



Grow
Houston's
Garden

NEWSLETTER FALL 2018

Beautiful Gardens Require Healthy Soil

Healthy soil is the first step in building wonderful gardens. Anyone who has tried to garden in Houston directly into our black clay knows this.

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Plant with Purpose – Pineapple Sage

Now is a good time of year to think about plants that work as hard as we do in our gardens, and salvias are a natural choice.

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From Golf to Garden

If you have been fortunate enough to visit the future Houston Botanic Garden site, you are familiar with its raw beauty –

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Water Play in the Children's Discovery Garden

CHILDREN'S DISCOVERY GARDEN

The Susan Garver Children's Discovery Garden, planned for completion in late 2019, will offer children the opportunity to get hands-on with nature.

Whether navigating the boardwalk maze along the lagoon, discovering the swamps of the cypress forest, or gathering for outdoor fun in a natural playground environment, families can discover many wonders that the natural world has to offer.

Children will have many opportunities to discover the marvels of nature, such as creating an imaginary world with sticks and branches, dirt, leaves, and pine cones as natural play objects, known to childhood development practitioners as loose parts, beneath the pines in the loblolly pine (*Pinus taeda*) forest. Through engaging educational programming, nature play, and water play with simple machines, every fun moment can also be a learning moment in the Children's Discovery Garden.

The Impact of Nature Play

Most children in the United States live in urban or suburban environments where the ability to roam from one friend's house to another or play in the woods until dusk has disappeared. If you have ever climbed a tree, jumped in a pile of leaves, dug in the dirt, hidden under a bush, built a fort out of branches, or played outside in imaginative ways, you have experienced nature play.

The essence of nature play is direct, hands-on, child-initiated engagement with authentic natural systems, organisms, and materials. Nature play is *with* nature, not just being in it. Studies by Louise Chawla and others have suggested that the single greatest influence

on adult conservation values is childhood experiences where the child is immersed in nature. Children need to spend unstructured time in natural environments to explore and develop higher levels of critical thinking and creativity. Research suggests that the more children are exposed to nature, the healthier they are, physically, mentally, and emotionally.

The Value of Water Play

Water play is more than simply splashing. Water play is a jungle gym for the child's brain. Playing in and manipulating water fosters learning in all developmental areas for children of all ages. Water play installations are most beneficial when children experience water in a variety of ways and can manipulate the direction and flow of water.

Children begin to understand simple math concepts such as full/empty, more/less, and before/after when they observe how water moves or changes things. They are experiencing physics when they see the impact of increasing or decreasing the flow of water or the effect of gravity as water runs downhill. Children develop problem-solving skills as they manipulate the water and discover cause and effect. Kids naturally bring objects to water and learn about surface tension by what floats and what sinks. Their hand-eye coordination is developed through pouring, squeezing, stirring, scrubbing, and squirting water.

In a well-designed water play area, children need to work together to turn water on, move it from one place to another, and direct

[\[Continued on page 2\]](#)



From the Board Chair

DEAR FRIENDS,

One of our donors recently shared his commitment to education while recalling how he may have learned best as a young boy. He expressed gratitude for his formal education – yet he also attributed his success in life to how much of his youth he spent outside in unstructured time just playing, exploring, building things of sticks and mud, figuring out how things like pulleys and levers worked, and discovering nature. Not surprising, he was drawn to the Children’s Discovery Garden when making his gift to the Houston Botanic Garden.

I am so grateful to friends, volunteers, community partners, and donors for generous and ongoing support of this magnificent project. We have commitments of more than \$27 million toward our \$35 million Grow Houston’s Garden Campaign goal. I have faith that we will reach our fundraising goal to bring the Houston Botanic Garden to life. As you read this newsletter, I hope you are inspired by all of the amazing work being done by our team.

Excitement is mounting! From our record-setting luncheon, to our strategic eco-recovery programs, to the partnerships we continue to build throughout the community, big things are happening at the Houston Botanic Garden. We invite you to become a part of this ground floor project! Let us take you on a site visit, volunteer with us at the site or an upcoming event, or make a contribution to our campaign.

Please join me as we work together to *Grow Houston’s Garden!*

Nancy O’Connor Abendshein
Board Chair

The MISSION of the Houston Botanic Garden is to enrich life through discovery, education, and the conservation of plants and the natural environment.

OUR GOALS

- Provide an oasis for contemplation, learning, inspiration, and research;
- Enrich people’s lives through outstanding displays and programs;
- Serve as a model for sustainability; and
- Inspire all children, adults, and families who visit to become environmental stewards as they learn more about plants and the natural world.

CHILDREN’S DISCOVERY GARDEN, *continued from page 1*

the flow. Through this cooperation, kids develop language, social, and emotional skills. Creativity, independence, and initiative are developed as they imagine they are the master of their environment, controlling the flow of water and manipulating the environment to suit their imaginative play. In the Children’s Discovery Garden, our water play will give children hands-on experiences

with subjects they are studying in school, such as pumps, dams, and levers. In this play area, children will learn how water comes from a source, is stored for use, and moved to irrigate crops or provide drinking water.

The Susan Garver Children’s Garden is designed to be fun for children and children at heart.



Loblolly Forest

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BEAUTIFUL GARDENS REQUIRE HEALTHY SOIL

Healthy soil is the first step in building wonderful gardens. Anyone who has tried to garden in Houston directly into our black clay knows this. To install the ambitious gardens planned for Phase I, Houston Botanic Garden will need over 10,000 cubic yards of planting soil for the Global Collection Garden, Children's Discovery Garden, Edible Garden, Stormwater Detention Wetlands, and the Coastal Prairie. Preparing the highest quality soil requires the right mixture of sand, silt, and clay and then adding the right amount of compost.

The perfect planting soil can vary from plant to plant. Azaleas (*Rhododendron spp.*) and magnolias (*Magnolias spp.*) prefer acidic soil, but cactus (*Cactaceae spp.*) and other prairie plants thrive in well drained, typically dry soil. As we design for the various gardens and select the ideal plants for each area, choosing the best soil profile is imperative to allow the plants to thrive. HBG has begun its first research project to study the soil on site and determine if it can be rehabilitated through natural processes to become a healthy soil, suitable for beautiful gardens.

The existing soil is typical of Houston – a black gumbo soil with little sand or organic material and an overwhelming presence of very fine particles of clay. This type of soil contributes to flooding as it is very difficult for water to penetrate and absorb into the land. In addition to the dominance of clay, the nutrient profile of the soil is also less than optimal for a diverse and beautiful plant collection because the monoculture of one type of grass, intense mowing, and use of chemicals for years as a golf course has stripped the soil of beneficial nutrients for a variety of plants.

HBG's rehabilitation experiment will determine if the combination of compost, plants, and natural, native microbial inoculants (biologicals) can, through natural processes, transform the challenging, existing soil into a

healthy soil. Typically, a healthy soil has a rich population of microbes made up of thousands of species of fungi and bacteria. Working together, the microbes and the plants create a friable, crumbly soil—even in clay soil—that allows water to drain while allowing root and plant growth. Even tight Houston clays can become open, fertile soil that support rich plant growth.

With the advice of our designers and soil experts, West 8, Olsson, and Ecological Landscape Management, we have created test plots to determine the right recipe to most successfully and cost effectively transform the existing soil. In our test plots, we will study:

- 1) how deep we need to mix the compost and biologicals with the clay,
- 2) different composts, and
- 3) different cover crops, including sorghum Sudan grass (*Sorghumbi color*, var. *Sudanese*), white clover (*Dalea candida*), Sunn hemp (*Crotalaria juncea*), and tillage radish (*Raphanus sativus*, var. *niger*) to see which plant combinations are most effective at aerating and adding nutrients to the soil.

At the end of the experiment, Olsson will take soil samples from each test plot and test the overall health of the soil samples.

If this experiment is successful, HBG will reduce the amount of soil that would have to be trucked in from elsewhere while maximizing the native soil that evolved in this area. This experiment could also serve as an example of how to remediate soil on a large degraded site or in our own backyards. By spring, the Houston Botanic Garden will know if and how it can rehabilitate the soil on the Site in order to provide a healthy foundation for Growing Houston's Garden!



Pineapple Sage

PLANT WITH PURPOSE – PINEAPPLE SAGE

By Laura Bacon

Now is a good time of year to think about plants that work as hard as we do in our gardens, and salvias are a natural choice. As a chef and pollinator gardener, it is really important to me to have multipurpose plants in the garden. *Salvia elegans* is a hardy perennial commonly called pineapple sage. While native to Guatemala and Mexico and originally found at higher altitudes in the Sierra Madre del Sur Mountains, it thrives in our Gulf Coast region when planted in rich, well-draining soil in full to half-day sun. Like any family member of Lamiaceae, protect *Salvia elegans* from north winds and west August sun when choosing a spot for planting. It will tolerate some dryness but thrives if kept moist. It will return after winter—unless Houston experiences an arctic blast.

My favorite things about *Salvia elegans* are the numbers of services this lacy beauty offers both inside and out. Planted en masse, it provides a border of absolute delight when it blooms from late spring to late fall, just in time for the hummingbirds and butterflies it will nourish. Passing it and touching it in the garden will release its fragrance to great pleasure. Do be careful of what you plant behind *Salvia elegans*, as it can grow to 4 feet tall when mature. The vibrant red color of this salvia is particularly magnetic to butterflies and hummingbirds, so consider planting one near a window or bench to witness firsthand its outdoor culinary strengths when these pollinators are active.

Bringing this mint inside for arrangements will make your house smell fresh, and it can be used in salads, smoothies, jellies, and teas. This herb is best enjoyed fresh and its flowers are edible as well. Many countries use pineapple sage medicinally to treat stress, depression, hyper tension, and as a digestion aide.

Planting with purpose is like living with purpose. The size of the garden is not the issue. The issue is how your garden serves you. Choose what is right for your space and what feeds your soul. Salvias are a great place to start because they are hardworking, low maintenance plants.

Want to Volunteer? See back cover for details!

BOTANICAL BEGINNINGS LUNCHEON 2018

The fourth Botanical Beginnings Luncheon took place on October 4 and was a bountiful success! A capacity crowd of 500 filled the River Oaks Country Club ballroom and celebrated the growth and momentum of the Houston Botanic Garden with a delicious lunch. The event was chaired by Aliyya Stude, Laurie Morian, and Anne French who did a wonderful job bringing the Edible Garden themed luncheon to life. HBG and its many supporters expressed tremendous gratitude in honoring the inimitable Nancy S. Thomas, the original visionary of the Garden who continues to contribute her time and wisdom and support to bringing the Garden to life. Nancy Abendshein and Bass Wallace, Jr. honored her and presented her with a commemorative book filled with messages from friends across the country.

Houston business owner and event connoisseur Elizabeth Swift Copeland took guests on a virtual tour through the future Garden highlighting what is to come in 2020. As a special treat, James Beard Award winning Chef Hugo Ortega and River Oaks Country Club Chef Charles Carroll joined her and led an interactive cooking demonstration featuring fresh ceviche and margaritas.

The Botanical Beginnings Luncheon was a remarkable success, raising a record-breaking \$587,819. The event was also supported with new event décor by Swift + Company, centerpieces donated by H-E-B Central Market, and HBG-branded pens from Amegy Bank.

Botanical Beginnings Bon Appétit!

A luncheon benefiting the Houston Botanic Garden and celebrating our Edible Garden

Luncheon Co-chairs Aliyya Stude | Laurie Morian | Anne French

Honoree Nancy S. Thomas



- 1 Honoree Nancy S. Thomas
- 2 Nancy S. Thomas with co-chairs Aliyya Stude, Anne French, and Laurie Morian
- 3 Chef Charles Carroll, Elizabeth Swift Copeland, and Chef Hugo Ortega
- 4 Mary and John Eads with Nancy Abendshein
- 5 Bass Wallace, Jr. honoring Nancy S. Thomas



6 Troy Derouen with Claudia Gee Vassar
 7 Brittany Sakowitz, Cassie Milam,
 Erin Kaplan, and Devon Liedtke
 8 Elizabeth Swift Copeland
 with Chef Hugo Ortega
 9 Courtney Sarofim and Lindsay Holstead

10 Barbara Webber, Lucille Harris,
 David Webber, and Betty Davis
 11 Mel and Susie Glasscock
 12 Flo Crady and Jim Reeder
 13 Carroll Goodman, Tommy Reckling,
 and Laurie Morian

14 Lisa Mears, Anne French,
 and Kay Lynn Kuper
 15 Melinda Perrin, Cherie Flores,
 and Carole Bailey
 16 Terry Smith, Zeina Fares,
 and Ping Sun

FROM GOLF TO GARDEN

If you have been fortunate enough to visit the future Houston Botanic Garden site, you are familiar with its raw beauty – the majestic mature oak trees (*Quercus spp.*), rolling topography, draping Spanish moss (*Tillandsia usneoides*), and the visual grandeur of Sims Bayou. With the addition of the gardens over the next two years, it will certainly be a spectacular place. So, how does one transform a precisely manicured golf course into a lush botanic garden?

Our horticulture team is performing regular plant and site surveys to understand the impact of decades of golf course management. Standard golf course maintenance involves intensive mowing and regular herbicide and pesticide application to create a monoculture of grass, which provides good conditions for golf play but has little ecological value. As a botanic garden, we will manage the site with the intention of creating beautiful gardens featuring many types of plants to promote biodiversity and create healthy ecosystems. In turn, these healthy ecosystems help clean our water, provide habitat for birds, butterflies, other pollinators, critters and more, and require less human management.

As HBG has not applied any chemicals to the site, the seed bank of dormant seeds in the soil was allowed to germinate. Once these seeds began to emerge from the soil, our horticulture crew reduced the area and frequency of mowing in order to observe which plants could grow. It takes more than just a few months following the cessation of mowing and chemical application to determine the best method for restoring the soil.

Patience and observation are needed to choose the correct path toward eco-recovery. Select areas will be mowed from time to time to reduce the spread of invasive plants. In other areas, we will spread native seeds to see if they can germinate and enhance the soil as they exude nutrients that promote germination and growth of dormant seeds. These steps will bring the seed bank back to life and create a wonderful and healthy ecosystem.

Please let us know if you would like to learn more about HBG's eco-recovery program or join a site tour to observe nature's resilience.

ZOO BROWSE

Did you know that Houston Botanic Garden feeds animals at the Houston Zoo? It's true. HBG collaborates with team members at the Zoo to provide "browse" or food for the animals. The Houston Zoo staff visits our site to selectively and carefully prune trees and shrubs to take back to their animals.



Q. WHAT IS BROWSE?

A. Browse is the term for the twigs, shoots, and branches of live trees and shrubs that are the standard diet for many animals in the wild. Browse is a healthier option than the zoo's standard hay feed, which has a higher fat content. The tree trimmings provide free, nutritional food for the animals and also simulates the diets these animals would experience in the wild.

Q. WHICH ANIMALS ARE FED FROM HOUSTON BOTANIC GARDEN'S BROWSE?

A. Elephants are the largest consumers, but rhinos, gorillas, and meerkats are also fans. The Houston Zoo produces enough browse on site for their smaller animals but needs much more browse for the larger ones.

Q. HOW DOES THIS PARTNERSHIP HELP THE ZOO?

A. Zoo staff has traveled long distances to collect browse from willing land owners. HBG is much closer where browse can be collected in large quantities, thus saving the Zoo time and fuel.

Q. HOW DOES THIS PARTNERSHIP HELP HOUSTON BOTANIC GARDEN?

A. Our landscape staff will need to trim the trees and shrubs on a regular basis to keep them healthy. Donating these trimmings to the Zoo also helps keep our pathways clear and safe.

Q. WHICH HOUSTON BOTANIC GARDEN PLANTS WILL BE COLLECTED BY THE ZOO?

A. Hackberry (*Celtis occidentalis*), mulberry (*Morus spp.*), American elm (*Ulmus americana*), pecan (*Carya illinoensis*), ash (*Fraxinus spp.*), maple (*Acer spp.*), acacia (*Acacia spp.*), bamboo (*Bambusoideae spp.*) and willow (*Salix spp.*) as well as honeysuckle (*Lonicera spp.*) and grapevine (*Vitis spp.*) will provide browse for the Zoo.

This is truly a win-win situation and exemplifies the types of partnerships HBG is cultivating with the many wonderful organizations around town.



ADDITION TO OUR TEAM

Please join us in welcoming **JENNA BETH BAYER** to the staff as Executive Assistant to the President and General Counsel. A Houston native, she brings marketing, finance, and client services experience to this role. Jenna Beth has a BS in Applied Learning and Development from the College of Education at The University of Texas at Austin. She has already proven herself a valuable and hard-working member of the team.

We are thrilled to have Jenna Beth as the newest member of our growing team!

“I am excited to have the opportunity to contribute to the mission of providing an oasis of nature and beauty for our city. It is wonderful to be a part of the Garden as it grows and to work toward bringing such a valuable asset to my hometown.”

BOTANIQ

FALL COLOR AND HOUSTON'S NATIVE TREES

With ample rain during the growing season followed by dry, sunny days and cooler nights, several native Houston trees provide beautiful flashes of color during the months of November and December. Chlorophyll production slows or stops during this time and, as the green fades, other pigments appear. Carotenoids, which are yellow and orange, are present in the leaves the entire time but are not visible until the green disappears. Anthocyanins, the red and purple pigments, are only produced when cooler temperatures trap glucose in the leaves causing them to turn red.

COLORFUL FALL FAVORITES

DRUMMOND RED MAPLE

orange, gold or red

SWEET GUM

red and orange

SYCAMORE

yellow to bronze

BALD CYPRESS

copper

WINGED SUMAC

red to purple

TEXAS ASH

red, orange and purple

RED OAK

red (What other color could it be?)



Zilker Botanical Garden



Lady Bird Johnson Wildflower Center

Houston Botanic Garden President & General Counsel, Claudia Gee Vassar, and Vice President of Horticulture, Joy Columbus, recently visited two botanic gardens in Austin, Texas: Zilker Botanical Garden and Lady Bird Johnson Wildflower Center.

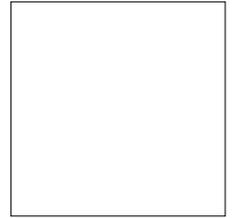
Zilker is a lovely garden that gave examples on transitioning spaces, garden layouts, and creating key experiential moments. The Green Garden and the Japanese Gardens were highlights for Claudia and Joy.

At Lady Bird Johnson Wildflower Center, they met with many members of the staff who shared their successes and cautionary tales, and offered to be resources for all of HBG's planning and operations questions. It was also a great opportunity to see other work by our architects, Overland Partners, who designed LBJWC entryway and building complex. The Wildflower Center's attendance has doubled in the past five years since the addition of a Family Garden and an arboretum, which highlights the importance of our own Children's Discovery Garden.

It is always a treat to visit peer gardens and learn from a community that is so willing to support Houston Botanic Garden's growth!



3701 Kirby Drive, Suite 992
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CALL FOR VOLUNTEERS HELP GROW HOUSTON'S GARDEN!

The Houston Botanic Garden will soon launch our Volunteer Program with many opportunities for individuals and groups to volunteer. From getting your hands dirty to helping in the office to hosting HBG site walks, there are a number of ways to be involved.

If you're interested in helping, please complete our online Volunteer Application at www.hbg.org/engage (click the green VOLUNTEER button) and join us at an upcoming Volunteer Orientation.

Or feel free to email volunteer@hbg.org and request a link to the application.

VOLUNTEER ORIENTATION SCHEDULE

Saturday, January 12
9:00 – 10:30 am

Tuesday, February 12
6:30 – 8:00 pm

We have opportunities to dig in the dirt and dig into administrative work. Either way, we would enjoy having you dig into help *Grow Houston's Garden!*



CONTACT US

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