faced by our communities and our nation, I chided myself for being selfish. Our losses were only short-term.

Watching the wind and rain, I suddenly heard a loud, splintering crack followed by an earthshaking crash. I squinted through the gray deluge and could see an enormous oak was missing from the skyline. Shortly after, the phone rang and a colleague delivered more bad news: a precious tree, the oldest *Magnolia acuminata* var. *subcordata* 'Peirce's Park' in the garden, named for the historic site on which it was planted, was down.

This cucumber magnolia, at over eighty-five-foot tall and with a mighty girth of four-feet, was a national and state champion. We had traced the lineage directly back to French explorer André Michaux, who discovered this species in South Carolina in 1788. Planted between 1780 and 1830, this tree was part of a mature alleé of trees (considered to be the "Soul of Longwood") that the Peirce brothers had established on the property. Garden staff have even speculated that John Bartram or William Hamilton had helped them procure the tree, as they had in their own gardens in Philadelphia. Our founder, Pierre S. du Pont, purchased the original farm that was to become Longwood to save these trees from being lumbered.

It was too dangerous to check the tree that night. The following morning, breezy and clear skies laid bare the torn twigs and stripped leaves strewn across the paths and lawns. I kept walking; I have become better at ignoring the lack of perfection these past months. Normally the entire horticulture team would be scouring the landscape picking up every bit of debris—but not today.

Seeing the tree down reminded me of an image of a poached elephant I had seen years ago: gray, lifeless, enormous, and sprawled awkwardly across the path. I ran my hands over the tree's scaly bark, gave it a hug, and said goodbye. On my way back, grief gave way to a fleeting thought of hope. Almost twenty years ago, we propagated saplings from this tree. I walked past three of its progeny that were battered and dazed but still standing strong: future sentinels at the opposite end of the same alleé the Peirce brothers planted more than two hundred years before.

—Sharon Loving, Vice President of Horticulture

May 8

On Friday, May 8, I received a text message from Erin Bird, our communications manager.

"Are the lilacs blooming?" she asked. I knew she was looking for social media content.

It was a welcome text. I missed these interactions. I hadn't seen or heard from many of my coworkers since the Denver Botanic Gardens closed on the afternoon of March 16. Thankfully, none of my colleagues lost their jobs, but only staff considered essential to the stewardship of the facilities and living collections were on campus, so the space felt different, quiet, empty.

"They are blooming, but not very well ..." I responded.

Denver sits in the rain shadow of the Rocky Mountains, on the eastern edge of the North American steppe, the expansive semiarid grasslands and shrublands characterized by hot summers, cold winters, mineral soils, and very little water. Echoing the mountains that reign above the plains, this extreme environment lends itself to extreme weather. Long stretches of warm weather start in February, encourag-



Lilacs (*Syringa vulgaris* 'Henri Martin') at the Arnold Arboretum.

ing early leaf growth and bud break, only to be followed by sharp freezes in late April. These fluctuations are particularly hard on introduced flora during spring and fall, when biorhythms can be out of sync with steppe weather.

Due to one 14°F (-10°C) day in April, this year had turned out to be a particularly disappointing season for the lilac (*Syringa*) display. Still, there were some blooms. What had survived was fragrant and beautiful. And I realized what Erin must have already been thinking about—that for the first time in almost seventy years, we couldn't directly share this experience with our community. And although almost everything human was static, the phenological rhythm of the lilacs exists beyond COVID-19 time (and our psyches) as heralds of change and expectation.

"I'll go get some pics for you."

I moved through the collection, across the pathways of fescue, yarrow, clover, and flowering daisy, photographing the most hopeful, vibrant panicles. It was quiet, and I was alone

in the collection at a moment when these shrubs would normally be stroked, sniffed, and praised thousands of times a day. I felt selfish and wondered if the lilacs were suffering from a lack of attention. They are gregarious creatures, attention seekers, but still, they felt dull: their scent weakened by my mask and their presence hazy through my constantly fogged sunglasses. Sometimes I feel comforted by our new personal protective equipment, but at that moment, I felt smothered and separated.

The standard protection that comes with being a gardener is, in itself, sometimes bulky, sometimes tactically empowering: hiking boots and knee pads for constant squatting, crawling, and walking; gloves to stop the earth from tearing my hands apart; and sunscreen, sunglasses, and a wide-brimmed hat, all to fight off the extra mile of solar radiation that we get in the high plains. The addition of the cloth mask was reassuring at first, during the colder days of March and early April, but on that hot May afternoon, it felt oppressive.

I finished photographing the blooms, put my phone in my pocket, and walked deep into a bed, hiding from the ever-present gaze of the mountains. I took my gloves off, pulled my mask down, and pushed my face in to fully smell their chemistry.

To breathe together, to share the air with plants, has always been our most fundamental of exchanges.

—Kevin Williams, *Horticulturist*

May 8

On the Friday before Mother's Day, I was working in the lilac collection at the Arnold Arboretum, double-checking it for any missed deadwood, overlooked weeds, and spillover mulch. As the caretaker for the collection, the upcoming Sunday would have been day zero for me—Lilac Sunday—the moment when all the work that I do comes to a head. Lilacs are the only plant that gets its own day of festivities at the Arnold, but unlike the 111 years of prior celebration, this year's event had been called off.

The lilac collection is nestled on one side of Bussey Hill, which rises in the center of the landscape. In early May, the collection looks endless as it wraps its way along the contours of the slope, with bursts of violets, purples, pinks, and whites. Normally, on Lilac Sunday—a Mother's Day tradition—thousands of New Englanders clamor to get their photo taken with the prolific flower displays and relish in the sweet aroma. Tour groups pack the roadway, enthusiastic and inquisitive. Merchandise and information booths are spaced accordingly. In recent years, an ensemble from the Boston Symphony Orchestra performed as guests made their way among the shrubs. But all the pomp and circumstance for this year was scrapped in light of the pandemic. I felt confused in my plight to steward the collection with all the fear and uncertainty that hung heavy in the community. Given that the Arnold Arboretum is one of the few gardens to remain open while the rest of the world sheltered in place, I continued with "business as usual," so that some semblance of "normalcy" might be evident to any visitors who still relied upon the lilacs for their spring awakening.

The Friday before is usually a buzz of activity for me as I coordinate seasonal employees, interns from a local agricultural high school, and fellow colleagues to assist me in the final touch-up and presentation. I'm frequented with questions from the public about tips and tricks for lilac care, but this time I was isolated in my work. The hustle felt more imminent this time, not only because of the lack of extra hands but also because the preparations had taken a different slant. I always pamper and cater to the plants. I try my best to not distort a shrub's natural growth habit, but this time, my focus had changed to looking for pinch points in the collection. Where neighboring bushes might be funneling individuals too closely, I began pruning aggressively to widen corridors for greater social distancing, should the people we had asked to stay home decide to visit after all.

I also spray-painted white arrows on the sidewalk to request one-way traffic to limit potential exposure of those in the garden. I spent the afternoon posting normal signage ("Please don't pick the lilacs," "No picnicking at the Arboretum"), along with another, "Don't smell the lilacs." It felt strange and unfounded, especially for someone accustomed to removing hazards or providing a safe environment for visitors. But treating the lilacs like they could transmit the coronavirus was the necessary precaution given all the uncertainty. The day was a complete fog for me, literally, as I ran around with clouded safety glasses from my mask.

My instincts drew me in to pull the last-minute weeds and to cut out the hidden deadwood, but my main directive was to make visitors aware of the unseen dangers of what had always been a joyous day for celebrating spring, mothers, and the season of brighter days to come.

—Conor Guidarelli, *Arboretum Horticulturist*

May 12

On the morning of May 12, I walked rows of *Magnolia* hybrids at the Morton Arboretum, investigating buds on the trees, searching for signs of life. My work as the tree and shrub breeder at the arboretum builds on the legacies of others. I am less than four years into my career, yet I have tree selections in the pipeline and populations of progeny to select from.



BEN CASCARANO

Coyote at the Morton Arboretum.

These selections are the culmination of almost a hundred years of work spread over the careers of many individuals. Without this team that came before me, I would not have been here in this field of magnolias staring at the freeze-burned blossoms and emerging leaves. These hybrids had been developed over years by the late Dennis Ledvina, a much loved and highly respected magnolia breeder from the Green Bay area. Late-season freezes provide an opportunity to select for Ledvina's target traits—improved cold hardiness and delayed bloom time. The longer a tree holds off on developing its flowers or pushing out new growth, the better chance it will have of coming through these freezes unscathed.

I pressed buds between my thumb and forefinger, flagging trees whose buds gave way with a satisfying squish. While many gardeners lament when a late freeze occurs, a breeder reviews a weather forecast and then sits in anticipation for these moments, grateful for the gift Mother Nature has bestowed. The orange flagging tape was my signal to wield the mighty chainsaw and give the tree one final prune, a single cut at the base. Not all was lost; some would make it

to see another winter. My dog, Maybelle, ran up and down the rows, delighting in the freedom of being penned into a fifteen-acre nursery. The nursery—wound round with electric fencing intended to keep out larger wildlife—is located on a southern edge of the arboretum, nestled between part of the taxonomic collection and a berm that buffers the sounds of an interstate that races through Chicago's western exurbs. Maybelle stopped short, leaned down to the ground and tentatively sniffed, inhaling the traces of other animals not yet seen.

My gaze followed Maybelle's: a female coyote stood thirty feet away, her belly hanging low and rippling with the life held within. After the Morton shut its gates on April 2, signs of coyotes have become widely apparent to anyone who accesses the grounds for essential work. The arboretum includes seventeen hundred acres of cultivated and curated collections, managed forests, and a planted prairie and savanna, which is more than enough room for coyotes and other wildlife. With only the familiar faces of arboretum staff present, these canine compatriots more readily emerge from their secret daytime hollows to observe us from



View from the Water Garden at Naples Botanical Garden.

PHOTO BY NAPLES BOTANICAL GARDEN

a distance. While not overly comfortable with us humans, the coyotes always exhibit some curiosity toward our existence. Perhaps this is a legacy of a recently retired staff member who spent fifty years living and working on the grounds with his family. August members of the staff have widely shared a story, with eyes twinkling, about how, years ago, this staff member once shared hot dogs with the first coyotes to establish their pack on these grounds.

Some decades from now, generations of magnolias and coyotes between, perhaps the great-great-great-granddaughter of this coyote will meet me in these rows one quiet spring day. As my thoughts wandered, I made eye contact with the coyote. She lingered momentarily, and as she walked away, I returned to Ledvina's magnolias.

—Kim Shearer, *Tree and Shrub Breeder and Manager of New Plant Development Program*

May 15

On an exceptionally muggy day in mid-May, I paused to take in my surroundings in the vast tropical collections at Naples Botanical Garden. I stood on the boardwalk over the Water Garden, a favorite spot that offers a panoramic view of the 170-acre property. Our Smith River

of Grass, the garden's central spine and a replica of the Florida Everglades, stretched in front of me. The jungle-like Lea Asian Garden arose on one side, and the bright green performance lawn extended on the other. The garden had never looked so lush, I thought. The staff had laid fresh mulch, pruned, weeded, planted, taken out ailing trees, cleared areas for new displays. The colors this morning were extra vivid, a visual effect brought about by soot blown in from a wildfire burning in the Picayune Strand, well to our east. The waterlilies glowed in the light—mostly pinks, with a few yellows and purples. Beyond the pond, the cassia and poinciana lived up to their common names—golden-chained and flamboyant.

The smell of smoke made my stomach turn. Disasters loomed in my mind—the pandemic we are living through and the hurricane we survived in Florida not all that long ago. Irma tore a path through Naples in September 2017, shredding shrubs and downing trees. A local reporter described our garden as resembling “layers of tossed salad.” Our visual paradise, which we had created from barren swampland less than ten years before, was ruined. The

winds had blown away years' worth of sweat and dirty fingernails.

I was wrong about the ruin. Volunteers and incredibly dedicated staff rushed to save the place. We rebounded like kudzu in Alabama. I'd argue we came back even better than before. When we first opened in 2009, we were a brand-new garden mostly focused on giving snowbirds something pretty to look at. We now have an incredible botanical collection, thanks to our amazing "plant nerds" and their desires for rare and unusual specimens.

But there is a difference in this new disaster. This time it's not the plants but the team that is battered and bruised and beaten. The plants look amazing, and if we could invite guests back in, their experience could not be better. But our gates closed in mid-March, not only to visitors but to our volunteers and even to our families. During the hurricane recovery, our staff and volunteers took afternoon breaks together to cool off and enjoy lunch, a daily ritual that lifted everyone's spirits. Who could lift us now? I thought about how my team looked during one of our weekly staff meetings. We had been able to keep everyone on, and I knew they were glad to be working, but I could see their exhaustion. They're the "tossed salad" this time, I thought. It's not just the dirty shirts and the unshaven faces, it's a lack of purpose that I worried about. Everyone was giving 100 percent, but for what? No one could see our beautiful oasis. No volunteer force was going to stride in to relieve the workload and share in the joy of creating something special.

But I shook off those feelings. We're adapting, just like nature taught us to do after Irma, when our collections rebounded and shone with the beauty I noticed that morning. We decided to take on big projects—like transplanting trees and dredging ponds—to give the team a break from the endless weeding and pruning and offer them the satisfaction of accomplishing major tasks. The gardeners, who are so used to interacting with the public, found other ways to communicate. They took photos, shot videos, and shared stories about the collections, broadcasting their work to the world online instead of welcoming guests to our property. They answered questions over Facebook instead of

in person. Nothing can replace the in-person experience of a garden, but our horticultural creativity meant that all could share in the joy of something special—even during a crisis.

—Brian Galligan, Vice President of Horticulture

Epilogue

By the end of the spring, gardens and arboreta began to reopen. Bellevue Botanical Garden and the Arnold Arboretum were among the few whose grounds remained fully open throughout the early months of the pandemic. Ashton Gardens reopened on May 1, allowing visitors to catch the late-blooming tulips, and Filoli reopened on May 11. Attendees at both gardens were required to purchase timed-entry tickets. Filoli initially offered eight hundred tickets each day and later raised the number to fourteen hundred.

Prepurchased tickets became the *modus operandi* for gardens—a way of preventing attendance surges and of reducing interactions between visitors and staff at entrance bottlenecks. Denver Botanic Gardens reopened with a ticketed entry on May 22. The Morton Arboretum reopened to members on June 1 and to the general public on June 15. Phipps Conservatory and Botanical Gardens reopened on June 13, allowing a one-way path through the indoor conservatories. Longwood Gardens reopened on June 18, about three weeks before a massive corpse flower (*Amorphophallus titanum*) came into bloom. Due to state-mandated limits on guest capacity, the garden significantly expanded their evening hours so that more visitors could obtain tickets to experience the rare and short-lived bloom. Some visitors were relieved to find that the notoriously foul smell of the flowers was muffled by their masks.

Naples Botanical Garden fully reopened on July 6. New York Botanical Garden partially reopened on July 21. By the end of July, the Wakefield Arboretum had opened for limited reservation-only tours and special programs. The trajectory of the pandemic is far from over. Yet the innovations that have allowed gardens to reopen in person—and to connect with visitors online—will have a lasting impact, no matter what lies ahead.