

A Conservation Garden:
The North Carolina Botanical Garden at 50
(1966-2016)

Volume I

*Researched, compiled, and written by the
North Carolina Botanical Garden Greenbriers*

February 2019

*To the visionaries who came before us, the pragmatists who
carried the vision forward, and the allies yet to come;
and to past, present, and future seekers who find inspiration,
encouragement, and solace at the North Carolina Botanical Garden.*

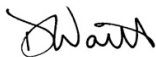
FOREWORD

One would be hard pressed to walk into any botanical garden in the world and come across a compendium of historical information as complete as this one. What is even more amazing is that this compilation of the Garden's 50-year history was authored by volunteers! Calling themselves the Greenbriers, this dedicated group of 12, under the able leadership of Joanne Lott, has spent countless hours researching, fact checking, and writing the definitive guide to the first 50 years of the North Carolina Botanical Garden.

As you peruse Volume I from the Introduction to the Reference Timeline, perhaps even delve into the Volume II appendices, you will quickly come to the realization that this history goes much deeper than the last 50 years. Indeed, the story of the North Carolina Botanical Garden is the botanical legacy of the University of North Carolina, the nation's oldest public university. Like the entangling Greenbrier vine, the two have been intertwined and inseparable since 1903 when the University's first professor of botany, William Chambers Coker, established a teaching collection of trees and shrubs on campus which later became the Coker Arboretum. The Garden has many other branches that can trace their origin to the Coker legacy, including Battle Park, the UNC Herbarium, the Coker Pinetum, and The Rocks at the Coker/Burns estate. William Chambers Coker planted the seed from which it all began.

Today, the North Carolina Botanical Garden is recognized as the nation's most comprehensive center of knowledge on the regional flora of the southeastern United States. We cultivate and steward more than 1,100 acres of garden and conservation areas, maintain the largest herbarium in the southeastern United States, safeguard rare and endangered plant species from extinction, and educate the next generation of conservation leaders.

Past, present, and future. What does tomorrow hold in store? Of one thing you can be certain, the North Carolina Botanical Garden will stay true to its mission *to inspire understanding, appreciation, and conservation of plants and advance a sustainable relationship between people and nature.*



Damon Waitt, Ph.D.
Director, North Carolina Botanical Garden
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PREFACE and ACKNOWLEDGMENTS

The Greenbriers, a volunteer group at the North Carolina Botanical Garden, gathered in 2014 to train as docents for the Bartram exhibition and symposium in the fall. Named after greenbrier (*Smilax rotundifolia*), a woody vine native to the eastern and south-central U.S., the group chose this name because we are sharp and green (i.e., dedicated to advancing “a sustainable relationship between people and nature”) individuals who are willing to become entangled in a variety of projects. We are tenacious and productive, and our efforts bear fruit!

Having noted the need for a centralized and accurate source of information about the North Carolina Botanical Garden while answering questions from the public, we volunteered to assemble historical details, describe elements of the philosophy, and record as much as we could find about the traditions of NCBG. Director Damon Waitt gave approval to proceed with our project in 2015. We are grateful for his participation, and his patience in awaiting its fruition. In this chronicle, the Greenbriers honor the pioneers who advocated for the establishment of the North Carolina Botanical Garden, as well as staff and volunteers whose energy and enthusiasm established the “can-do” attitude that persists today. Our research uncovered many impressive, ongoing efforts to advance the mission.

Twelve individuals were primarily responsible for the content, which was written and compiled during two years of research, oral history interviews, and exploration of memorabilia and archives: Pam Camp, Sarah Dendy, Betsy Donovan, Glenda Jones, Ina Kimbrough, Lynn Knauff, Paula LaPoint, Joanne Lott, Jo Ann Overton, Margot Ringenburg, Susan Turbak, and Fran Whaley. We are grateful to former Director of Education Nancy Easterling for her active involvement, kind guidance, and encouragement throughout the creative process. The expertise and attention to detail of our editor, Laura Cotterman, is also greatly appreciated.

For generously sharing their knowledge of NCBG history, philosophy, and practice we thank Nick Adams, Curtis Brooks, Rebecca Dotterer, Muriel Easterling, Nancy Easterling, Allison Essen, Matt Gocke, Sally Haskett, Mary Howes, Alan Johnson, Elisha Jones, Charlotte Jones-Roe, Stephen Keith, Chris Liloia, Anne H. Lindsey, Claire Lorch, Margo MacIntyre, Carol Ann McCormick, Beverly Connor McSwain, Amanda Mixon, Ken Moore, Grant Parkins, Harry Phillips, Johnny Randall, Nancy Robinson, Cindy Shea, Patti Smith, Dan Stern, Katie Stoudemire, Cricket Taylor, Elisha Taylor, Andrew Torlage, Sally Vilas, Jim Ward, Damon Waitt, Alan Weakley, Rebecca Wellborn, Wendy Wenck, Peter White, and Dot Wilbur-Brooks.

Limited space prevents naming every individual who searched for or supplied archives, artifacts, and historical material; we are grateful to all. Last, but not least, we thank family, friends, and NCBG members and current and former staff who offered information and helpful critiques.

A note about abbreviations

We have chosen to represent the entire institution of the North Carolina Botanical Garden with the convenient, shortened abbreviation “NCBG.” In a few places you will see the term “the Garden;” this term is intended to refer specifically to the Display Gardens area located on Old Mason Farm Road and surrounding the James & Delight Allen Education Center and Totten Center.

The University of North Carolina at Chapel Hill is represented by the abbreviation “UNC,” with the full knowledge that there are other branches of the University of North Carolina, located in other cities. This is merely a convenience for a document of this size, in which only the Chapel Hill branch of the university system is mentioned.

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INTRODUCTION: A *Conservation Garden*

The history of the North Carolina Botanical Garden (NCBG) is a history of the people and botanical legacy of the University of North Carolina at Chapel Hill (UNC). In 1903, William Chambers Coker, the University's first professor of botany, began planting a teaching collection of trees and shrubs on what is now the central campus. This collection became the Coker Arboretum. Starting in the late 1920s, Coker and his student Henry Roland Totten proposed a more complete botanical garden south of the main campus. Although some plantings were made by the 1940s, it was in 1952 that the University Trustees dedicated 70 forested acres for botanical garden development. To this tract were added 103 acres of dramatic creek gorge and rhododendron bluffs, donated by William Lanier Hunt, a horticulturist and former student of Coker and Totten.

Hunt also helped to found the NCBG's private support organization, the Botanical Garden Foundation (BGF), Inc., in 1966. In 1961, Dr. C. Ritchie Bell was appointed NCBG's first director. The first public offering—NCBG's Nature Trails—opened April 10, 1966, which was Dr. Bell's birthday. Its first state appropriation came five years later, in 1971, when the first employee, J. Kenneth Moore, was hired.

Director C. Ritchie Bell, a professor of botany and tireless promoter of the flora of North Carolina, had enlisted the support of the BGF and the Garden Club of North Carolina to publish a book of wildflower photos that he and William S. Justice had compiled. *Wild Flowers of North Carolina* (UNC Press 1968) filled a need among wildflower lovers and students of natural history, and it brought valuable attention to the fledgling North Carolina Botanical Garden. Dr. Bell also enlisted many students to help at NCBG even before he hired the first employee.

NCBG's formative period coincided with a surge of interest in plants and conservation fueled by Earth Day celebrations and the environmental movement. The early years were characterized by limited resources and unlimited idealism and energy. During the 1970s and 1980s, students, volunteers, and a growing staff under the leadership of Superintendent Ken Moore constructed "habitat gardens"—displays representing the major plant communities of the state and illustrating botanist B. W. Wells's theme of *The Natural Gardens of North Carolina* (UNC Press, 1932; rev. ed. 2002). NCBG's first administrative, research, and public education space, the Totten Center (named for University of North Carolina botanist Henry Roland Totten and his wife Addie), was opened in 1976.

The 1960s also saw the initiation of field research on a contiguous 367-acre tract of old farmland and native woodlands dedicated by the UNC Trustees in 1984 as Mason Farm Biological Reserve. Today, that reserve provides research facilities (greenhouses, cultivation beds, and natural areas) for diverse projects in ecology, bird behavior, population biology, genetics, and developmental biology.

Encouraged by the North Carolina Wild Flower Preservation Society (now the North Carolina Native Plant Society), whose members had helped found NCBG, Director C. Ritchie Bell and Superintendent Ken Moore promoted “Conservation through Propagation” as an alternative to the unethical collection of native plants from their natural habitats. Moore recruited a growing corps of volunteers who provided valuable assistance to staff in welcoming visitors, leading tours, conducting “plant rescues,” propagating plants, and constructing the Mercer Reeves Hubbard Herb Garden. In partnership with the BGF, the North Carolina Botanical Garden became a steward of natural areas near Chapel Hill and elsewhere in the state. As NCBG matured and added staff with new areas of expertise, it developed programs and collections of national significance, such as the Southeastern Carnivorous Plant Collection. In 1984, NCBG became one of the founding members of the Center for Plant Conservation, a network of gardens and arboreta responsible for the collection of propagules, research, and protection of our nation’s rarest plants.

To focus their efforts, NCBG staff drafted a Long-range Plan in 1984. In 1985, more than 15 years of work at NCBG were summarized in the popular book *Growing and Propagating Wild Flowers* (published by UNC Press), written and illustrated by NCBG staff.

Dr. Bell retired as director in 1986 and was succeeded by Dr. Peter White, who led a review of the 1984 Long-range Plan, resulting in the “Report on Mission, Goals, and Objectives” (1988). Next came the completion of a new Master Plan by Jones & Jones in 1989 (approved by the University Trustees in 1990). In 1997, the North Carolina Legislature granted funds for design of the Herbarium and Botanical Library building, one of two new facilities described in the Master Plan. In 2000, with support from a \$2.7-million bequest from Katherine Mouzon, the staff launched the design of the Master Plan’s Visitor Education Center by Frank Harmon Architects (approved by the State of North Carolina in 2003). This building design met 2009 criteria for a Platinum-rated building (highest level at that time under the LEED rating system of the U.S. Green Building Council). The building was completed and dedicated in October 2009 and was named the James & Delight Allen Education Center in 2013. Dr. White retired as director (still a part-time position) in December 2014. Dr. Damon Waitt became NCBG’s first full-time director in April 2015.

In the years since its founding, NCBG has acquired responsibility for other university programs, units, and sites as follows:

- The Coker Arboretum (1982)
- The Mason Farm Biological Reserve (1984)
- The Rocks (1998)
- The University of North Carolina Herbarium (2000)

- Battle Park (2004)
- Koch Memorial Forest Theatre (2004)
- The Carolina Campus Community Garden (2010)
- Wonder Connection (2011)
- Edible Campus (2016)

In its 50-year history, the lands managed by NCBG have grown to some 1100 acres, not including a number of nature preserves held by the BGF (210 acres).

Today the North Carolina Botanical Garden is nationally known for its conservation activities, educational plant collections, research, and diverse educational programs including native plant studies, botanical illustration, and horticultural therapy. Throughout its history, NCBG staff members and volunteers were motivated by a desire to practice conservation and demonstrate a high standard for all public gardens. Since the 1970s, building on themes that go back to NCBG's founding, the staff has crafted a unique and new theme for botanical gardens: the Conservation Garden.

TRUSTED GUARDIAN

advancing a conservation mission

We do not inherit the Earth from our Ancestors; we borrow it from our Children.

— Native American Proverb

A MISSION FOR A GARDEN

In addition to growing and displaying plants native to North Carolina and the southeastern U.S., the North Carolina Botanical Garden (NCBG) promotes biodiversity and healthy ecosystems in both natural and landscaped communities (see “Birth of the ‘Conservation through Propagation’ Ethic”). Collaborating with other conservation organizations, NCBG helps to restore natural plant communities and to preserve germ plasm through seed-banking. The public interfaces with the conservation mission primarily at the education level, through exhibits, programs and events, the website, brochures and publications, and the annual Southeastern Native Plant Seed List. Much of the plant conservation work, however, takes place outside of public view: in the nursery, inside the Totten Center, at Mason Farm Biological Reserve, at the UNC Herbarium, and at other off-site locations.

The Horticulture staff and volunteers collect, clean, store, package, distribute, and propagate seeds collected in the Display Gardens and from other sites in Orange, Durham, and Chatham Counties. They propagate native plants for the Display Gardens and for plant sales and giveaways. Conservation staff also collects, cleans, and stores seeds of both common and rare native plants from a much larger area (see “Seed Programs”).

Long-term conservation of native plants requires protection and management of natural areas that provide habitats for these plants. The Conservation staff manages over 1100 acres where they strive to improve and preserve habitats for native plants and the animals that depend on thriving ecosystems. Many of the larger properties were acquired in a degraded state. For example, parts of Mason Farm Biological Reserve had been farmed for two centuries, and in the 1930s, the Soil Conservation Service tested hundreds of plants there for their effectiveness in controlling soil erosion, thus introducing many invasive exotic plants. When Battle Park, on the UNC campus, was brought under the care of NCBG, it was riddled with almost every invasive plant found in the North Carolina piedmont. Coker Pinetum, also on the UNC campus, was choked with invasive plants and trash. With the application of conservation management practices, and the help of volunteers, these areas and others are gradually being restored to healthy habitats with native plants. (For more, see “Land Management: Conservation in Natural Areas,” below.)

NCBG implements many different conservation management practices. Prescribed fires help to restore and preserve prairies, savannas, and open woodlands. Prescribed fire has been successfully applied at Mason Farm Biological Reserve, Penny’s Bend Nature Preserve, and Gordon Butler Nature Preserve. Another important practice is the control of invasive exotic plants, which outcompete natives, often by growing faster and reproducing successfully because they lack natural pathogens and herbivores that would control their growth. Furthermore, many exotic invasives fail to provide nutritious food or adequate shelter required by birds and other wildlife. The long-term effect is loss of biological diversity

and loss of ecosystem support for native flora and fauna. To combat invasives, NCBG perseveres in removing them from all areas it manages. Techniques include pulling, digging, girdling, and cutting; spraying or cut-and-paint with herbicide; mulching; and burning. Education in the form of workshops, exhibits, and published information provide home gardeners opportunities to become aware of the problem and to help with prevention and control (see “Sustainable Gardening Practices”).

Note: The mission statement on the NCBG website reads, at the time of completion of this document, as follows: *The Mission of the North Carolina Botanical Garden is to inspire understanding, appreciation, and conservation of plants and to advance a sustainable relationship between people and nature.*

BIRTH OF THE “CONSERVATION THROUGH PROPAGATION” ETHIC

The “Conservation through Propagation” ethic originated at NCBG in 1972 and through the efforts and inspiration of then Garden Superintendent Ken Moore, Director C. Ritchie Bell, and Curators Harry Phillips, Rob Gardner, Charlotte Jones [-Roe], and Jim Ward. At the time, wildflower enthusiasts were realizing that many native plants were becoming scarce, largely as a result of generations of over-collecting from the wild by gardeners and by for-profit plant nurseries. The solution to this moral and environmental problem was two-pronged. First, it was necessary to create an alternative, ethical source of native plants by learning and then teaching how to propagate and grow various species. Second, the public and nursery industry would need to be educated about the increasing threat to native plants in the wild and about the emerging ethical market to serve people who wished to garden with natives.

In these early years, NCBG acted on information from wildflower enthusiasts and botanists from across the state identifying sites slated for development where wildflower populations were threatened. With the permission of property owners, NCBG staff and volunteers often carried out “plant rescues,” during which they dug up plants from these sites and brought them to NCBG for safekeeping. NCBG Director C. Ritchie Bell was doubtless inspired by Bill Hunt, who had published an article titled, “Grow the Wild Flowers, Cultivation is Conservation” (undated but probably 1968, found in the William Lanier Hunt papers, archived in the North Carolina Collection at UNC’s Wilson Library). Bell decried the practice of digging from the wild, except as a last-ditch effort to rescue a plant from destruction via development. In the spring of 1972, he wrote a short article for *Garden Trails* (an early NCBG publication), titled “Conservation by Cultivation,” in which he described the advantages of growing plants propagated from seed or cuttings as a logical step for successful wildflower gardening. Ken Moore began using the phrase “Conservation through Propagation” a year or so later, when staff began to focus effort on collecting and using seeds to grow native wildflowers, with the goal of reproducing the plants and distributing them

back into the community. (Note that “propagation” consists of growing plants from collected seeds, spores, plant divisions, and cuttings).

NCBG staff eagerly disseminated the Conservation through Propagation message. “We began making our real impact in the gardening world when we presented this concept as a slide-show, ‘Wildflowers: Saving a Tarheel Heritage,’ at the annual meeting of the American Association of Botanical Gardens and Arboreta (AABGA) in Atlanta in the late-1970s,” said Ken Moore. In subsequent years, staff took the slide-show to groups and venues throughout the eastern states. This mix of passion and practicality inspired both private gardeners and staff of other botanic gardens, some of whom learned that they had been purchasing native plants dug from the wild. Through this combination of on-site science and off-site outreach, NCBG became a leader in plant conservation well before it had physical facilities and public display gardens to match its growing reputation.

Staff member Charlotte Jones [-Roe] chaired the AABGA’s Conservation Committee, presenting nationally on the topic. In 1985, an entire issue of the *AABGA Bulletin* (Vol. 19, no. 4) was devoted to the North Carolina Botanical Garden and its commitment to plant conservation. Through the years, NCBG’s participation in the annual Cullowhee (NC) Native Plant Conference has promoted *Conservation through Propagation* among nursery growers and gardeners throughout the Southeast.

NCBG staff conservation initiatives built upon information shared by others, especially the North Carolina Wild Flower Preservation Society. In 1977, NCBG produced the society’s *North Carolina Native Plant Propagation Handbook*, and in 1985, worked with UNC Press to publish the more extensive *Growing and Propagating Wild Flowers*, authored by Curator Harry R. Phillips. Other NCBG staff supported Harry in the project: Programs Coordinator Dot Wilbur-Brooks drew the illustrations, Curator Charlotte Jones [-Roe] contributed a chapter on growing ferns, and Curator Rob Gardner contributed a chapter on carnivorous plants; Director C. Ritchie Bell wrote the foreword, and he and Assistant Director Ken Moore edited the manuscript; Curator Jim Ward, along with Rob, Ken, and Charlotte, supplied color photos. Still in print, this resource offers instructions on propagating 75 species of wildflowers, 15 native ferns, and 12 native carnivorous plants, as well as guidance on organizing a plant rescue. The first hardcover edition sold out, followed quickly by a second printing.

For many years (consistently since 1985 and sporadically before that, beginning in 1979), NCBG has sold native plants propagated on-site as well as seeds collected by staff and volunteers. Plants in the Habitat Display Gardens (see Chapter 3) are of known provenance—that is, there is a record of where the plants (or their ancestors/seeds) were originally obtained from the wild. Plants in the garden displays (the Courtyard Gardens) around the Allen Education Center also include named cultivars of native species obtained from reputable nurseries that adhere to the practice of *Conservation through Propagation*.

NCBG continues to conduct plant rescues, for instance when highway construction or development of a commercial site threatens to destroy a significant population of native plants. On a smaller scale, staff may also salvage native plants from a private garden about to be abandoned. NCBG also occasionally serves as a repository for poached plants until they can be returned to a suitable natural area.

NCBG continues research into growing and propagating native plants, and its Conservation Department sometimes reintroduces native plants into habitats with diminishing or depleted native plant populations. Seed-banking is also used as insurance against future population losses (see “Seed Programs”).

Conservation through Propagation is an important tool for preserving our native plant heritage, but some species—for example, lady slipper orchids, many lilies, and trilliums—are very difficult to propagate and therefore require conservation of intact habitats if their populations are to persist. This is one reason that NCBG is engaged in management of natural areas (see “Land Management and Conservation of Native Plants in Natural Areas”).

Sources:

Moore, Ken. “Ken’s Botanical Garden History Stories,” printed to accompany Ken Moore’s video oral history interview for NCBG 50th anniversary project, 2016.

Phillips, Harry. Interview, December 14, 2015, for NCBG 50th anniversary project.

Phillips, Harry. “Spreading the Native Plant Idea.” *Garden* (May/June 1984): 2–8.

Summer, Heather. “History of our Seed Program.” *NCBG 2016 Southeastern Native Plant Seed List*, 1.

Wolf, Katia. “Conservation of Biological Diversity at NCBG.” *NCBG Newsletter* 16, no. 3 (May–June 1988): 3, 8.

Most of these sources also apply to “Wildflower of the Year Program” (next section).

WILDFLOWER OF THE YEAR PROGRAM

The Wildflower of the Year (WFOY) seed distribution program began as a natural offshoot of NCBG’s *Conservation through Propagation* theme. Assistant Director Ken Moore and Curator Harry Phillips had the idea to feature a different native plant each year as a way to educate the public about the need to conserve our state’s wildflowers and their habitats. They also realized it is a way to ensure that these native wildflowers are planted in new habitats and gardens, partially offsetting wild-area losses. Seeds or young plants, along with information and growing instructions, are distributed to home gardeners and commercial nurseries. The Garden Club of North Carolina agreed to co-sponsor the WFOY. At its 1982 meeting at UNC’s Carolina Inn, 715 attendees received seedlings and seeds of the first WFOY, cardinal

flower. Free cardinal flower seeds were also offered to the public. Due to high demand, cardinal flower continued as WFOY in 1983; it was repeated as WFOY in 2001.

Each year, a new WFOY is chosen by a NCBG Horticulture Department committee composed of the seed program coordinator, habitat gardens curator, and greenhouse & nursery manager. The species must be native to NC, horticulturally suitable for the entire state, showy, easy to grow, produce seeds that are tolerant of dry storage and of mailing, and there must be an adequate seed supply. Each year, NCBG distributes at least 3,500 Wildflower of the Year brochures, each containing a seed packet.

Wildflower of the Year T-shirts: Wildflower of the Year also lent itself to another NCBG tradition: the design and sale of T-shirts with botanical subjects. In NCBG's early years, people brought their own T-shirts to the annual Labor Day Open House to be silk-screened with a NCBG design. The first T-shirt design was of Venus flytrap, by Richard Schrader, who soon added pitcher plant and Jack-in-the-pulpit designs. Other early T-shirt designs included water lily and American lotus lily, both by Betsy Birkner; northern maidenhair fern, northern red oak leaves, and red maple leaves, all by Dot Wilbur-Brooks; common milkweed, by Ali Wieboldt (also used on posters for the 1986 Open House); and Kay Shelburne's "Ritchie Bell" hybrid pitcher plant, which is now on note cards in the NCBG Garden Shop. NCBG T-shirts and tote bags are now commercially printed.

Beginning in 1985 with butterfly milkweed, the annual T-shirt design depicted the current WFOY. All WFOY T-shirt designs to date have come from Dot Wilbur-Brooks and are also used for the WFOY seed packet brochure. For the WFOY 10th, 20th, and 25th anniversaries, Dot also made special designs, each portraying a bouquet of all the WFOYs to that date. These designs were available as T-shirts, posters, and note cards.

Wildflower of the Year Quilts: In 2009, NCBG Volunteer Muriel Easterling led the initiative to create and display WFOY quilts. Her fellow Art Bee fabric artists of the Durham Orange Quilters Guild embraced this project. Quilters selected species representing years 1982 to 2009 and produced designs for approval by NCBG staff for botanical accuracy. Each year since 2010, a quilter agrees to design and create the new WFOY quilt. Each quilt is distinct, artistically creative, and expressive. The quilts now hang in the Eleanor Smith Pegg Exhibit Hall of the Allen Education Center.

Sources:

Conversations with Muriel Easterling, Chris Liloia, Heather Summer, and Dot Wilbur-Brooks.

Wildflowers of the Year and Quilt Artists

Year	Common Name	Scientific Name	Quilt Artist
1982+3	Cardinal flower	<i>Lobelia cardinalis</i>	Evelyn Judson
1984	Small's beardtongue	<i>Penstemon smallii</i>	Muriel Easterling
1985	Butterfly milkweed	<i>Asclepias tuberosa</i>	Hattie Warner
1986	Foamflower	<i>Tiarella cordifolia</i> var. <i>collina</i>	Muriel Easterling
1987	Eastern columbine	<i>Aquilegia canadensis</i>	Muriel Easterling
1988	Black-eyed Susan	<i>Rudbeckia fulgida</i> var. <i>sullivantii</i>	Carrie Porterfield
1989	Southern sundrops	<i>Oenothera fruticosa</i>	Britt Paul
1990	Seashore-mallow	<i>Kosteletzkya virginica</i>	Jean Fetterman
1991	Lobed coreopsis (tickseed)	<i>Coreopsis auriculata</i>	Diane Wold
1992	Tall blue wild indigo	<i>Baptisia australis</i>	Hattie Warner
1993	Great Blue Lobelia	<i>Lobelia siphilitica</i>	Britt Paul
1994	River-oats	<i>Chasmanthium latifolium</i>	Evelyn Judson
1995	Green-head coneflower	<i>Rudbeckia laciniata</i>	Joy Murphy
1996	Eastern silvery American-aster	<i>Aster concolor</i> *	Carrie Porterfield
1997	Crimson-eyed rose-mallow	<i>Hibiscus moscheutos</i>	Daryl Dunlap
1998	Southern blazing-star	<i>Liatris squarrulosa</i>	Muriel Easterling**
1999	American alumroot	<i>Heuchera americana</i>	Muriel Easterling
2000	Aromatic american-aster	<i>Aster oblongifolius</i> var. <i>angustatus</i> *	Evelyn Judson
2001	Cardinal flower	<i>Lobelia cardinalis</i>	Evelyn Judson
2002	Eastern smooth beardtongue	<i>Penstemon laevigatus</i>	Hattie Warner
2003	Boneset	<i>Eupatorium perfoliatum</i>	Muriel Easterling
2004	New York ironweed	<i>Vernonia noveboracensis</i>	Muriel Easterling
2005	Swamp milkweed	<i>Asclepias incarnata</i>	Daryl Dunlap
2006	Eastern bluestar	<i>Amsonia tabernaemontana</i>	Muriel Easterling
2007	Swamp sunflower	<i>Helianthus angustifolius</i>	Maxine Foster
2008	White wood-aster	<i>Eurybia divaricata</i>	Jean Fetterman
2009	Piedmont Barbara's-buttons	<i>Marshallia obovata</i> var. <i>obovata</i>	Jenny Scheidt
2010	Atamasco lily	<i>Zephyranthes atamasca</i>	Muriel Easterling
2011	Spiked wild indigo	<i>Baptisia albescens</i>	Muriel Easterling
2012	Common golden Alexanders	<i>Zizia aurea</i>	Muriel Easterling
2013	New Jersey-tea	<i>Ceanothus americanus</i>	Muriel Easterling
2014	Hoary skullcap	<i>Scutellaria incana</i> var. <i>punctata</i>	Carrie Porterfield
2015	Fire-pink	<i>Silene virginica</i>	Britt Paul
2016	Northern rattlesnake-master	<i>Eryngium yuccifolium</i>	Evelyn Judson
2017	Hollow-stem Joe-pye-weed	<i>Eutrochium fistulosum</i>	Britt Paul

*Now reclassified from genus *Aster* to *Symphiotrichum*. Thus, 1996 WFOY is now *S. concolor* and 2000 WFOY is *S. oblongifolium* var. *angustatum*.

**Original quilt by Kerry Nelson was badly stained; Muriel Easterling made a new one.

SEED PROGRAMS

Seed programs are conducted in two NCBG departments, each serving different goals: Horticulture and Conservation. Seed cleaning is accomplished with the help of interns and volunteers. A seed-cleaning machine (purchased in 1985) blows off chaff and unusable material from seeds, but it processes only a small volume at a time (about one measuring cup or less). Seeds are stored in jars (Kraft paper bags if still drying) in the drying room, kept at 65° F and 30–35% relative humidity. For long-term storage, seeds may be desiccated, vacuum-sealed, and stored in a deep freeze. Propagation from seed (versus cuttings or cloning) preserves genetic diversity, which may encourage resilience with regard to viruses, pests, and changes in climate for plants grown from that seed.

The Horticulture Seed Program Coordinator collects seeds 10 months a year. Most of the seeds are gathered in the Display Gardens, but some are collected on other NCBG properties; along roadsides in Orange, Chatham, and Durham Counties; and from gardens of volunteers and staff. Collecting localities are recorded because provenance is important, especially for plants in the new landscapes around the James & Delight Allen Education Center. Seeds are distributed to nurseries and home gardeners through the Wildflower of the Year Program and through the annual “Southeastern Native Plant Seed List.” Garden members may select 8 free seed packets per year from that Native Plant Seed List, and others pay a small fee for orders. Seeds are also used for in-house propagation of plants that will be used in the Display Gardens, in NCBG plant sales, and as requested for special projects by conservation organizations, schools, local parks, nonprofits, and university researchers. The overall goal is to promote gardening with native plants while also offering propagation as an alternative to unethical collecting from the wild (see “Birth of the ‘Conservation through Propagation’ Ethic”). Secondary goals include reducing the risk of new exotic plant invasions that would impact our natural areas, and encouraging the use and appreciation of native plant seeds from local sources. In support of these secondary goals, a 1998 policy limits NCBG seed distribution to within a 12-state region of the Southeast.

Seed program in NCBG’s Conservation Department are conducted through partnerships with Seeds of Success (SOS) and The Center for Plant Conservation (CPC). SOS is a national seed collection program supported and coordinated by the Bureau of Land Management (BLM). It began in 2001 as a partnership between BLM and the Royal Botanic Gardens, Kew Millennium Seed Bank. The purpose is to collect, conserve, and develop common wildland native plant materials that can be used for stabilizing, rehabilitating, and restoring lands in the United States, including land managed by NCBG and land managed by various government and conservation organizations across North Carolina and the Atlantic Coastal states. SOS partnerships expanded in 2006 to include botanic gardens (when NCBG joined), arboreta, zoos, and municipalities. Conservation botanists have collected seeds of over 200 native species,

both common and rare (one collection per species), from the mountains, piedmont, and coastal plain of North Carolina. A portion of this collection has gone into the Millennium Seed Bank for safeguarding genetic material. However, NCBG no longer has an active partnership with Royal Botanic Gardens, Kew. In 2016, a portion of seeds collected for SOS was stored in a seed bank in Pullman, WA. Collection protocol for a common species requires seeds from a minimum of 50 individual plants, usually with a goal of 10,000 seeds per species.

The mission of the CPC is the collection and storage of seeds of rare (imperiled) native plants of the United States, to safeguard them from extinction. The CPC ensures that live plant material is available for restoration and recovery efforts, and they engage in research and education. NCBG is a charter member, having joined at the organization's founding in 1984. As of 2016, more than 40 botanic institutions were part of the network. Formerly centered at the Missouri Botanical Garden, their headquarters are now located in Escondido, California. CPC collection protocol designates collecting up to 50 maternal lines once every 10 years and collecting no more than 10% of the total seed set for that year. This maximizes genetic diversity while minimizing impact to imperiled plant populations. These rare plant seeds may be used for research or for carefully prescribed reintroduction to the wild to restore historically known populations and to augment declining populations. *Note that transplantation is considered a last resort to prevent extirpation.* Over 400 accessions representing 74 rare taxa are in seed banks, mostly at the NCBG Totten Center. Backup collections are banked at partner institutions: the National Center for Genetic Resources Preservation in Fort Collins, Colorado, and the Cincinnati Zoo and Botanical Garden, Ohio.

Most rare plant species are *not* propagated for home gardeners—government regulations and NCBG conservation practices discourage that. Rare plants have the best chance of survival in genetically diverse populations growing in their natural habitat. Candidates for commercial propagation (for example, rare carnivorous plants) would have to serve educational purposes or relieve pressures due to wild collecting. Policies limiting the sale of rare plants and protocol for cultivation of rare plants can be found on NCBG's website.

A 2015–16 project illustrates how seed collection supports conservation. In 2012, Hurricane Sandy devastated the Atlantic Coast from North Carolina to Maine. In addition to property damage and deaths, the vegetative buffer against erosion and flooding was lost in many areas. President Obama set up financial support for a mitigation fund that funded SOS, among other projects. Under the coordination of SOS, NCBG partnered with the New England Wild Flower Society and the Mid-Atlantic Regional Seed Bank (Greenbelt Native Plant Center in NY). Seeds of locally adapted plants designated as “restoration workhorse species” (early colonizers that hold soil) were collected at inland wildlife refuges. These seeds were planted to repair federal land in the inner Coastal Plain, with the goal of making it more resilient to

future storms and floods. Some of the seed will be banked for future research. Herbarium voucher specimens are stored at the U.S. National Herbarium (at the Smithsonian) and at the UNC Herbarium in Chapel Hill.

LAND MANAGEMENT: CONSERVATION IN NATURAL AREAS

NCBG itself owns no land, but it manages property on behalf of the University of North Carolina (UNC), the Botanical Garden Foundation (BGF), and the U.S. Army Corps of Engineers. In managing lands, NCBG adheres to the guiding principles of conservation. Goals include protection and preservation of populations of native flora and fauna and their habitats, areas of cultural and historic value, and species under threat of extinction. Management is tailored to each location. General practices include mowing meadows rather than disturbing the soil with plowing, combating invasive exotic plants, and controlled burning to mimic the effects of lightning and of fires ignited by Native Americans. When conditions allow, trails, interpretive signs, and pamphlets are provided for the enjoyment and education of the public.

Most NCBG lands lie within the Morgan Creek Valley, which is biologically rich, geologically diverse, and ecologically vulnerable. NCBG staff and volunteers apply a variety of approaches to control for invasive plants and work to replace these with native species.

Battle Park (UNC): The campus forest called Battle Park was part of the 1792 land gift from Orange County settlers for the creation of a university. Kemp Plummer Battle, UNC President 1876–1891, having spent happy days during his youth exploring this unspoiled terrain, never lost his fondness for the site. Clearing the area's first footpaths proved a relaxing diversion from his official responsibilities. The park was later named for him. It was placed on the National Register of Historic Places in 1971 and came under the management of NCBG in 2004. It is open to the public.

Since being entrusted with the care and maintenance of this mature forest, NCBG has engaged in the restoration of Battle Park. Although not a pristine forest, much of the 93-acre Battle Park forest predates European settlement in the area (1740). Tulip poplar, oaks, and other deciduous trees predominate; many are more than 275 years old. Historical uses probably included cutting of firewood and grazing of domestic livestock, but the area most likely was never farmed. The understory consists of both native and exotic shrubs, perennial vines, and wildflowers. To honor and preserve this natural area, Stephen Keith, NCBG's first curator of Battle Park, began working with other staff and volunteers in 2004 to improve trails, remove invasive exotic plants, and plant native vegetation. University students have shown a special interest in volunteering at Battle Park, assisting staff with ambitious invasive plant control projects

and trail building. There is also an active student work/study program and summer internships. Nick Adams became Battle Park manager in 2015.

In addition to its towering trees and more than 2 miles of trails, appealing elements within the park include the Melinda Kellner Brock Terrace near the Park Place entrance and the Sisters' Corner near Glandon Drive and Gimghoul Road (see Chapter 3).

Coker Arboretum (UNC): This 5-acre naturalistic garden on the UNC campus displays both native and introduced trees, shrubs, and perennials. It has been under the management of NCBG since 1982. Improvements made since that time include rebuilding of the Wisteria Arbor, which now supports all native vines; addition of rock walls and a water feature; creation of a gathering circle; and addition of the Martha Decker DeBerry Overlook. See Chapter 3 for more about the arboretum.

Coker Pinetum (UNC): A pinetum, by definition, is a collection of pines or conifers used for their scientific study. Few pines remain in this 25.47-acre area, which runs from the university campus to NCBG, but some of the remnant trees are old. Meeting-of-the-Waters Creek (mostly confined to buried culverts on the main campus) flows freely from the upper reaches of the Pinetum to its confluence with Morgan Creek. The Pinetum came to the NCBG as a deeded gift in 1954 from the estate of William C. Coker, the university's first botany professor, who used it for teaching and as a living laboratory. The Campus-to-Garden Trail through the Pinetum is open to the public (see Chapter 3). Management consists primarily of controlling invasive plants and replacing these with native plants. It is carried out with able assistance from the Green Dragons volunteer group (see Chapter 5).

William Lanier Hunt Arboretum (UNC): As a university student, William Lanier Hunt (1906–1996) discovered the wonders of the bluffs above Morgan Creek. Mr. Hunt, a noted horticulturist and writer of popular gardening columns, sought to preserve the natural beauty and botanical importance of the native woody plants of the Southeast in an undisturbed setting along Morgan Creek. Over several decades, he patiently researched ownership of contiguous tracts along the creek, purchasing many in a section where there were flourishing thickets of Catawba rhododendron (*Rhododendron catawabiense*)—a species found in the piedmont only along north-facing slopes above streams. In 1961, the area became his 100-acre gift to UNC and the State of North Carolina: the William Lanier Hunt Arboretum.

Following the example of Dr. Coker, Mr. Hunt was a strong voice for the establishment of a botanical garden. He designed NCBG's first nature trail, and in 1966, he became founder of the Botanical Garden Foundation (BGF; see Chapter 5). In 1967, he was elected its first president.

Gray Bluff Garden: This 8-acre tract, contiguous with the Hunt Arboretum, was given to UNC in 1961 by Edward L. and Nancy Gray. In addition to an extensive Catawba rhododendron bluff, other native plants

include wild azalea (*Rhododendron nudiflorum*), yellow jessamine (*Gelsemium sempervirens*), sweet gum (*Liquidambar styraciflua*), and loblolly pine (*Pinus echinata*). In 1999, the Laurel Hill Association donated 7.66 acres adjacent to the Hunt Arboretum to UNC. Nearby is property owned by the Botanical Garden Foundation (see “Laurel Hill Nature Preserve”).

The Hunt Arboretum and Gray Bluff Garden are not open to the public.

Mason Farm Biological Reserve (UNC): When Mark Morgan (and his son of the same name) joined other 18th-century settlers in donating land to establish a university in Chapel Hill, he could not have foreseen the future impact of this generosity upon town citizens, the academic community, or his own family. In 1894 his great-granddaughter, Mary Elizabeth Morgan Mason, continued the family tradition of generosity, bequeathing the land she once lived on and farmed to the university Mark Morgan helped establish. In 1984, UNC Trustees accepted a proposal made by Haven Willey, UNC zoology professor, to dedicate 367 acres of that land as the Mason Farm Biological Reserve (MFBR). NCBG immediately took over its management.

MFBR was established as a field laboratory for research and education. It continues today for those purposes, while also providing a responsibly preserved, peaceful setting for visitors. Mason Farm’s protected forests, open woodlands, meadows and wetland habitats are home to a tremendous diversity of plant and animal life. Resident and migratory birds number more than 200 species, including the summer tanager, indigo bunting, great blue heron, and barred owl. Scientists from local universities (e.g., UNC, Duke) have conducted long-term studies at MFBR. Also seen are the reclusive bobcat, an occasional black bear, coyotes, eastern box turtle, and white-tailed deer. Invertebrates are represented by the rare pepper-and-salt skipper (*Hesperia comma*), over 65 other butterfly species, and many amphibians.

In the 1960s, John Terres, former editor of *Audubon* magazine and author of the *Encyclopedia of North American Birds*, moved to Chapel Hill to work on the *Encyclopedia*. After years of near-daily visits to the the Mason Farm (not yet dedicated as a biological reserve), Terres published a book based on his field notes taken during his wanderings: *From Laurel Hill to Siler’s Bog: The Walking Adventures of a Naturalist* (1966).

Once NCBG took over administration of MFBR, the general management plan of Curator Charlotte Jones-Roe was to maintain a diversity of habitats—open fields, young woodlands, hedgerows, and mature forests—that would in turn support a diversity of species. The former agricultural fields were regularly disked or plowed to keep them in a state of early succession, but nature was left to tend to the other vegetation types. In 1998, when Johnny Randall took responsibility for overseeing the conservation and management of NCBG natural areas, the old farm fields were either mowed or burned to keep them open,

invasive plants were targeted for removal, and herbaceous plants were introduced to hasten the recovery to native plant meadows. Controlled burning was also used in the upland areas of the Southern Shagbark Hickory forest to create a more open woodland environment.

MFBR is open to the public by permit, which can be obtained from NCBG (see more in Chapter 3 and on the NCBG website).

Parker Preserve (UNC): The 127-acre Parker Preserve, a gift in 1976 to the University of North Carolina from Athena and Bill Parker, came under NCBG administration in 2012. The Parkers deeply appreciated and fiercely protected the property for its historical significance, esthetic beauty, and scientific value. Said to be a Native American ceremonial site and possibly connected to the Underground Railroad, it adds to the size of the adjacent Mason Farm Biological Reserve (see above) and Laurel Hill Nature Preserve.

Although not currently open to the public, future plans call for a series of walking trails, historical interpretation of the land, and seating areas in the Parker Preserve.

Piedmont Nature Trails (UNC): This 88-acre area of forested land, along the floodplain of and slopes above Meeting-of-the-Waters Creek (a tributary of Morgan Creek), was the first area NCBG opened to the public (1966). It is contiguous with NCBG's Display Gardens (developed later) and offers pleasant, shaded hiking trails to the public. The mature, uneven-aged, mixed-oak-hickory forest is either original forest or one that is well-recovered from some select tree harvest. Management primarily consists of "benign neglect," except for the occasional removal of invasive plants (of which there are now very few). There are plans, however, to actively augment naturally occurring herbaceous perennial populations and to use prescribed fire on the drier sites, which would have likely burned in pre-fire-suppression times. There was, in fact, a "dry" lightning strike on a dead post oak at the top of Nature Trail Hill in June 2008, which started a low-intensity fire. The NCBG Conservation Department staff, who are trained in wildland fire procedures, responded and contained the blaze.

Properties Owned/Managed by the Botanical Garden Foundation: In addition to being the fundraising and support organization for NCBG, the Botanical Garden Foundation (BGF; see Chapter 5) owns or holds conservation easements on several properties. A conservation easement is a legal, voluntary contract between a landowner and a qualified land trust or local government. (Learn more about conservation easements by visiting websites of the Conservation Trust for NC and the national Land Trust Alliance.)

The BGF currently holds 115 acres of conservation easements and 99 acres of nature preserves. The conservation easements are all adjacent to NCBG or BGF nature preserves, which serve both as buffer and as added natural area. The 92-acre **Morgan Creek Preserve**, owned by the Town of Chapel Hill, is

the largest conservation easement; it includes the Merritt Pasture. NCBG staff monitor all conservation easements to ensure that the terms of the agreement are followed, but do not maintain or manage these sites.

Also known as Highland Pond or Salamander Pond, the 3-acre **Edwards Mountain Nature Preserve** is located in Chatham County. It was given to BGF by William Lanier Hunt and the Governors Club in 1996, and is located within the Governor's Club gated community. It is not open to the public. Its significance is as the site of a breeding pool used by amphibians—habitat that has become rare in the increasingly developed NC piedmont. NCBG staff visit the site at least once per year, but this is one of the few NCBG/BGF nature preserves where invasive species are not present, and no management is necessary.

The 12.5-acre nature preserve in Hope Mills, Cumberland County, **Gordon Butler Nature Preserve**, is named for plantsman Gordon Butler of the Butler Nursery near Fayetteville. Butler was a friend of NCBG and a wildflower and native tree and shrub specialist. An active member of the NC Wild Flower Preservation Society (renamed the NC Native Plant Society in 2004), he was an early activist in propagating and encouraging the use of native plants in public and private landscapes. The preserve has been owned by the BGF and managed by NCBG staff since 1997. An undeveloped area in the NC Sandhills, the preserve is home to the rare shrub white wicky (*Kalmia cuneata*) and is the site of a longleaf pine (*Pinus palustris*) restoration project jointly undertaken by NCBG with the U.S. Fish and Wildlife Service. Often called a “nature wonderland,” it is open to the public but with no official parking.

At one time, **Laurel Hill Nature Preserve** was part of the extensive real estate holdings of William Lanier Hunt. In 1997, Sally Jessee Brown, representing the Marin Development Corporation, donated 75 acres to the Botanical Garden Foundation in addition to 12 acres of conservation easements. Sharing borders with the Mason Farm Biological Reserve, the Parker Preserve, and the William Lanier Hunt Arboretum, the Laurel Hill Nature Preserve is an important link connecting and preserving natural areas. Several home sites of the Morgan family within its boundary lend historical and archaeological value to the property. Laurel Hill Nature Preserve was registered as a North Carolina Nature Preserve in 2001. It is not open to the public.

Unconfirmed reports assert that Stillhouse Bottom, of the **Stillhouse Bottom Nature Preserve**, may have been named for a moonshine operation. By the 1960s, it seemed attractive to Duke Power Company for a transmission line, to the Morgan Creek Land Company for development, and to Dr. C. Ritchie Bell, director of the North Carolina Botanical Garden, for its value to natural science. On a large-landscape scale, Stillhouse Bottom is part of the 187-acre Morgan Creek Bluffs Natural Area and comprises the upper portion of the Jordan Lake Macrosite—a NC Natural Heritage Program designation for a large area

of biodiversity significance. Stillhouse Bottom is also classified by the Orange County Lands Legacy Program and the N.C. Natural Heritage Program as a natural area of state significance.

Originally belonging to the Merritts, an Orange County farming family, the slopes of Stillhouse Bottom were not suitable for agriculture. The forest remained in a remarkably natural condition with some 250- to 300-year-old trees. More than 100 plant species have been identified in the preserve, and the high quality of the site is demonstrated by the presence of red-tailed and red-shouldered hawks, yellow-billed cuckoos, white-breasted nuthatches, ovenbirds, scarlet tanagers, and other birds that inhabit deep, mature forest. Stream quality is likewise demonstrated by the healthy amphibian community, made up of dusky salamanders, two-lined salamanders, and green frogs.

Preservation started early in the 1980s, when Duke Power gave 7 acres and James Eder 10 acres of Stillhouse Bottom land to the BGF. The area was enlarged and further protected by 5 acres placed in conservation easements by A. C. and Mary Bushnell and by Arnie and Audie Schechter. Additional gifts to BGF from Jim and Mary Eder and from Kevin and Vicki Huggins in 1994 added 10 more acres. It became Stillhouse Bottom Nature Preserve in 2001. Through fundraising efforts by the BGF, the generosity of the Joslin family, and support of other Stillhouse Bottom neighbors, 5.6 additional acres were purchased in 2010. All property owned by BGF is managed by the North Carolina Botanical Garden.

The Stillhouse Bottom Nature Preserve is not open to the public except for occasional, guided tours. See the NCBG website for more information.

For 30 years, the BGF held in trust, from The Nature Conservancy, two natural areas in Macon County, NC: **Pinky Falls** and the **Olive Tract**. Responsibility for these two areas was transferred to a local group—the Highlands-Cashiers Land Trust—in 2004.

Penny's Bend Nature Preserve (U.S. Army Corps of Engineers): This 84-acre site is surrounded on three sides by the Eno River in eastern Durham County and includes natural communities influenced by the presence of diabase rock. Though it is U.S. Army Corps of Engineers property, it is leased by the State of North Carolina Division of Water Resources and managed by NCBG. In 1990, it was placed on the North Carolina Registry of Natural Heritage Areas.

Penny's Bend Nature Preserve provides an excellent site for individuals wishing to explore a natural and historic landscape. Within are protected rare plant species found in remnant piedmont prairie/savanna, rich mesic and alluvial forests, and dry shortleaf pine-dominated bluffs; a human-sculpted open space; and the site of a historic mill (now destroyed), built by Duncan Cameron circa 1836 and in operation throughout most of the 19th century. Some of the rare plants species found on the preserve include the

federally listed smooth coneflower (*Echinacea laevigata*); the regionally rare Midwest prairie disjuncts eastern prairie blue wild indigo (*Baptisia australis* var. *abberans*) and hoary puccoon (*Lithospermum canescens*); and a large population of Dutchman's breeches (*Dicentra cucullaria*), uncommon in the NC piedmont.

The mesic and alluvial forests on the west-facing slope of the preserve have a high diversity of tree species and an abundant display of spring wildflowers. The upland, once used to graze horses and cattle, is now an open meadow with scattered red cedars, providing a view of the slopes surrounding the bend of the river. Except for the north-facing mesic bluff, the entire preserve is managed with controlled burning (since 1998), which has greatly benefited the many fire-dependent plant species. The field, forest, and riparian habitats within Penny's Bend Nature Preserve promote biodiversity by welcoming various species of wildlife: great blue heron, red-shouldered hawk, red-tailed hawk, barred owl, deer, beaver, and others.

Penny's Bend Nature Preserve is open to the public; see the NCBG website for more information.

Additional Conservation Projects: Conservation of native plants and their habitats is not limited to properties managed by NCBG. Partnering with various government and conservation organizations, NCBG has been involved with restoration projects throughout NC. The following represent only a sample of such projects (see also Chapter 4):

- In partnership with the U.S. Department of Defense and the U.S. Army Corps of Engineers, NCBG has worked on a five-year project to reintroduce five endangered or at-risk species at Fort Bragg, NC. The goal is to restore four populations each of five species of rare plants.
- In 2014, the U.S. Fish and Wildlife Service awarded a grant to NCBG to grow 7,200 milkweed plants, food for monarch butterfly caterpillars. Continuous populations of milkweed support the multiple generations of monarchs as they migrate northward. Although the project ended in April of 2016, future projects may include planting milkweed in NC State Parks and in rest areas along interstate highways. (NCBG protects milkweed growing at Mason Farm and in other sites across Chapel Hill such as Merritt Pasture within the Morgan Creek Preserve.)
- In 2016 (year two of five), working with the U.S. Fish and Wildlife Service, NCBG was engaged in an effort to restore and reintroduce seabeach amaranth (*Amaranthus pumilus*) in five National Wildlife Refuges within the historical range of the species (Maine to SC). This involves collecting seeds from wild populations, propagating for more seeds, and sowing seeds in the refuges, with the goal of establishing healthy populations. A similar project is planned for 2018 with the National Park Service at Cape Lookout National Seashore.

- NCBG is collecting seeds from important common pollinator host species to propagate for the purpose of creating more seeds to be used for restoration in Uwharrie National Forest. The target is five populations each of three common wildflowers important to pollinators throughout the seasons: *Liatris* sp., *Asclepias* sp., and *Symphyotrichum* sp.

SUSTAINABLE GARDENING PRACTICES

NCBG uses and promotes sustainable gardening practices that respect the native ecology and place high value on the well-being of natural systems. In many ways, this represents a shift from a human-centric view to a holistic view of gardening. A conservation garden is tended and cared for in ways that nurture our broader ecological communities. Being aware of and sensitive to all forms of life, and understanding the ecological web of life, informs our choices when creating a sustainable garden. Because NCBG wishes to sustain its conservation garden over time, sustainable gardening practices at NCBG include the following themes and practices:

Diversity:

- Plant species that are native to the Southeast, promoting the health of the ecological community
- Acknowledge that native plants have evolved in balance with the wildlife, insects, soils, and climate of a region, and as a consequence, perform better than exotics.
- Encourage indigenous and diverse pollinators that are especially dependent on native plant species for food and shelter.
- Keep insects in check using natural predators. If an infestation occurs, NCBG first tries to manually removal the pests, using chemicals sparingly as a last resort and sparingly.

Less Interference:

- Value the complete life cycle of plants to provide a vibrant ecosystem. E.g., leaving seed heads, stalks of perennials, plumes of grasses, provides food and shelter during winter months.
- Use recycled materials wherever possible. Use only materials that can be recycled or reclaimed and do not leave a chemical residue in the soil.
- Make sure design solutions fit the place and are representative of the local soils, vegetation, materials and/or culture.

Soil :

- Foremost, protect the soil. It is alive with organisms such as microbes, worms and fungi that live in the soil and feed on the organic matter they break down.
- Limit soil disturbance and tillage, and plant or mulch to avoid leaving soils bare by.
- Avoid pesticide use that may harm soil biota.
- Use vermicomposting (composting with worms) and spread harvest to beds regularly.
- Compost all waste, and use the compost seasonally to enrich soils. Composting keeps plant-based material out of landfills and saves money and energy used to make soil amendments.
- Mulch to improve water retention, reduce weeds, and keep roots cooler in summer and warmer in winter. As mulch decomposes, it enriches the soil by adding nutrients and organic matter.

Water:

- Capture rain/storm water from rooftops and store it in cisterns to water plants during hot summers or droughts.
- Do not use potable water to water the garden.
- Slow water runoff to minimize surface erosion through the use of water gardens, bioswales, and terracing; this reduces the likelihood of particulate matter and chemicals entering waters farther downstream.
- Capture water in retention pools, letting water percolate through the soil slowly, to allow soil microbes and fungi to clean the water and to recharge underground water tables.
- Water deeply by hand or through targeted irrigation in the mornings, and only to plants in need.
- Construct paths of porous materials and lay out paths strategically so that they do not become conduits for runoff.

Plants:

- Utilize native plants adapted to the regional climate and conditions of the site; these thrive without irrigation, fertilizers, or pesticides and provide food, refuge, and breeding habitat for wildlife.
- Use native plants as foundation for ecological biodiversity and support to pollinators like bees, butterflies, and hummingbirds.
- Mitigate the urban heat island effect by providing shade and evaporating soil moisture.
- Remove all invasive plants and guard against new ones taking hold.
- Utilize vegetation to increase energy efficiency of nearby buildings: e.g., plant windbreaks on the north side and plant shade trees on the west and south sides of buildings.
- Properly site plants to meet cultural needs of the plant and thus promote a healthier garden.

- Practice plant removal or pruning to alleviate overcrowding that can encourage disease.
- Primarily plant in the fall to allow energy to be concentrated in developing a strong root system rather than in spring or summer when stress from heat may prevent that development.
- Create restful and peaceful settings to refresh our minds, to relax, and to better manage stress.

A LEED PLATINUM EDUCATION CENTER

Completed and dedicated in 2009, and named the James & Delight Allen Education Center in 2013, NCBG's newest building earned LEED Platinum certification for new construction in December 2010. Certification was by the U.S. Green Building Council (USGBC), a private, not-for-profit green building membership organization that promotes sustainability in building design, construction, and operations. The LEED (Leadership in Energy and Environmental Design) system, launched by USGBC in the early 2000s, established criteria, standards, and a point-based rating certification system for sustainability at 4 levels—Platinum, Gold, Silver, Certified—for a variety of building types. It is the most widely used third-party verification for green buildings (over 100,000 projects worldwide; see www.usgbc.org/leed?gclid=CKmYwZ2FvtMCFU4vgQodkJcJ8w for information on the LEED system).

The Trustees of the University of North Carolina at Chapel Hill (UNC) approved NCBG's Master Plan in 1990, the conclusion of a two-and-a-half-year planning effort. Among the plan's elements were two major buildings: an education center and a research center for plant diversity (an herbarium). In 1997, the NC Legislature allocated funds for design of a facility to house the UNC Herbarium and NCBG's botanical library. In 1999, UNC Trustees approved a herbarium/library architectural design (NCBG hoped that the UNC Herbarium, an academic building, would be funded with allocations from the state legislature).

In 2000, with a \$2.6 million bequest to NCBG from Katherine Bradley Mouzon, a 25-year volunteer, funding for the long-planned education center was begun. In 2000, the design firm Frank Harmon Architects was selected, and in 2001, UNC Trustees approved the design. Gifts from over 600 donors and supporters eventually produced 100% of the building's cost of approximately \$12 million.

The education center was planned as a "green" building, reflecting NCBG's conservation commitment. Staff and supporters wanted it to demonstrate sustainable development for the university, region, state, and visitors. In 2001, NCBG's Building Committee voted to apply for LEED Platinum certification, the highest level, from the USGBC for new construction. All aspects of the building's design were to be explored from environmental sustainability perspectives, guided by the LEED checklist rating system.

In December 2010, the education center earned and was awarded LEED Platinum certification for new construction. Of 69 possible points, the center earned 52. It was the first UNC campus building, the first state-owned building, and the state's first public museum and outreach center to achieve Platinum. (Since 2011, of UNC's new construction, two buildings—Genome Sciences and the Koury Dental Buildings—were awarded LEED Gold certification; Marsico Hall awaits either LEED Silver or Gold certification.)

LEED Platinum features of the Education Center, a “whole” building with an environmental approach to sustainability, are described below.

Site Selection: The center's site was chosen to protect existing vegetation, minimize earth-moving, and optimize solar orientation; non-roof impervious surfaces have high albedo, indicating greater sunlight reflectivity. The largest, oldest living trees were protected while maintaining biodiversity. The landscape was replanted with native plants, and 318,000 sq. ft. of existing natural habitat were preserved. Coordination with NCBG's neighbors (Kings Mill and Morgan Creek neighborhoods) resulted in approval by the Town of Chapel Hill to remove the road through NCBG property in order to unify the Totten Center campus and the new Education Center site. (The former roadbed is now the Piedmont Habitat.)

Water Efficiency and Use: Low-flow faucets and showerheads were installed, and low-flow and dual-flush toilets use OWASA-reclaimed water. Rainwater from roofs collects in eight cisterns, to be used for irrigation. Permeable pavement in the parking areas overlies a thick layer of gravel for temporary storage of stormwater that slowly percolates into the ground.

Energy Conservation: The UNC-student-funded Renewable Energy Special Projects Committee awarded \$210,000 to support construction of 34 geothermal wells (26 are 500 ft. deep, 4 are 400 ft. deep, and 4 are 100 ft. deep) that cool and heat the building with 5 miles of loop “plumbing” bringing the earth's 55-degree F. temperature to the surface. Heat is conserved with 6 to 10 inches of insulation with R values of 19.5 for walls, 42 for two roofs, and 30 for the third roof. Occupancy sensors activate and deactivate lights. Clerestory windows and controlled daylight provide natural lighting throughout the building and allow views of the display gardens. Broad roof overhangs shade windows in summer, a variety of window glazing maximizes energy efficiency, and windows are operable for fresh air ventilation. Eighty-four photovoltaic panels, producing about 10% of estimated energy usage, cover the south-facing roof. Exterior parking and path lighting direct light downward, and building lighting is tucked under overhangs and is downward facing. The elevator uses no hydraulic fluid and has only energy-efficient traction motors. A building management system tracks and manages energy use.

Materials Installed: Thirty-one percent of construction materials were processed or manufactured within 500 miles of the center. On-site trees infected with pine beetles were turned into 5,200 board ft. of pine lumber; 100 board ft. from on-site walnut trees were used for window and door trim. Atlantic white cedar for siding was salvaged from Hurricane Isabel damage in the Dismal Swamp. Hardwood flooring was rescued from a tear-down in Orange County. Fill dirt was brought from a local quarry and other sites. Reused furniture and fixtures were sought from UNC surplus and elsewhere. Three hundred seventy-two tons (97%) of construction waste were diverted from the landfill for use by Carnivore Preservation Trust, the Wake County school system, Boy Scout troops, and NCBG projects. Rescued native plants from the site were used for post-construction landscaping. Paints, sealants, and adhesives low in volatile organic compounds, and urea-formaldehyde-free interior composite wood, were used for interior construction.

Transportation: Free public buses stop at the Ronald McDonald House and SECU House across the street from the Allen Education Center; service also is provided for persons with disabilities at a bus stop in the Education Center parking lot. Bicycle and pedestrian paths connect the Allen Education Center to the university, with a designated crosswalk for pedestrians and bike riders located at the traffic light at Old Mason Farm Road and 15-501. The Education Center provides showers and lockers for commuter staff who walk or ride bikes to work (and for staff and volunteers who work in the gardens and on trails and are exposed to poison ivy and ticks).

Sustainable Behavior: NCBG aims to advance a more sustainable relationship between people and nature, providing spaces for visitors to learn about and enjoy the natural world. The Allen Education Center, NCBG staff, and operating procedures all strive to demonstrate sustainable practices and perspectives that include proactive and robust recycling collection and composting. Policies include composting of food waste and the use of reusable or compostable cutlery, dishes, napkins, and cups during all events, including those by outside groups who rent the center for their events. Staff provide outside users with a list of approved caterers who confirm that they will compost and recycle.

Accessibility for Visitors with Disabilities: The Allen Education Center provides wheelchairs that travel easily on graveled paths. Bathrooms have a designated toilet stall for disabled persons. Automatic door opener buttons provide entrance to main doors of the three buildings and public bathrooms.

Sources:

Websites of the UNC Sustainability Office, NCBG, and the USGBC.

Descriptive brochures produced by the UNC Sustainability Office and by NCBG.

NCBG Annual Reports and newsletters.

Telephone discussion with Sean Nault, SGBC/LEED/Charlotte.

Spreadsheet of certified Platinum new construction buildings in NC, 2008–2017.

Telephone conversation with Ken Moore.

Telephone conversation with Jill Coleman, UNC Landscape Architect.

Review of draft by Johnny Randall and Charlotte Jones-Roe; substantial review of the draft by and discussion with Jim Ward.

“CONSERVATION GARDEN” TIMELINE

1927 Dr. William Chambers Coker proposes to University President Chase that “a collection of all the trees and shrubs of North Carolina” be established on university lands to the south of campus for the purpose of teaching, research, and public education. The shrub collection is established in the 1930s–1940s, but development slows during World War II. The collection is moved to the Mason Farm property in 1939, having outgrown its location, and is moved again to make room for part of the UNC golf course.

1966 NCBG is founded, with the first Nature Trail opened in April. William Lanier Hunt and others incorporate the Botanical Garden Foundation (BGF). Many of the first supporters are members of the North Carolina Wild Flower Preservation Society (as are faculty in the Department of Botany).

1969 Visitors to the Garden are encouraged to record bird species, numbers, and dates seen at NCBG. NCBG will report the data to the Chapel Hill Bird Club for bird census data records.

Readers of *Garden Trails* are asked to submit yearly records of blooming dates of plants in their area to NCBG as part of a long-range systematic observation program of southeastern U.S. plants started by Dr. Helmut Leith of the UNC Botany Department.

1970 NCBG exhibits “Planting with Native Plants”—with plants from mountain, piedmont, and coastal plain regions—at the NC State Fair.

1970s Habitat Gardens and others are established over time: Mountain, Coastal Plain, Southeastern Fern Collection, Sandhills, and Plant Families Garden.

With permission of developers and landowners, Garden staff and Plant Rescue volunteers travel around the state collecting plants from areas where habitats are about to be destroyed. They pioneer Plant Rescue techniques, eventually adopted by many conservation-oriented gardening groups throughout the Triangle and the state.

“Conservation through Propagation” becomes a theme, and NCBG becomes known nationally for a commitment to conservation principles.

1971 A Bird Behavior Station is established on Mason Farm by zoology professor R. Haven Wiley. Garden staff Ken Moore, Julie Moore, and Anne Benson, as well as Tour Guide volunteers, begin NCBG’s long tradition of public education on conservation topics (see *Community Outreach/Education Timeline*).

1974 NCBG assists Garden Club of North Carolina and the Landscape Unit of the Division of Highways with the Operation Wildflowers project, which will plant native wildflowers along the state’s highways: Garden staff help choose the most appropriate wildflowers and is involved in cultivation methods best suited to the plants chosen.

NCBG takes part in the largest plant rescue “dig” to date at Grandfather Mountain Golf Club Fairways Second Course, at 4000 ft. elevation. Four gardens (Duke University Memorial Garden, UNC Asheville Botanic Garden, Museum of Life and Science [Durham], and NCBG) dig 6,199 plants of 67 species.

1979 The first NCBG “wildflower sale” is held. Forty-four native species sell out (staff and volunteers spent four months preparing for the event).

NCBG Director C. Ritchie Bell drafts the *North Carolina Plant Protection and Conservation Act* (G.S. 106-202.12., Article 19B), which creates the N.C. Plant Conservation Program and gives legal protection to the state’s rarest plant species.

1982 N.C. Wildflower of the Year program begins, co-sponsored by the Garden Club of North Carolina, to promote a showy southeastern native plant annually. The inaugural plant is cardinal flower. Flower seeds are available on request, but the seed supply runs out, and so cardinal flower continues as Wildflower of the Year in 1983 (and again in 2001).

NCBG (led by Curator Rob Gardner) host a meeting of concerned carnivorous plant specialists, co-sponsored by the U.S. Fish and Wildlife Service and the NC Plant Conservation Program, to discuss protection and conservation of the Endangered green pitcher plant.

Curator Charlotte Jones-Roe completes habitat studies on two Federally Endangered NC ferns: *Asplenium heteroresilians* and *Cystopteris tennesseensis*.

NCBG completes a contract with the NC Plant Protection Program (N.C. Dept. of Agriculture) to develop a nursery for legally protected plants, to conduct rescues of listed species when needed, and to coordinate propagation research among research investigators and nursery growers.

1983 NCBG wins the 1983 Gulf Oil Conservation award of \$500 for conservation leadership.

Curator Charlotte Jones-Roe publishes “Plant communities assembled at the N.C. Botanical Garden: simulation of native habitats.” *Restoration & Management Notes* 1(3): 38.

NCBG presents an award-winning exhibit on Plant Rescue at the N.C. State Fair.

1984 NCBG is a founding institution of the Center for Plant Conservation (becoming one of 36 institutions holding the National Collection of Endangered Species).

1985 *Growing and Propagating Wild Flowers*, by NCBG staff, published by the UNC Press. The first hardcover edition sells out, to be followed quickly by a second printing.

The wildflower sale is revived and held for 3 hours, sponsored by Propagation Volunteers.

Management Plan for Mason Farm Biological Reserve is developed.

C. Ritchie Bell Conservation Internship established with a gift from Dr. Bell.

Curator Charlotte Jones-Roe publishes “The North Carolina Botanical Garden: Commitment to Conservation” in *AABGA Bulletin* 19(4): 7-128.

1986 C. Ritchie Bell retires as the director and is celebrated during a dinner honoring his leadership, which resulted in 72 acres being turned into one of the most active gardens in the southeastern U.S.: “Under Dr. Bell’s guidance, the Garden has become a place where an interest in flora can develop into a passion.” At this time, NCBG has a permanent staff of 12, plus 15 seasonal workers, 150 dedicated volunteers, and 8 major plant collections; it is administering and managing 600 acres for UNC.

Dr. Peter S. White, plant ecologist and conservation botanist, becomes Garden Director.

Index Seminum lists all species for which NCBG has seeds.

1987 Curator Charlotte Jones-Roe asked to oversee Mason Farm Biological Reserve, BGF preserves, and NCBG's conservation programs.

1988 Charlotte Jones-Roe presents "Integrated conservation program at the NC Botanical Garden" at annual meeting of AABGA in Scottsdale, AZ; also chairs AABGA Conservation Committee, 1988–1992.

1989 NCBG receives the North Carolina Nature Conservancy's 1989 Public Service Award.

NCBG is developing a conservation plan for Coker Arboretum as part of the Master Plan.

1990 Dr. J. Kartesz, Director of the Biota of North America Program (BONAP) of the NCBG, with funding from the Nature Conservancy, the Reynolds Atlas Project, the Fish and Wildlife Service and the Soil Conservation Service, establishes a data center for vascular plants of North American, north of Mexico. The Project is titled Floristic Atlas Project. Peter White and other NCBG people participate.

1993 *Solidago rugosa* "Fireworks" is introduced to the public at NCBG and Niche.

1994 Dr. Lawrence Mellichamp of UNC-Charlotte and NCBG Curator Rob Gardner continue a project to hybridize pitcher plants to produce superior forms and reduce collection pressure in the wild.

1995 New gardens developed behind the Totten Center include the Carnivorous Plant Collection, previously housed in a greenhouse off-limits to visitors. Also to be developed are gardens for Rare Plants, Native Perennials, an Aquatics Collection, an expanded Plant Families Garden, and a new greenhouse.

NCBG serves as a principal consultant for developing a rare plant exhibit at the NC Zoo.

1996 NCBG is ranked as one of "America's Best Public Gardens" by *Garden Design* magazine. In the category of Native Plants, NCBG is one of four gardens considered by the panel of experts to be the best in the country.

Baptisia "Purple Smoke" is introduced to the public at NCBG by Curator of Native Plants Rob Gardner.

Carnivorous plant experts and enthusiasts from around the world convene at the Totten Center for the Southeastern Carnivorous Plant Conference.

Laura Cotterman and Charlotte-Jones Roe publish "Botanical gardens and arboreta: partners in conserving biological diversity," *Natural Areas News* 1(1): 1-5.

Charlotte Jones-Roe and G. Shannon Smith publish "How to write an environmental conservation plan: a guide for leaders of public gardens," *The Public Garden* 11(3): 32-34.

Charlotte Jones-Roe concludes 3-year term on the national board of the AABGA; during her tenure, she chaired the Conservation Committee and assumed the role of AABGA's lead advocate for plant conservation issues.

1997 NCBG restricts distribution of seeds to a 12-state region of the southeast U.S., a conservation measure to address the issue of introducing pest species in new areas. This is an important emerging conservation issue, and NCBG may be the first botanical garden in the nation to take this position, establishing its leadership and making the issue a top priority.

1998 Dr. Johnny Randall is hired to lead NCBG's Conservation Department, responsible for oversight of Mason Farm Biological Reserve, Coker Pinetum, and other nature preserves, and the rare plant conservation program, including participation in the Center for Plant Conservation.

NCBG is the first botanical garden in North America to establish an exotic plant policy.

1999 NCBG organizes the North Carolina Chapter of the Southeast Exotic Pest Plant Council.

2000 At the request of the NC Wildlife Resources Commission, NCBG becomes caretaker of a large quantity of Venus flytraps that were seized from a poacher near Wilmington.

Seventy-five pine trees are lost to an outbreak of the southern pine beetle in the woods around the visitors' parking lot. The trees yield 2000 board feet of lumber, later incorporated into interior trim of the James & Delight Allen Education Center.

2001 NCBG joins Seeds of Success as part of the Millennium Seed Bank project.

NCBG receives a National Natural Resource Conservation Award for Leadership in Native Plant Conservation, from the U.S. Department of Interior's Bureau of Land Management and the USDA Forest Service.

2003 The UNC-Chapel Hill Task Force on Landscape Heritage and Plant Diversity is established to create guidelines for protecting historic and heritage trees or individual trees, groups of trees, and other landscape features that have been designated as historically or botanically significant, and will identify areas to protect and will recommend how to create historic landscapes of the future. Peter White, Ken Moore, and Johnny Randall represent NCBG on the task force.

2004 NCBG receives two national and one state award: The *Program Excellence Award* from the AABGA, the *North Carolina Sustainability Award* from Sustainable North Carolina, and the *Award of Excellence*, presented to Director Peter White, from National Garden Clubs, Inc. In acknowledgment, Peter White observed that the awards recognize the entire NCBG staff, who with volunteers, define and carry out the elements of the "conservation garden" and native wildflower conservation in the southeastern U.S.

2006 NCBG enters into a cooperative agreement with the Royal Botanic Gardens-Kew and other partners to collect and store the seeds of approximately 250 plant species native to the southeastern U.S. as part of the Millennium Seed Bank, an international program partnership in 17 countries with the goal of conserving the species and genetic diversity of plants.

The 80-acre Pegg Tract on the Haw River is acquired in a collaborative project with Clean Water Management Trust Fund, Triangle Land Conservancy, and NCBG & BGF.

2007 During prescribed burning training at the Nature Conservancy's Long Valley Farm in Spring Lake, NC, a report is received that 500 pitcher plants have been recovered from 4 poachers in the Green Swamp area. (A car trunk is searched and found full of purple pitcher-plants (*Sarracenia purpurea*). Another report is received that three men had emerged from the swamp toting bags of purple pitcher plants. Four men are apprehended and ticketed.) Johnny Randall and Mike Kunz, in the swamp for burning training, come to the rescue of the pinched purple pitcher plants, which are brought to NCBG and cared for until they establish a sufficient root system for successful re-introduction at a secure site in the Green Swamp.

NCBG awarded "Green Department of the Year" by UNC Office of Waste Reduction and Recycling.

2008 Rescue of more than 800 poached Venus flytraps is made by NCBG staff member Andy Walker at the request of The Nature Conservancy, which owns and manages the Green Swamp Preserve near Wilmington, NC. Plants are brought back to NCBG and nursed back to health. Garden and Nature Conservancy staff and volunteers will return the Venus flytraps and purple pitcher plants to their natural habitat in the Green Swamp preserve.

2009 NCBG is honored with the *Bird Lore Conservation Education Award* from the Audubon Society of North Carolina.

The Education Center (later named the James & Delight Allen Education Center) is dedicated at an October ceremony (Gov. Beverly Perdue presiding). Application completed for LEED Platinum certification

2010 The Education Center earns the highest certification for green buildings: LEED platinum, the first public building in the state at this level.

2011 The Climate Change Garden is planted, partnering with botanic gardens across the country. Each garden features genetically identical plants from species selected for their biological responsiveness to temperature. Volunteer “citizen scientists” are sought to visit the garden throughout the growing season to record dates of events such as first flowering and seed ripening. In 2015, the country-wide program is discontinued, owing to uneven program implementation by partner gardens and data management issues.

2012 Piedmont Habitat Garden is developed, led by Curator Chris Liloia, on what was formerly part of Laurel Hill Road.

2014 NCBG, in cooperation with New England Wild Flower Society and Mid-Atlantic Seed Bank, begins Seeds of Success East, a two-year, \$3.5 million project to collect and distribute seed for restoration projects in response to Hurricane Sandy.

The Green Dragons build a boardwalk through Siler’s Bog in MFBR with the help of a \$15,000 grant from the U.S. Fish and Wildlife Service.

SCHOLAR AND TEACHER

furthering knowledge and understanding

If you have knowledge, let others light their candles in it.

— Margaret Fuller

UNC HERBARIUM

An herbarium is “a collection of dried and pressed plants, preserved and mounted, labeled, dated, located, and organized for reference.” An herbarium sheet contains not only the plant, but also a label which details the scientific name of the plant, where it was collected, a description of habitat at that location, the date of the collection, and the collector’s name. “Herbarium specimens are the only authentic source of identification of plants and of their present and past description.”¹ (Note: Each herbarium has an acronym that makes it easier for botanists to cite where a specimen is found. The acronym for the UNC Herbarium is “NCU.”)

Founding of the UNC Herbarium is usually observed as 1908; however, the history of having herbarium specimens for use in university botany classes began much earlier. Dr. Joseph Austin Holmes (1859–1915), professor of geology and natural history at UNC, was a proponent of field excursions for students, and he made some herbarium specimens from plants he collected around the state. NCU curates about a dozen specimens Dr. Holmes collected from 1882 to 1888. William Willard Ashe (1872–1932) began his studies with Dr. Holmes at UNC in 1888 at the age of 15. Ashe was an avid collector of plants, and NCU has many specimens that he collected during his undergraduate days from around Chapel Hill and his parents’ home in Raleigh. After graduating from UNC in 1891, Ashe earned a M.S. from Cornell University in botany and geology, then worked as a forester for the NC Geological Survey and for the U.S. Forest Service. Before his death in 1932, he had expressed a strong wish that his collection go to Chapel Hill rather than to other herbaria that had expressed interest in his specimens. Ashe’s friends and fellow botanists, Dr. Thomas Grant Harbison (1862–1936) and Dr. William Chambers Coker (1872–1953), were instrumental in making this happen. Ashe’s specimens were purchased from his widow, thanks to a generous donation of funds from Mr. Watts Hill of Durham, NC. Approximately 30,000 vascular plant herbarium specimens arrived in Chapel Hill in January, 1933. A lively account of the effort to obtain Ashe’s specimens for NCU can be found in Mary Coker Joslin’s book, *Essays on William Chambers Coker, Passionate Botanist*, from which many details for this article were obtained.

While Ashe’s specimens formed the nucleus of the vascular plant herbarium collection, the fungal specimens of Dr. William Chambers Coker formed the nucleus for the mycological collections at NCU. Coker arrived in Chapel Hill in 1902, and though his primary research focus was fungi, his interests, teaching responsibilities, and collecting activities included vascular plants as well. Coker had a summer home in Highlands, Macon County, NC, and taught classes at the Highlands Biological Station. The plants and fungi Coker and his students collected during the early 1900s, together with Ashe’s specimens purchased in the 1930s, formed the basis of the collections now known as the UNC Herbarium (NCU).

By 1908, Coker was full professor and chair of the newly established Botany Department, located in Davie Hall. (He had also founded UNC's Coker Arboretum in 1903; see Chapter 3). The Herbarium uses 1908 as its founding date, and recognizes Dr. Coker as its first curator. Over time other botanists within the Botany Department were involved in curatorial activities. Dr. Coker was so impressed with the care and precision of one of his student's work that he asked her to remain in the Botany Department as a "research assistant." Ms. Alma Holland Beers (1892–1974) was never given another title, but she performed the duties of teacher, editor, secretary, artist, plant collector, and curator within the mycological herbarium.

Dr. Thomas Grant Harbison was hired as the Herbarium's second curator in 1934, and his primary task was to sort through the purchased Ashe specimens. However, Dr. Harbison's health was tenuous, so in 1935, Dr. Coker hired botany graduate student Laurie M. Stewart [Radford] (1910–2004) to perform curatorial duties as well. Harbison died in 1936, and Laurie Stewart Radford continued as curator until her spouse, Dr. Albert E. Radford (1918–2006), started his long association with the Herbarium, first as curator, then as director. In 1998, Laurie Stewart Radford wrote a fifty-page booklet, "The History of the Herbarium of the University of North Carolina at Chapel Hill, NC: 1908–1998," which is available in the UNC Library as well as on the Herbarium's website (www.herbarium.unc.edu/HerbariumHistory.pdf), and provided much information for this summary.

An important aspect of the work of the UNC Herbarium has been the publication of botanical books and articles. In 1968, the University of North Carolina Press published *Manual of the Vascular Flora of the Carolinas* , written by Albert E. Radford, Harry E. Ahles and C. Ritchie Bell.

[Although North and South Carolina] *had been sampled botanically for many years by numerous botanists, it was not until 1956 that a serious systematic survey was undertaken. In that year the authors began field work on a county by county basis in both states to obtain representative material for distributional data and for use in the preparation of this Manual. Three years of intensive general collecting plus seven more years of specialized collecting in local geographic areas or for limited plant groups have provided more than 200,000 specimens that have served as the primary reference for this work. The basic part of this collection is deposited in the Herbarium of the University of North Carolina at Chapel Hill.*²

The *Manual*— often referred to as "the green book" due to its green binding, or "RAB" for its authors— served as "the bible" for botanists in the Carolinas and the entire Southeastern U.S. for more than three decades. Specimens collected in the course of preparation for this manual, most bearing the footer *Collected for the "Flora of the Carolinas,"* greatly expanded the size of the UNC Herbarium collection.

When Dr. Jimmy Massey (b. 1940) became curator in 1971, the Herbarium was piled high with unmounted specimens, many of which had been collected for the *Manual*. With Assistant Curator Mary Felton (b. 1917) and a team of students and volunteers, Massey mounted, accessioned, and filed hundreds of thousands of specimens. During that era, duplicate specimens were exchanged with herbaria across the United States. In addition to his curatorial duties, Massey was an influential teacher in the Botany Department, the Biology Department, and at NCBG.

When Dr. Max Hommersand (b. 1930) retired from UNC's Biology Department in 1998, his collection of macroalgae became part of the UNC Herbarium. This collection is particularly strong in taxa of red marine algae from the temperate zones. Herbarium staff continue to mount, accession, and catalog this collection, which in 2018 had 49,638 specimens.

An important milestone in the history of the Herbarium occurred in 2000 (see timeline below for other milestones not specifically discussed here). At that time, Dr. Peter White (b. 1948), director of NCBG and plant ecologist in the UNC Biology Department, suggested that the UNC Herbarium would be better administered by NCBG than by the Biology Department. Curator Dr. Jimmy Massey and Asst. Curator Mary Felton delayed their retirements so that their positions would be available for new Herbarium staff once the administrative transfer was complete. On July 1, 2000, the UNC Herbarium was transferred administratively to NCBG (though it physically remains in Coker Hall on campus) and Carol Ann McCormick (b. 1959) was hired as assistant curator. In 2002, Alan Weakley (b. 1957) was hired as curator.

In 2012, Dr. Alan Weakley, by then the director of the Herbarium, was one of six authors and illustrators of *Flora of Virginia*, a 1500-page book that describes 3,164 plant species found in the Old Dominion. (The only previous complete flora for that state, *Flora Virginica* by Jonannes Fredericus Gronovius and John Clayton, was published in 1762!)

Another important botanical tool by Dr. Weakley is *Flora of the Southern and Mid-Atlantic States*, which is available from the Herbarium both in print form and on-line at the UNC Herbarium's website. This book not only updates the taxonomy and nomenclature of the classic *Manual of the Vascular Flora of the Carolinas*, but also expands the included geographic range. Herbarium staff have developed *FloraQuest*, an iPhone/iPad application for mobile use of *Flora of the Southern and Mid-Atlantic States*, allowing mobile identification of over 7,000 plant species in a 14-state region through an interactive interface. Finally, an informative, easy-to-use wildflower guide, *Wildflowers of the Atlantic Southeast* by Dr. Weakley and co-authors Dr. Damon Waitt and Laura Cotterman will be published by Timber Press (Portland, OR) in 2019.

As of 2018, the UNC Herbarium (NCU) curates approximately 700,000 vascular plant specimens, making it the second largest collection in the southeastern U.S. It also curates approximately 50,000 macroalgae specimens, making it the fifth largest collection in North America. The UNC Herbarium curates approximately 31,000 fungal specimens, including nearly 5,500 specimens collected by founder Dr. William Chambers Coker. And it curates ca. 6,000 lichen specimens, and 3,500 moss/liverwort/hornwort specimens. In 2019 the Herbarium will begin to catalog its ca. 10,000 specimen collection of plant fossils.

Thanks to a series of National Science Foundation grants, the Herbarium's collections are available to researchers and the public via on-line searchable databases: mycoportal.org (macrofungi); lichenportal.org (lichens); macroalgae.org (macroalgae); bryophyteportal.org (mosses, liverworts & hornworts); serneportal.org (vascular plants); and pteridoportal.org (fossils).

As a major research collection, the UNC Herbarium continues to be a focal point of research on taxonomy, ecology, evolution, and conservation, generating well over 100 scientific publications in the years 2011–2015, by researchers affiliated with the Herbarium. A large number of additional research publications are based on specimens and data curated by NCU and accessed by researchers affiliated with other institutions through visiting the Herbarium, by borrowing specimens from it, or by accessing data and images online.

The UNC Herbarium is open to students, researchers, and the public during weekday business hours, and its collections are available at all times via the on-line portals.

Notes:

1. Coker Joslin, Mary, *Essays on William Chambers Coker, Passionate Botanist* (University of North Carolina at Chapel Hill Library and Botanical Garden Foundation, Chapel Hill, NC, 2003), 54.
2. Radford, A. E., H. E. Ahles, and C. R. Bell, *Manual of the Vascular Flora of the Carolina* (University of North Carolina Press: Chapel Hill, 1968), v.

UNC Herbarium Curators and Directors:

1908–1934: Dr. William Chambers Coker, Curator

1918–1951: Alma Holland Beers, Research Assistant

1934–1936: Dr. Thomas Grant Harbison, Curator

1935–1942: Laurie M. Stewart Radford, Curator

1942–1945: Eloise Wicker, Acting Curator, wartime; and others, “graduate women, sometimes one, sometimes two at a time, and usually only during the regular school year”

1946–1948: Laurie M. Stewart Radford, Curator

1949–1962: Dr. Albert E. Radford, Curator

1956–1962: Harry E. Ahles, Assistant Curator
 1963 –1966: Harry Ahles, Curator; Albert E. Radford, Director
 1966–1968: John R. Bozeman, Curator; Dr. Albert E. Radford, Director
 1968–1971: Steven Worth Leonard, Curator; Dr. Albert E. Radford, Director
 1971–2000: Dr. Jimmy Massey, Curator (and Director 1983-2000); Mary Felton, Asst. Curator
 2000–2012: Carol Ann McCormick, Asst. Curator
 2002– 2012: Dr. Alan Weakley, Curator
 2006–present: Dr. Alan Weakley, Director; Carol Ann McCormick, Curator
 2013–present: Shanna Oberreiter, Asst. Curator

UNC HERBARIUM TIMELINE

1908 UNC Department of Botany founded with Dr. William Chambers Coker as Chair. UNC Herbarium is begun and located in Davie Hall with Dr. Coker as curator.

1932-33 Upon the death of William Willard Ashe (UNC Class of 1891), ca. 30,000 of his herbarium specimens are purchased by UNC through the advocacy of Drs. T. G. Harbison and W. C. Coker.

1935 Laurie M. Stewart Radford becomes curator.

1949 Dr. Albert E. Radford becomes curator.

1956 Harry E. Ahles hired as assistant curator; collecting for *Manual of the Vascular Flora of the Carolinas* begins.

1963 Herbarium moves from Davie Hall to Coker Hall; Ahles becomes curator and Radford becomes director.

1966 John R. Bozeman becomes curator.

1968 Steven Worth Leonard becomes curator; *Manual of the Vascular Flora of the Carolinas* by Radford, Ahles and Bell published by UNC Press.

1971 Dr. Jimmy Massey becomes curator and Mary Felton becomes assistant curator.

1976 UNC Herbarium become the primary repository for plant specimens collected by the North Carolina Natural Heritage Program.

1982 The 74th anniversary of UNC Herbarium is celebrated together with the recent founding of Friends of the Herbarium, which supports and promotes the Herbarium. The Botany and Zoology Departments merge to form the Biology Department of UNC.

1990 The UNC Trustees approve the NCBG Master Plan, which includes a research center for plant diversity/herbarium.

1996 Dr. Albert Radford and Laurie M. Stewart Radford, both former Herbarium curators, give their home and land in Chapel Hill to the BGF as a major contribution toward the NCBG Master Plan's research center/herbarium.

1998-99 The NC Legislature allocates \$350,000 for the design of a facility to house the Herbarium and Botanical Library; in 1999 the UNC Trustees approve the architectural design. UNC Herbarium celebrates its 90th birthday with a gala at the Morehead Planetarium in Chapel Hill.

2000 UNC Herbarium becomes a department within NCBG. Curator Dr. Jimmy Massey and Assistant Curator Mary Felton retire. Carol Ann McCormick is hired as Assistant Curator.

2002 Alan Weakley is hired as Herbarium curator. UNC Herbarium receives 30 boxes (ca 10,000 specimens) from the Dartmouth College Herbarium (HNH).

2008 UNC Herbarium celebrates its 100th birthday and is recognized as the second largest herbarium in the southeastern United States. Collections include vascular plants (ca 700,000), bryophytes (ca 3,500), lichens (ca 6,000), fungi (31,000), macroalgae (ca 50,000), and plant fossils (ca 10,000).

2010 Herbarium Associate Gary Perlmutter catalogs the lichen collection into lichenportal.org

2012 Herbarium receives National Science Foundation grant to catalog its mycological collection. Specimens are available at mycoportal.org. Weakley becomes Herbarium director; McCormick becomes curator. The bryological collection is imaged by the Duke Herbarium (DUKE), databased by McCormick, and available at bryophyteportal.org.

2013 UNC Herbarium receives National Science Foundation grant to catalog its phycological collection. Specimens are available at macroalgae.org. The Herbarium is the imaging hub for specimens from 6 other herbaria. Shanna Oberreiter becomes assistant curator.

2014 UNC Herbarium receives National Science Foundation grant to catalog vascular plant specimens from the southeastern U.S. Specimen records available at sernecportal.org

2016 With help from UNC's "Carolina Apps Program," *Flora of the Southern and Mid-Atlantic States* is transformed into an iPhone/iPad app known as *FloraQuest*.

ADULT PROGRAMS

The North Carolina Botanical Garden (NCBG) offers numerous and varied programs for adults (the Volunteer Program is covered in Chapter 5). Although most of the offerings are intended for personal enrichment, there are opportunities to strengthen resumes or acquire educational credits for professional requirements or advancement. Nearly all adult programs require enrollment, registration, or reservation through the Education Department. There is a long history of providing adult programs at NCBG; garden tours and classes started in the early 1970s. Offerings have continued to grow and diversify. They have included sponsored trips abroad, intensified studies of North Carolina ecosystems, and lectures featuring the work of professionals in many different fields of endeavor.

The following lists provide a general survey of the types of adult programs and a summary of how they are formatted, categorized, and focused.

Formats

- Classes

- Courses (part of a defined curriculum)
- Lectures: may be “regular,” annual, lunchtime series, program- or theme-based
- Guided Tours, Hikes, Walks, Walk & Talks: may be regularly scheduled, recurrent, or seasonal
- Workshops
- Special Events: may include author events & book signings, celebrations, concerts, and other performances, demonstrations, poetry readings

General Categories

- Nature Art & Illustration
- Native Plant Gardening
- Nature Studies
- Hikes & Tours

Themes/Focus

- Location: may be on the grounds of NCBG, a managed property or elsewhere
- Season: spring and fall are the high seasons
- National Proclamation: observed day, week, month
- Anniversary of Historical Event
- Birthday of Important Historical Figure or Anniversary of Event Related to Important Historical Figure
- Professional Society: annual address or another event
- Educational Exhibit Programming: programs, workshops, classes, hikes/tours, special events that are part of a series of public offerings specific to an exhibit theme

It is impossible to provide individual accounts of how the formats, categories, and themes have manifested into creative and successful offerings over the years. However, a few examples are selected for more detailed consideration: Guided Tours, Annual Lectures, Educational Exhibit Programming, and Certificate Programs.

Guided Tours: Guided tours have been offered since 1972, a year after then-Superintendent Ken Moore began recruiting volunteers to serve as tour guides. Jean Stewart, a long-time volunteer remembered with fondness by early staff, was NCBG’s first official tour guide. For many years, Dot Wilbur-Brooks, in her role as public programs coordinator, was responsible for overseeing tours. Dot’s assistant, Lynn Cole, served for a few months until Karen Wiley-Eberle was hired in 2005. She worked with the tour guides until a natural science educator position was created. This position was filled by Grant Parkins from 2006 to 2016. Mike Dunn plays this role today and supervises the guided tour offerings.

A public tour of the Garden is offered to interested visitors on the first Saturday of the month year-round. Tours are led by trained volunteers belonging to a group now known as the NCBG Garden Guides (earlier, Tour Guides). These free Saturday tours begin at 10:00 a.m. and last about an hour. Typically, the tour starts in the Pegg Exhibit Hall of the James & Delight Allen Education Center with a brief introduction to the LEED-certified facilities. There is no prescribed route for a Saturday morning “general

tour” of the Garden, but the display gardens outside of the Pegg Exhibit Hall (Building B of the Allen Education Center) are noted for the collection of plants that are well-suited to the home landscape.

Highlights of the tour, for many, are the Habitat Display Gardens, proof of the incredible botanical diversity to be found within our state. The Piedmont Savanna showcases the often subtle beauty and wildlife value of plants common to the roadsides of this region. The Coastal Plain Habitat is most showy in the fall, but during all seasons of the year can be used to illustrate plant adaptations, the importance of fire (e.g., prescribed burns) in the landscape, and the natural and cultural history of the longleaf pine. The Mountain Habitat is a wonderland of spring ephemerals and a cool sanctuary during the summer. The path through the Fern Garden leads to the Paul Green Cabin, an alluring retreat into the past and an opportunity to introduce visitors to Paul Green as playwright, wordsmith, folklorist, and social activist. From late summer until the first frost, the Perennial Border shows off the intense colors and beauty of our native plants. The Garden of Flowering Plant Families introduces visitors to the similarities and differences among plants that are botanical relatives. The last stop on the tour is usually the Herb Garden, with its lovely rose arbor, strongly scented Rosemary Collection, and beds illustrating the culinary, medicinal, and industrial uses of herbs throughout the centuries—and do not forget the poisonous plants, with red-dotted labels!

In addition to Saturday public tours, private tours of the Garden can be arranged through the Education Department from March through November. Such tours are popular with garden clubs, retirement communities, civic and university-affiliated groups, and churches. With all tours, the goal is to make a walk through the Garden a pleasurable experience. NCBG also hopes that visitors’ experiences will lead to an increased awareness of and appreciation for the role native plants play in the landscape, and that gardeners and would-be gardeners are inspired to make use of native plants on their own properties.

Garden Guides characteristically mention additional features and offerings at NCBG to encourage visitors to come back: the network of nature trails, annual events such as Sculpture in the Garden, services provided at the Green Gardener Desk, children & family programs, and the talks, walks and classes associated with NCBG’s exhibits.

Annual Lectures: NCBG sponsors two long-standing annual lecture series: a spring event, the Evelyn McNeill Sims Native Plant Lecture, and a fall event, the Jenny Elder Fitch Memorial Lecture. Both lectures were endowed by loving family members who wanted to honor these remarkable women and their love of plants and the natural world. The lectures are free-of-charge and open to the public.

Evelyn McNeill Sims, a North Carolina native, turned 90 years old in 1999. Her daughter, Nancy Preston, honorary lifetime Botanical Garden Foundation (BGF) Board member, honored Mrs. Sims with the

creation of a lecture to be delivered annually at NCBG. The lecture series spotlights native plants—their cultivation, conservation, and ecology. These subjects are especially appropriate because Mrs. Sims loved her botanical explorations, especially in the spring when wildflowers were emerging. Mrs. Sims attended the lectures accompanied by family and friends until she was more than 100 years old. Thanks to the generosity of Nancy Preston and her husband Ed, this lecture has been permanently endowed. An impressive list of botanists, naturalists, writers, artists and, of course, gardeners has addressed the audiences attending this lecture series, among them Nancy Ross Hugo (2013), author of the popular *Seeing Trees*. More information about Evelyn McNeill Sims is presented in a recent article by Charlotte Jones-Roe: “Annual wildflower lecture becomes perennial” in the NCBG’s *Conservation Gardener* magazine (Fall & Winter 2016/17).

Jenny Elder Fitch was a “local plant enthusiast and passionate gardener.” The wife of North Carolina entrepreneur and land developer R.B. Fitch (who also served as a BGF Board member and president), she was instrumental in converting a lonely cow pasture into the beautiful grounds of Fearington Village. When Mrs. Fitch passed away in 1995, NCBG received an outpouring of contributions made in her honor. Her husband created an endowment for an annual lecture series that would showcase the work of well-known gardeners or horticulturists. The 2014 lecture was integrated with the Bartram exhibition and symposium and featured Andrea Wulf, the New York Times bestselling author of *The Brother Gardeners: Botany, Empire and the Birth of an Obsession*. A very enthusiastic response to the 2015 lecture, given by Rick Darke and Doug Tallamy, authors of *The Living Landscape: Designing for Beauty and Biodiversity in the Home Garden*, resulted in it being moved to the Barn at Fearington Village (Jenny and R.B.’s son Greg, then Botanical Garden Foundation president, facilitated the change of venue). The 2016 lecture, “Planting Design in a Post-Wild World,” was delivered by Thomas Rainier, RLA.

Educational Exhibit Programming: *Following in the Bartrams’ Footsteps* exhibition and symposium ran from August 30 to November 2, 2014. NCBG’s “largest and most ambitious” multi-event program used the exhibition of 44 original contemporary works of art as a focal point. The works were selected in a juried process organized by the American Society of Botanical Artists and Bartram’s Garden. They portrayed some of the plants encountered by 18th-century father and son naturalists John and William Bartram during their explorations of the southeastern U.S. In addition to viewing the art exhibition, Garden visitors could participate in over 25 different events featuring scholars, writers, and artists to learn about the enduring influence of the Bartrams. The events covered a range of disciplines, including art, literature, history, natural history, and botany. There were outdoor activities such as walks in the Garden

that highlighted “Bartram” plants, as well as workshops, lectures, a panel discussion, and a dramatic performance. Response from participants was overwhelmingly positive.

More recent examples of educational exhibit programming have focused on the celebration of NCBG’s 50th anniversary (2016) as well as NCBG’s commitment to conservation. *Saving Our Pollinators* (2015), *Saving Our Trees* (2015), *Saving Our Birds* (2016), and *Saving Our Seeds* (2017) have each integrated many events, activities, and exhibits to present a strong message about the survival of natural ecosystems.

Certificate Programs: NCBG sponsors two certificate programs, one in Botanical Art & Illustration (BAI) and one in Native Plant Studies (NPS). Both programs give a wide range of students the opportunity to expand their knowledge and appreciation of the native plants of the southeastern U.S. The courses within each well-developed curriculum are taught by a dedicated faculty of expert instructors. Although other botanical gardens in the U.S. have similar individual certificate programs, no other garden offers both programs.

The certificate programs were implemented in 2001 to increase educational experiences at NCBG and to fill a void in educational options for the local artistic and scientific communities. NCBG had always been supportive of the arts and offered classes in various media. Staff realized there was a need to provide specialized and supplemental credentials for scientists, engineers, and others working in natural resource inventory and conservation. Programs were developed primarily by Dot Wilbur-Brooks, who retired as head of NCBG Public Programs in 2004. Dot, whose artistic talents developed and flourished during her career at NCBG, was well suited to design the botanical illustration (now Botanical Art and Illustration) program. She reviewed curricula from other botanical gardens as a foundation for creating the NCBG program and was guided by such institutions as the Denver Botanic Garden. The NCBG NPS program was modeled after one started in 1985 at the New England Wild Flower Society’s Garden in the Woods. NCBG Director of Conservation Johnny Randall assisted with the development of the NPS program. NCBG Director Peter White and Dr. James Massey, former UNC Herbarium curator and professor emeritus, were also contributors.

In 2006, Karen Wiley-Eberle, Dot’s successor, developed written guidance documents for the certificate programs. Nancy Easterling, NCBG Director of Education, took over the programs in 2008 and they have continued to evolve into the well-respected and highly regarded programs that they are today. Both the BAI and NPS certificate programs are rigorous, normally requiring at least three years to complete. Both require students to complete core and elective courses, totaling a minimum of 196 hours for BAI and 159 hours for NPS. In addition, students must conduct independent work. Post-coursework, the BAI program requires the submittal of a portfolio containing homework assignments as well as original pieces of artwork meeting certain specifications. Post-coursework, the NPS program requires the participation in a

capstone experience (regular certificate) or the completion of an independent study project (honors certificate). Detailed information can be downloaded from the NCBG website.

Enrollment in the BAI and NPS programs have typically been more than 100 students each. To date (September 2017), 51 students have graduated from the BAI program, with two additional individuals receiving honorary certificates. There are 19 certificate holders from the NPS program. Three students have certificates from both programs. Both graduate groups have made contributions to NCBG programs, and many students remain affiliated with NCBG as members, volunteers, or patrons. The BAI graduates typically display their artwork in NCBG exhibits; ten such exhibits have been held since the first group received certificates in 2005. Several of the NPS student projects have provided direct assistance to NCBG staff working in the areas of education, horticulture, and conservation. Three of the NPS students graduating in 2013 presented their work in NCBG's Lunchbox Series, which is open to the public, free-of-charge. In 2015, one student, a double-graduate in BAI and NPS, displayed artwork and commentary on North Carolina's endangered plants. There is a strong belief that certificate program graduates "give back" to NCBG and that the quality of their work is a testament to the value of these programs. There is also a strong feeling that students enrolled in these programs, whether they complete the graduation requirements or not, learn a great deal about native plants and the mission of the NCBG.

Sources:

NCBG Newsletter 42, no. 3 (Fall 2014).

Conservation Gardener (NCBG), Fall & Winter 2016/2017.

North Carolina Botanical Garden website.

SCHOOL PROGRAMS

Programs designed to benefit children from both public and private schools and those who are home-schooled by expanding their knowledge, understanding, and appreciation of the natural world have been part of NCBG since its beginning. In 1971, then-Superintendent Ken Moore led a group of preschoolers from Binkley Baptist Church around the gradually developing garden. This first-ever school tour was soon followed by another, as Ken greeted a third-grade class from Durham public schools. NCBG's mission, as it related to public outreach, gradually began to take shape and expand.

That same year, a volunteer group—known today as Garden Guides but for many years as Tour Guides—was established. Beginning in 1972, these volunteer guides led relatively unstructured, seasonally appropriate tours through the Garden, most for children from primary- and intermediate-level classrooms.

In addition to hosting school groups at NCBG, Horticultural Assistant Anne Benson began developing science-based materials and programs for use in both elementary and secondary schools across the state.

In 1973, Dot Wilbur-Brooks joined the NCBG staff as its Public Programs Coordinator. Each spring and fall, Dot led weekly training sessions for Garden Tour Guides. As the years passed, an increasing number of schools throughout Orange, Chatham, Durham, and other neighboring counties contacted NCBG to arrange for a field trip to the North Carolina Botanical Garden.

In 1974, NCBG staff worked with 6th grade students at Carrboro Elementary, transforming “a patch of schoolyard clay” into a cool-season vegetable garden. Many years later, during the 1990s, a strong and long-lasting partnership was formed with Glenwood Elementary, a Chapel Hill public school within walking distance of the Garden. NCBG staff worked hand-in-hand with Glenwood in developing an outdoor science program, training teachers, and establishing garden beds on the school’s grounds.

Partnerships such as these would serve as models, as NCBG reached out or responded to the needs of additional public schools in the area.

During the 1994–95 school year, Nancy Easterling, who wore many hats as a member of the NCBG staff, designed and implemented a program that was soon put into practice in many Chapel Hill elementary school classrooms. It was known as the Visiting Plant Program. As described in the article “NCBG Plants Visit Local Schools” in the 1995 May–June NCBG Newsletter (23, no. 3), “Each month Garden Horticultural Therapist Nancy Easterling takes to each participating class a new, live plant, together with a packet of information compiled in NCBG’s Totten Library and a list of ideas for study. For the next two to three weeks, the plant becomes the nexus of studies in science, math, social studies, art, and multicultural subjects.” Several years later, this program continued under a new name, the “Visiting Naturalist Program,” and was offered to schools, many a considerable distance from the Garden, during the spring, with the help of an APPLIES intern (a UNC internship program).

Nancy Easterling also collaborated with Anne Lindsey—local botanist, videographer, partner at Laurel Hill Press, and member and future president of the BGF Board—to produce a series of natural history videos to be used in schools. The series was known as *Take a Closer Look*. Nancy and Anne’s film, “Fire and the Longleaf,” the first in this series, received two national awards: a Silver Telly and a Videographer Award of Excellence.

In 2006, NCBG hired its first full-time natural science educator, Grant Parkins. With “standards,” “accountability,” and “testing” increasing in importance in the field of public education, Grant set about designing and implementing a series of K–5 lesson plans, each aligned with the North Carolina Standard Course of Study for Science and/or Social Studies. These lesson plans formed the basis for school field

trips to the Garden. Grant also continued to lead weekly training sessions each spring and fall for volunteer Tour Guides.

Although most students who visit the Garden on a school field trip are of elementary-school age, NCBG has always honored requests for field trips from middle school, high school, and university teachers and professors. Tours of the Garden for these age groups are carefully tailored to suit the specific needs of the class. In recent years, for example, guides have been asked to lead tours focused on such topics as Sustainable Gardening Practices, Plant Taxonomy, Features of a LEED-Certified Building, and Native Plants for a Pollinator Garden.

Beginning in 2009, NCBG partnered with the City of Durham Stormwater Services in offering a week-long summer institute for teachers who would then commit to planning and overseeing an ecological restoration project on the grounds of their school as a means of teaching students the important role native plants play in the unique and diverse natural landscape of our state. This program, known as Earth Partnership for Schools, was developed by the University of Wisconsin Arboretum and first offered at the University of Wisconsin in 1991. Concepts introduced and demonstrated to students through their participation in habitat restoration projects at their schools were closely aligned with those included in the North Carolina Standard Course of Study for Science. Although this program ran for several consecutive summers, it is currently not being offered.

In 2017, shortly after Grant Parkins left NCBG to work with UNC's Institute for the Environment, the Education Department's planning and oversight of school programs was moved into Youth and Family Programs (see below). Youth and Family Programs Manager Elisha Taylor is currently working with NCBG Natural Science Educator Mike Dunn to review and improve the experiences and choices offered to school groups visiting the Garden. Lesson plans designed for classes from grades K to 5 will continue to focus on a broad range of concepts such as soil properties, life cycles, plant & animal interaction and adaptation, diversity found within natural habitats and plant communities, historical uses of plants by our state's native peoples and early settlers, and the importance of sustainability and conservation.

Sources:

Interview with Elisha Taylor and Mike Dunn, October 3, 2016.

Interview with Grant Parkins, November 18, 2015.

Ken Moore, "History of the Habitat Gardens," walkabout for Tour Guide training, March 29, 2016.

"NCBG Plants Visit Local Schools." *NCBG Newsletter* 23, no. 3 (May–Jun. 1995).

Notes taken during a review of Nancy Easterling's Education Department files.

"NCBG 50: Educational Outreach to Public Schools," a timeline resulting from a review of Nancy Easterling's Education Department files.

YOUTH AND FAMILY PROGRAMS

Children and families have come to NCBG since the first Nature Trails opened to the public in 1966. The Spring 1972 issue of *Garden Trails* noted that “children of all sizes and shapes visited the Garden [last] fall and winter.” In 1973, Dot Wilbur-Brooks was hired as NCBG’s public programs coordinator. The first documented family program, a *Family Nature Trail Hunt*, took place in February of 1975.

During these early years, various programs were led by NCBG staff, with program registration and payment handled by the Chapel Hill Parks and Recreation Department. Most programs were aimed at a specific age group: *Sense Walks* for preschoolers; *Pond Walks*, *Voices of the Night Hikes*, and *Star-Gazing* for families; more strenuous hikes at Oconeechee Mountain, Duke Forest, and along stretches of New Hope Creek for teenagers.

Some of the classes were, not surprisingly, botanical in nature—*Wildflowers*, *Carnivorous Plants*, *Summer Botany*, *Trees Make Good Friends*; others highlighted critters—*Where Owl Lives*, *Insects and Spiders in the Garden*, *Snakes of the Piedmont*, or just plain *Tracks*. Children, with or without families in tow, came to NCBG to carve pumpkins, paint gourds, experiment with natural dyes, decorate T-shirts, and make “fern candles.”

Over time, a handful of popular programs grew into traditions. In 1976, children aged 6–14 were invited to the Garden to create Christmas decorations from natural materials. *Natural Ornaments Family Workshop*, a once-a-year offering for children and families, continues this tradition each December. During the summer of 1976, a *Super Nature Study Program for Kids* was held for 9- and 10-year-olds. Mary Love May led a similar program the following summer. *Nature Explorers Summer Camp* now spans the months of June through August, with a choice of both half- and full-day sessions. A program born as a five-day session offered during one week of the summer has now expanded into a seven- or eight-session summer camp serving a wide range of age groups, with each session having a different theme and lasting a week. Most summers, one of the Summer Camp sessions is designed for children with a strong interest in blending nature and art.

Several visiting instructors lead children’s classes and workshops that mesh both art and nature. Local naturalist, author, and illustrator Bob Palmatier is just one example. Palmatier has introduced children to the “secret lives,” habits, behaviors, and life cycles of giant silk moths, spotted and marbled salamanders, turtles, and giant beetles, as well as to materials and techniques used in nature illustration. Other guest instructors have led children through the process of nature journaling, creating masks of mythical woodland creatures, and designing a pollinator-inspired mosaic for the Children’s Wonder Garden. It is

not uncommon for student work from art-based classes to be displayed in the Education Center—in some cases in conjunction with a “young artists” reception.

In 2002, with the prospect of a new education center in sight, Nancy Easterling, working in the role of the NCBG Education Specialist alongside Dot Wilbur-Brooks, partnered with the Natural Learning Initiative, a research and development unit at NC State’s College of Design, to lead “a series of design workshops involving children, parents, neighbors, educators, persons with special needs, Garden members, and child development professionals.” The goal was to help NCBG become more child-and-family friendly. One outgrowth of this workshop was an annual children’s event, *Discovering Magic in the Garden*, where children and adults are encouraged to “wear your most magical costume,” “bring your imagination,” and “come celebrate the wonders of nature.” At hands-on activity stations, children can become engaged in building fairy and gnome homes, discovering Venus flytraps, or planting a seed. 2018 marked the 16th annual *Magic in the Garden*—yet another NCBG tradition.

NCBG’s collaboration with the Natural Learning Initiative also led to the creation of more child-friendly spaces within the existing garden, one of them being the Story-Teller’s Chair. During warmer months, spring through summer, this fantastic, ladder-backed wooden throne becomes center stage for what was originally known as *Nature Tales: Storytime in the Garden*, a program for children aged 3–5, often their first introduction to the Botanical Garden.

The number of programs at the Garden for children and families blossomed soon after the NCBG hired a youth and family education manager. Elisha Taylor, a certified environmental educator, joined NCBG as a contract educator in 2009 and became a permanent member of the staff in 2011. Her earliest classroom was the cozy Herb House, before the opening of the new Allen Education Center. Within a short time, Elisha developed a set of new and exciting nature-based programs for children. They included *Bluets: Preschoolers Exploring Nature*, for ages 4–5; *Blazing Stars: After-School Nature Club*, for K–1st Graders; and *Sweet Peas* (similar to *Nature Tales* and now known as *Little Sprouts*), a morning of discovery for the youngest of Garden visitors and their parents. For several years, partnerships with local homeschool groups led to additional theme-based programs: *Sundrops*, *Habitat Heroes*, *Young Botanists*, *Junior Naturalists*, and *Young Ecoscapers*—a group of children who, in 2012, planned and planted a pollinator garden in the developing Children’s Wonder Garden. Each program offered is distinguished by its quality; its mix of activities: circle time, crafts, time outdoors, snacks & stories for younger children; and the welcoming and engaging space in which it takes place. Children love “Miss Elisha” and often bring a special discovery from or about the natural world to share with her.

On weekends throughout the year, children and families are drawn to the Garden for family programs focused on a particular topic. Fall might bring *Monarch Magic*; winter is *For the Birds*; and in earliest

days of spring, when a warm rain brings out the salamanders, it's time for *Vernal Pool Wonders*. For several years, Garden Birthday Parties brought children and their families to the Garden for a nature-themed celebration, some of them for the first time. More recently, a *Family Gardening Series* has been added to the growing list of programs. Parents and children alike learn how to plant peas around a “tee-pea,” grow a “pizza garden,” build a scarecrow, or put their garden to bed by planting cover crops. This series makes use of the “Growing Garden,” located at the far end of the classroom wing of the Allen Education Center.

In reviewing Richard Louv's provocative and timely book, *Last Child in the Woods*, Bill McKibben said, “Our children are part of a truly vast experiment—the first generation to be raised without meaningful contact with the natural world.” But the many children and families who participate in the wonderful assortment of programs offered by the Education staff of the North Carolina Botanical Garden are clearly bucking this trend. They leave each program not only with a deeper understanding of the subject at hand, be it bats, birds, or butterflies, but with a lasting appreciation for the wonders of the natural world. At the end of many 4- or 6-week sessions, parents eagerly ask when the next session will begin. Returning *Bluets*, *Blazing Stars*, *Little Sprouts*, and others arrive excited to learn, excited to share, excited to have fun at the Garden.

Sources:

“Children's Garden, North Carolina Botanical Garden,” website of Natural Learning Initiative at NC State University College of Design.

“Education and Events.” *Conservation Gardener* (NCBG), Spring & Summer 2016.

Elisha Taylor, personal interview with author, November 15, 2015.

“Environmental Educator Officially Joins Staff,” *NCBG Newsletter*, August 2011, 3.

Garden Trails and *NCBG Newsletters*, 1971–2015.

“Staff Notes.” *NCBG Newsletter*, May 2010.

“A Timeline: Youth & Family Programs Noted in NCBG Newsletters, 1975–2016.”

HORTICULTURAL THERAPY

Horticultural therapy is one of the oldest programs at the NCBG, and NCBG's program is one of the oldest of its kind in the nation. It was established in 1978, only five years after the founding of the American Horticultural Therapy Association.

Horticultural therapy (HT) and its use at public and university-affiliated gardens was introduced to NCBG after Public Programs Coordinator Dot Wibur-Brooks, NCBG Horticulturalist Rob Gardner, and

Memorial Hospital occupational therapist Betty Bell attended a 3-day workshop at Clemson University. Clemson had recently established a horticultural therapy program at their campus garden and shared the details of its program with attendees to the workshop. It became obvious to Dot, Rob, and Betty that there was a need for a similar program at NCBG.

On her return to Chapel Hill, Dot began a fact-finding mission, gathering information about local schools, senior living centers, nursing homes, and hospitals whose students, residents, and patients might benefit from horticultural therapy. Dot also began a search for sources of funding for such a program. A Title I HEW grant provided the spark for a Garden program that, over the years, would touch the lives of people of diverse ages and from all walks of life.

The HT program was coordinated by Judy Carrier, from 1978 to 1984; Bibby Moore, from 1984 to 1992; and Nancy Easterling, from 1992 to 2009. It has been led by Sally Haskett since 2009.

According to the NCBG website, “Horticultural Therapy is the purposeful use of plants and gardens to promote mental, emotional, physical, spiritual, and intellectual well-being.” It is based on the age-old truth that gardening is good for the whole person—body, mind, and spirit. As Charles A. Lewis noted in *Green Nature, Human Nature*, horticultural therapy “is rooted in the fact that plants and people share the same rhythm of life. Plants, like people, grow and change. Both respond to nurturing and to outside influences. Tending our plants and gardens connects us to health, to the world around us, to each other, and to our spirits.”

Put another way, the benefits to HT include **physical health** through activity, fresh air, and nutrition from the garden; **emotional health** through creative expression, caring for plants, and productive work; **social health** through sharing, working together, and building community; **intellectual and spiritual health** through learning new skills and relearning old truths.

A “Horticultural Therapy Information Sheet” in the staff files is even more specific when enumerating the goals of the North Carolina Botanical Garden’s HT program:

- increase concentration and attention span
- maintain and improve fine and gross motor skills
- stimulate sensory awareness
- improve social skills and stimulate socialization
- decrease stress
- increase self-esteem
- increase personal responsibility and sense of purpose
- increase motivation for exercise, learning, and living

- provide opportunities for self-expression and creativity
- provide opportunities for achievement
- provide opportunities for relaxation, recreation, and/or vocational training

The HT program at NCBG has two main objectives: providing therapeutic interventions for clients in individual and group settings; and holding training sessions for people interested in learning about the field, including health care and social service professionals, and master gardeners.

Horticultural therapy is a versatile form of therapy, adaptable to people of different ages, abilities, settings, and circumstances. Over the years, NCBG's Horticultural Therapy Program has served a wide range of individuals and groups: prison inmates, seniors and the elderly, the physically disabled, the mentally ill, children with emotional issues, at-risk teens, and patients at a local hospital's Eating Disorders unit.

Currently, NCBG's horticultural therapist, Sally Haskett, works with three groups: clients with a diagnosed mental illness, clients with a traumatic brain injury, and clients in assisted living settings who have memory or healthcare issues. These programs are a mix of on-site programs offered at NCBG and off-site programs taking place at other locations and facilities.

A current on-site program is a "couples program" for clients with disabilities and their care providers. This program provides opportunities for both care receiver and care giver to learn new ways of working together and to build support systems based on nature and gardening.

Three of NCBG's current HT offerings are located off-site. One takes place at the Farm at Penny Lane, a working farm in Chatham County that is owned by XDS Disability. This program is a partnership with the UNC Center for Excellence in Community Health, and recognizes that the many parallels between gardening and real life can be helpful to those dealing with mental health issues. The other two off-site programs are held at local continuing care retirement communities: Carolina Meadows and Galloway Ridge. Multiple studies have shown that horticultural activities are beneficial to the health of older adults. In carrying out all of these programs, both on-site and off-site, Sally is supported and assisted by volunteers, interns, and graduate students.

One offering of the Horticultural Therapy Program took place at NCBG over a ten-year period. Clients with a diagnosed mental illness came to the Garden once a week for a two-hour session, throughout the year. They used the raised beds behind the Totten Center to grow vegetables, and participated in projects on the garden grounds. Another recent offering took place twice a week at Learning Services, a Durham-based residential facility for people with Acquired Brain Injuries (ABI). Residents found a renewed purpose to their lives, as they gardened in the raised beds at Learning Services.

Funding to support the NCBG's Horticultural Therapy Program has been an ongoing concern. Recently, the program has moved away from grants as a primary funding source and toward fee-for-service contracts with local facilities and nonprofits that provide care for individuals receiving horticultural therapy. Some offerings have been suspended, due to this change. As the Horticultural Therapy Program moves toward sustainability through the fee-for-service model, grants, private donations, and other sources of income will still be necessary in order to continue offering horticultural therapy to those unable to pay for the service.

NCBG has proven to be a natural home for a horticultural therapy program. It contributes greatly to the fulfillment of the mission of inspiring and engaging people of all abilities. Horticultural Therapy staff, past and present, recall countless examples of people whose lives have been touched by the HT program and have found meaning in life, as a result. As with much else in life, it's often the "little things" that count. One simple, but clear illustration of this involves an Iraq War veteran who returned home to Chapel Hill missing both his dominant arm and his self-confidence. When discovering during a horticultural therapy session that he was able to prune away the faded seedheads of black-eyed Susans using a special tool known as "cut and hold" clippers, it was a joyful day at the Garden—for this wounded warrior, his family, and the HT staff.

In Sally Haskett's words: "People who participate in our program often come into the garden feeling withdrawn, anxious, and depressed. But they leave with a sense of peace, accomplishment, and self-confidence. Gardening can soothe our souls, offer magic and mystery, and reflect the seasons of life."

Sources:

American Horticultural Therapy Association website.

Dot Wilbur-Brooks, personal interview with author, August 1, 2018.

Easterling, Nancy. "Celebrating the Possibilities: Horticultural Therapy." *NCBG Newsletter* (Mar.–Apr. 2006): 3.

"Horticultural Therapy," NCBG website.

"Horticultural Therapy Information Sheet," files of NCBG.

Namkoong, Hyun, "Farm at Penny Lane Cultivates More Than Plants," *North Carolina Health News*, January 28, 2014.

Nancy Easterling, personal interview with author, January 28, 2016.

Sally Haskett, personal interview with author, December 2, 2015.

HORTICULTURAL THERAPY TIMELINE

1973 Horticultural Therapy is established as a profession, with the founding of the American Horticultural Therapy Association (AHTA).

1978 UNC receives a Title I HEW grant that sparks the beginning of the Horticultural Therapy Program at NCBG; Judy Carrier becomes the first coordinator.

A blue van with a fold-down potting bench and storage space for small hand tools, garden hoses, pots, soil, flats, and plants allows the HT program to offer outreach to rural and urban communities.

NCBG staff teach basic principles of gardening to hospital therapists and train them to use creative exercises that involve plant materials.

With assistance from NCBG, Duke Hospital's Comprehensive Cancer Center offers workshops and demonstrations to patients on the creative use of plants.

A space is created on the grounds of NC Memorial Hospital for a 10 by 10 ft. garden plot, which over time will "soothe many a broken spirit and troubled mind." Due to limited staffing and funds, NCBG is unable to fill many community requests for similar garden projects.

1979 Judy Carrier conducts HT programs for elderly and disabled adults in Orange, Durham, and Chatham Counties.

Through a gardening class with clients from Horizon House, a day-treatment program of the Orange-Person-Chatham Mental Health Center, Judy Carrier teaches responsibility and group socialization skills.

Judy Carrier works with patients at the Hillcrest Convalescent Center in Durham.

1980 NCBG receives a \$32,000 grant from the Z. Smith Reynolds Foundation to support NCBG's HT program. It allows the HT program to offer one- and two-day horticultural therapy workshops throughout the state, in cooperation with hospitals, community health centers, garden clubs, and professional state organizations interested in developing their own HT programs. It also allows Judy Carrier to hire a part-time assistant, Bibby Moore.

Cold frames are built at UNC Memorial Hospital's Southwing Psychiatric Units.

To provide inmates with a year-round gardening experience, a solar greenhouse is constructed at Durham's Guess Road Prison, whose geriatric unit, the largest in the state, is home to an experimental HT program. It is a 12 by 20 ft. structure with an air-lock entry and a 4 by 3 ft. storage closet.

This year, HT staff make contact with 2,000 people from across the state, including professionals who are eager to use HT to reach clients and patients they work with and make them feel useful again.

1981 A total of 45 institutions—with 4,500 individuals participating—have taken advantage of training and assistance from the NCBG's HT program over the past two years.

A Learning Garden is designed and constructed at Umstead Park by NCBG staff, in cooperation with the Special Populations Program of the Chapel Hill Parks and Recreation Department and with the help of a special education class at Culbreth Junior High.

NCBG staff assist in the landscaping of the Durham County Community Mental Health Center.

The Mary Duke Biddle Foundation provides financial support to the NCBG's Horticultural Therapy Program.

Nancy Easterling manages the greenhouse at Durham Exchange Club Industries, which provides real-world jobs to people with physical or mental disabilities.

1982 Umstead Park's Learning Garden is given an Award of Excellence by the North Carolina Recreation and Parks Society.

Bibby Moore visits the greenhouse at the Wayne Correctional Center, in Goldsboro, one day each week to work with inmates interested in learning how to grow and care for house plants. Similar programs are available to inmates at the NC Correctional Center for Women in Raleigh, McCain Prison near Southern Pines, and the Durham Guess Road Prison.

Due to lack of funding, NCBG's HT Program is threatened. It signs a contract with the NC Department of Corrections to provide services for an 8-month period. This and other small contracts keep the program alive, with staff working on part-time salaries.

1984 An anonymous grant allows the Horticultural Therapy Program to continue offering workshops and consulting services. 1979–1984, it worked with 250 agencies spread across 60 NC counties.

Judy Carrier leaves NCBG to take a position at the Denver Botanic Garden. Bibby Moore becomes the full-time coordinator of the HT program. Nancy Easterling is hired as a part-time horticultural therapist.

Additional contracts with the NC Department of Corrections allow HT program staff to develop HT programs in five prison mental health units, through cooperative agreements with Durham Technical Institute and Wake Technical Institute.

Nonetheless, funding remains uncertain. A long-range plan for future growth of the NCBG's HT program is drafted, with the assistance of a resource committee made up of BGF board members.

NCBG works with 13 other U.S. botanical gardens, as well as the National Council for Therapy and Rehabilitation through Horticulture (NCTRH), to develop a unified training program in HT.

1985 Nancy Easterling meets one hour each week with 20 children enrolled in a Head Start program at Estes Elementary School. The program is funded through the UNC Chancellor's Office.

An article by Ken Moore in *The Chapel Hill News* corrects a misconception that the NCBG's HT program is funded by UNC. It makes clear that without new funding sources, NCBG and the community will "be looking ahead at the discontinuation of these special services of the Botanical Garden."

1986 The HT program receives grants from the Mary Reynolds Babcock Foundation and the NC Council on Developmental Disabilities to develop demonstration horticulture programs for developmentally disabled residents of group homes. Four homes in three counties are selected for participation. Volunteers include UNC graduate students in Recreational Therapy and Rehabilitation Counseling.

The NC Department of Corrections has now established horticulture programs at the Cabarrus County Prison Unit, Avery County Prison Unit, North Carolina Correctional Center for Women, McCain Correctional Center, and McCain Hospital. Programs at Central Prison and Eastern Correctional Center (where Bibby Moore will spend three years getting the program off the ground) are being developed. Through these programs, inmates are learning communication skills, teamwork, and responsibility. At McCain, inmates learn basic greenhouse gardening and business principles with instructors from Sandhills Community College.

Horticultural Therapy services are offered on a fee basis to children referred from a counseling service for disadvantaged and abused children.

Through annual, state-wide horticultural therapy workshops, NCBG has now supported the development of horticultural therapy programs in hospitals, schools, mental health centers, nursing homes and prisons throughout North Carolina.

1987 Bibby Moore's book, *Growing with Gardening*, is published. This training manual is described as "a basic guide for anyone who wants to learn about gardening for pleasure and its therapeutic benefits" and "particularly recommended for use by health and mental health care professionals, teachers, recreation specialists, garden clubs, family members, and individuals who want to start a garden or other plant projects."

NCBG Director Peter White calls the HT program "one of the Garden's most successful public service programs." Among other things, Nancy Easterling works with 20 trainable mentally handicapped students enrolled in a vocational education program at Durham's Lowes Grove Junior High School. NCBG's HT program "subsists on one grant after another, and I would love to see it endowed."

An article in the *Raeform News-Journal* features the HT program at McCain Prison Hospital, which is operated in conjunction with Sandhills Community College. The program has become self-supporting through the sale of produce and plants to the public. A maximum of 15 inmates participate in the program at any given time. The men in the program are generally paraplegic or geriatric patients, or younger patients in poor health. They maintain two gardens and two 50-foot greenhouses, spending about 3 hours per day 5 days a week on the project. Vegetables and herbs grown by the inmates are used in the hospital kitchen. This program was established with support from HT staff at the NCBG.

Bibby Moore receives a Community Service Award from the Orange County Chapter of the Association for Retarded Citizens.

The third and last year of funding from the North Carolina Council on Developmental Disabilities. During the past year, these funds provided 16 one-day workshops training over 300 staff from a number of health and human service organizations.

Since its start in 1978, NCBG's HT program has provided services to more than 23,000 clients. The program now reaches 76 counties and over 500 agencies, including correctional facilities; public, private, psychiatric, rehabilitation, and substance abuse hospitals; agencies and retirement homes for senior citizens; mental health and mental retardation facilities; vocational rehabilitation facilities; educational, day care, and supportive programs for young citizens; community colleges; parks and recreation programs; facilities for the deaf and blind; hospice; and other North Carolina health and public service agencies. The program has been funded through a variety of corporate and private grants, as well as fees from participants in individual or small group therapy.

1989 A revised edition of Bibby Moore's *Growing with Gardening* is published by UNC Press, marking a period of much-deserved recognition in the career of the director of NCBG's Horticultural Therapy Program. Moore's work on the book was funded by the Botanical Garden Foundation, the Mary Reynolds Babcock Foundation, and the North Carolina Council on Developmental Disabilities.

The American Horticultural Therapy Association presents Bibby Moore with one of its highest honors, the Rhea McCandlis Service Award.

1990 A program is begun for an amputee support group at Rex Hospital in Raleigh, using raised garden beds.

Bibby Moore offers a workshop series on Science Garden Lab to elementary-school teachers across North Carolina. Science Garden Lab is meant to stimulate children's curiosity and interest in plants and the

environment. The workshops are funded through a grant from the Math and Science Education Center at UNC–Chapel Hill.

Nancy Easterling designs a Learning Garden, a 45 by 55 ft. public garden with raised beds for use by persons with special needs, on Estes Drive in Chapel Hill. It is a joint effort of the Chapel Hill Parks and Recreation Department and NCBG.

Bibby Moore receives the 1990 Mental Health Citizen Award from the Mental Health Association in Orange County.

Bibby Moore and Jean J. Norburn of UNC’s Cecil G. Sheps Center for Health Services lead a study on the effects of horticultural therapy activities on the health of older adults. Results show that gardening reduced participants’ depression, eased sleep, and increased physical activity. Encouraged by these findings, Bibby emails the survey to 1,340 NC rest homes, nursing homes, retirement communities and eldercare centers, to spark interest in new horticultural therapy programs around the state.

1991 The American Horticulture Society presents Bibby Moore with its esteemed Horticultural Therapy Award. Bibby’s work is described as both “inspiring” and “pioneering.”

Bibby Moore, the current president of the Carolina Chapter of the American Horticultural Therapy Association, organizes a two-day workshop on horticultural therapy at UNC–Chapel Hill in October.

The Blumenthal Foundation awards funds to the HT program for the purpose of conducting 12 training workshops for staff of retirement communities, nursing homes, and day care centers across North Carolina. The workshops are held at three locations in different regions of the state.

1992 An article titled “The Gift of Gardening” appears in the May issue of *National Geographic* (Ellis, William S., “The Gift of Gardening,” *National Geographic* 181: 52-81). In the article, Nancy Easterling is asked about the Learning Garden on Estes Drive.

An article titled “Gardens of Delight” appears in the Fall issue of *Carolina Alumni Review* (Peters, Sarah F., “Gardens of Delight: Bibby Moore and the N.C. Botanical Garden’s Horticultural Therapy Program Help People Grow by Gardening,” *Carolina Alumni Review* Fall 1992: 50-57).

When NCBG is unable to support a full-time HT position, Bibby Moore leaves NCBG to take a job with the NC Division of Environmental Health.

Nancy Easterling becomes the coordinator of NCBG’s HT program.

1993 Nancy Easterling and fellow NCBG staff work with Glenwood Elementary to develop a “science-through-gardening” curriculum that will help students acquire practical knowledge about basic scientific principles through hands-on activities. Eight raised-bed gardens and one wheelchair-accessible garden are planted at Glenwood.

Through a relationship with the Orange-Person-Chatham Mental Health Center and similar agencies, Nancy Easterling offers programs for individuals and groups focused on fostering vocational, physical, psychological, and/or educational development and opportunities.

During weekly visits to the Learning Garden on Estes Drive, children from UNC Hospital’s inpatient Pediatric Psychiatry Unit are able to apply the adaptive behavior management skills they have learned in the hospital. Hospital staff can then better evaluate each child’s ability to function outside the hospital and can make suggestions for an easier transition to school, home, and the community. The Learning Garden also is used by residents of Durham’s Learning Services Assisted Living, a supported living program for people with acquired brain injuries.

Nancy Easterling is awarded the Distinguished Service Award by the Orange County Disability Awareness Council.

1994 The HT program at the NCBG currently serves over 900 agencies in 76 counties across North Carolina. It remains the only public service program of its kind in the southeastern United States.

Nancy Easterling serves as a consultant for Charles House Eldercare Center, as well as for other local senior citizen centers.

The Seniors' Sunshine Garden Group of Carrboro, founded by Bibby Moore, continues to meet weekly and tend raised beds in the parking lot of the Carrboro Arts Center.

1997 Nancy Easterling is both a member of the American Horticultural Therapy Association and vice president of the Carolinas Chapter of the AHTA.

Clients from Learning Services Inc., a private rehabilitation center in Durham, come to NCBG one day each week as volunteers.

1998 Nancy Easterling, representing the NCBG, joins a state coalition promoting the Eden Alternative, a movement aimed at bringing positive change to nursing home residents by having them engage with animals, plants, and in regular activities with children.

HT staff, with help from volunteers, lead a program on Wednesday mornings for a group of residents from Wynwood, a residential care facility in Chapel Hill. They work in the Herb Garden, harvesting and planting.

Nancy Easterling is elected president of the Carolinas Chapter of the AHTA.

2000 Nancy Easterling joins the Board of Directors of the AHTA.

Teens Climb High, a summer program for at-risk girls, takes place at NCBG (led by Nancy Easterling). The purpose of the program is to decrease teen pregnancy, drug abuse and violence among youth in public housing. Girls enrolled in the program learn not only how to take care of themselves, but also about how they are connected to the living world.

2002 During the summer, NCBG HT staff work with Hope Meadows, a residential facility for pregnant women with drug addiction.

HT staff help establish a HT program at Carolina Meadows, a Chapel Hill retirement community.

Nancy Easterling is elected president of the American Horticultural Therapy Association. She serves two terms as President, September 2002–September 2006.

2004 Nancy Easterling attends the Eighth International People-Plant Symposium & International Summit on Horticultural Therapy. The theme of this 3-day event, June 4–6 at the Awaji Yumebutai International Conference Center on Awaji Island in Hyogo-Prefecture, Japan, is *Exploring the Therapeutic Power of Flowers, Greenery, and Nature*.

Nancy Easterling takes Yasuko Kamata, a guest from Japan, on a visit to three NC horticultural therapy programs: a successful Day Training Program at Pender Correctional Institution; New Hanover County Arboretum's Ability Garden, with raised beds and vertical gardens planted by clients with developmental or physical disabilities; and a horticultural therapy program in the greenhouse of Brunswick Community College serving developmentally disadvantaged adults through the Brunswick Interagency Program.

Learning Services Corporation, a private rehabilitation center for people with brain injuries, has now participated in programs at NCBG for about 10 years.

2005 Through a summer program at the NCBG called VocTeer, students in a Master's program in rehabilitation counseling and psychology at UNC–Chapel Hill put theory into practice. Through this program, individuals with mental illness can get experience in a work environment, with a volunteer coach as a mentor.

During Horticultural Therapy Week at NCBG, people interested in learning more about HT can participate in a week-long series of workshops designed to introduce them to the healing properties of working the soil.

2007 Nancy Easterling receives the Rhea McCandliss Professional Service Award from the the American Horticultural Therapy Association.

2009 Nancy Easterling become's NCBG's Director of Education. Sally Haskett (formerly an HT volunteer) replaces Nancy as coordinator of the Horticultural Therapy Program.

Two UNC graduate students in occupational therapy lead an NCBG program for patients from the Eating Disorders Unit at UNC Hospitals. Participants in the program come to NCBG for a 75-minute session once a week, for 6 weeks.

2010 Nancy Easterling teaches a 3-hour for credit UNC course with the Occupational Sciences Department Independent Study: Therapeutic Horticulture Interdisciplinary Concept and Practice.

2012 NCBG's HT Program partners with the UNC Center for Excellence in Community Mental Health to create a community garden, The Farm at Penny Lane, in Chatham County.

2015 The BGF awards the HT program with a portion of the funds generated by the 2015 Carolina Moonlight Gala.

2016 Currently, the NCBG's HT Program serves three separate groups within the local population: the mentally ill, individuals with acquired traumatic brain injury, and seniors in an assisted living setting who have memory or other healthcare issues. Current programs are a mix of on-site and off-site. One of the on-site programs is a Couples Program for clients with disabilities in which clients come to the Garden accompanied by a spouse or caregiver. This program is self-sustaining.

Outreach continues to be an important feature of NCBG's HT program. Off-site programs include The Farm at Penny Lane, a working farm near Fearington Village that is owned by XDS Disability and serves the mentally ill; Learning Services, Inc., a residential facility in Durham for people with acquired brain injuries, most of whom are long-term patients; the Continuing Care Retirement Communities of Carolina Meadows and Galloway Ridge, in which clients take part in indoor and outdoor activities, depending on season.

The HT program is becoming increasingly self-sustaining, as it moves away from grants as a source of funding and focuses on increasing the number of fee-for-service contracts with local facilities and non-profits who provide care and services to individuals who benefit from horticultural therapy.

The NCBG's reputation as a leader in the field of horticultural therapy is solidified by the establishment of a Carolinas Chapter of the Horticultural Therapy Network. This chapter, begun by Sally Haskett, meets twice a year and offers increased opportunities for professional development.

WONDER CONNECTION

In 2011, the NCBG Education Department became the home of a program originally called Healing and Hope Through Science, but now known as Wonder Connection. This grant- and donor-funded program was developed by Wonder Connection Program Manager Katie Stoudemire. As of this writing, she is assisted by Program Coordinator Andrew Torlage, Program Associate Julie Yarnell, and ten volunteers.

The Wonder Connection website (www.wonderconnection.org/) describes a key realization Katie drew from her experience as a volunteer at several children's hospitals: "Hospitalized children and adolescents experience pain, fear, boredom, and isolation from peers, as well as almost complete isolation from the natural world." Katie "always loved being outside and figured that if she were hospitalized, she'd want a way to engage her mind and connect with nature. With the hospital's permission, [she began] bringing natural objects with her to the hospital, and was amazed at the positive results."

Wonder Connection was founded in 2006, with a grant from the Oak Foundation. This "one-of-a-kind" program was first housed at Duke Gardens. Initially, it served patients at both Duke Children's Hospital and UNC Children's Hospital. In 2011, Wonder Connection found a new home at NCBG. By 2014, it had shifted its focus and resources, working only with children at UNC Children's Hospital and the Ronald McDonald House of Chapel Hill.

Wonder Connection's mission is "to empower pediatric patients with the wonders of nature and science through multi-sensory experiences that promote joy and well-being." As such, it dovetails with the NCBG's own mission, which commits it to "reaching diverse audiences with rich experiences and opportunities for learning, contemplation, and respite."

Wonder Connection serves pediatric patients (inpatient and outpatient) aged 4–18. They come to UNC Children's Hospital from across the state. Their diagnoses include, but are not limited to, cystic fibrosis, sickle cell anemia, major depression, cancer, burns, Crohn's disease, and traumatic brain injuries. More than half have compromised immune systems, due to their medical treatment and/or medical condition.

Wonder Connection's programs foster an enthusiasm for science. It gives pediatric patients something to look forward to, an opportunity to think creatively, and a distraction from worry and discomfort. The program is intended to produce positive feelings in children, an important counterweight to negative emotions commonly experienced by hospitalized children.

According to the Wonder Connection website,

studies have shown that interacting with natural objects can provide psychological and physiological benefits. . . . children in the stressful hospital environment improve when they have access to "positive, productive activities that allow the child's direct involvement in a variety of

sensory experiences” (Jesse et al. 1986). . . . Additional findings have shown that multi-sensory nature experiences help hospitalized children cope with stress, and that rehabilitation patients who physically interacted with plants experienced a significantly reduced recovery time after medical procedures” (Jesse 1987) (Raanaas 2010).

Here is the story of one of many children who, while in the hospital, was able to engage with the natural world and experience the joy of learning, thanks to Wonder Connection:

With intravenous medicines flowing into her arm, wires taped to her chest, and an oxygen mask strapped onto her face, Shay is able to live. Her reality is her life in the hospital. . . . Shay blossoms as she watches seeds sprout in her hospital room window. Feeling a connection to her plants, she also finds a connection to the natural world outside her window. Using a microscope, Shay takes a closer look at flowers and plant parts and relates this to how her own body works. She learns more about her disease and how it affects her body and writes a book to explain this to other children. Her science process skills grow as she writes and presents her studies to a crowd of adoring hospital staff and other patients at the annual Hospital School Science Fair.

In addition to working with pediatric patients at UNC Children’s Hospital, Wonder Connection staff and volunteers provide science and nature programs for children and families staying at the Ronald McDonald House and SECU Family House. Some of these programs take place at the Garden, always after closing hours, in the interest of patients with compromised immune systems. These programs are intended to be intergenerational, with families learning and having fun together. Some programs involve Morehead Planetarium staff bringing a mini-planetarium or the NC Aquarium bringing sea animals. Others feature activities such as planting herbs and making a potpourri, visiting the bird blind, or creating a flower arrangement. Occasionally, a “camp night” is held, where patients and their families join together in a scavenger hunt—and end the evening with s’mores! There is always a handmade craft to take home.

In collaboration with Bresslergroup and UNC’s Hospital Epidemiology Department, Wonder Connection designed an air-tight chamber with built-in gloves that allows children with compromised immune systems to “play in the dirt”—plant seeds, dissect plants, explore the trigger mechanism of a Venus flytrap—without fear of infection. In 2016, this “first-of-its-kind” invention, known as WonderSphere, won the Core 77 Social Impact Design Award!

In late 2016, there was a new addition to this hands-on science program, a cleanable, portable running stream dubbed Hippoie Creek, named for a former patient’s favorite stuffed animal. It allows pediatric patients to experience the feeling of and learn from playing in a creek. They can closely examine the rocks that line the stream bed and move them around to see how such objects affect the flow of water downstream. They can turn over rocks and look beneath them for aquatic critters, large and small, that are key indicators of the ecological health of the creek. The water is filtered each time it is recirculated,

keeping it safe for patients with compromised immune systems. The stream bed is lined with a coating of epoxy so that it can be easily cleaned to prevent the growth of harmful bacteria.

Wonder Connection is recognized beyond the State of North Carolina. In June of 2018, Katie and Andrew—along with NCBG Director Damon Waitt—traveled to Anaheim, CA to receive a Program of Excellence Award at the annual conference of the American Public Gardens Association, one of only two outstanding public garden programs to be honored with such an award that year. Both WonderSphere and Hippoie Creek show how far the Wonder Connection staff will go to bring the wonders of science and the natural world to hospitalized children.

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CAROLINA CAMPUS COMMUNITY GARDEN

On March 20, 2010, ground was broken on a plot of land on Wilson Street in Chapel Hill, near Cameron Avenue and the University of North Carolina (UNC) campus. This area, which included garden space already used by the Carolina Garden Co-Op, became the Carolina Campus Community Garden (CCCG). Within the university community, there was growing concern for UNC employees who, during the economic downturn, found it difficult to meet their families’ needs without working second jobs or enrolling in social services programs. In developing priorities for CCCG, making fresh produce available to low-wage employees ranked high, but it was also clear that the entire community would benefit greatly from the opportunities and “life lessons” that involvement with the garden would offer. The CCCG would provide fresh, sustainably grown vegetables and fruit “through the shared efforts of staff, students, faculty and local residents and serve as a learning community for developing gardening skills, healthy living, social responsibility and interdisciplinary academic pursuits.”

The expectations of CCCG were ambitious, and multiple components had to align to produce a successful outcome. Factors facilitating the creation of the CCCG included:

- A committed partnership among the UNC Employee Forum, the UNC Center for Health Promotion and Disease Prevention, and the North Carolina Botanical Garden (NCBG);
- Support from student organizations (Fair, Local, Organic; Carolina Garden Co-Op) and the Westwood neighborhood association;
- Technical assistance in design of the grounds by Swanson and Associates, P.A., a Carrboro landscape architectural firm that was instrumental in designing expanded facilities at NCBG;
- Financial assistance for a part-time garden manager, granted by Strowd Roses, Inc., a private charitable foundation that funds projects improving the lives of Chapel Hill and Carrboro residents; and
- Interested people from all walks of life in the UNC and Chapel Hill community.

The first full year of the garden's operation, 2011, was eventful. In April, CCCG Manager Claire Lorch received the 2011 Robert E. Bryan Public Service Award for coordinating this valuable community outreach program. Over 5,000 pounds of organic vegetables and fruits were made available to families during 2011, and the food distribution system was further fine-tuned. A workshop, "Get Going Growing Vegetables," was offered to the public for a nominal fee (to UNC students for free) as part of the NCBG adult education program. The garden's first anniversary was feted with tours, talks, and samples of foods prepared with the harvested bounty. In introducing UNC Chancellor Holden Thorp to those in attendance, NCBG Director Peter White presented the chancellor with a bouquet of greens and remarked "Kale to the Chief!"

Support for the CCCG continued to grow, and in August 2012, the CCCG education coordinator position was funded by the Office of the Provost. This formalized Claire Lorch's position as an NCBG staff member, within the Education Department managed by Nancy Easterling. Guidance and input on CCCG matters continued to be handled by an advisory committee on which Nancy and other stakeholders have served as members.

As of this writing, CCCG is now seven-plus years in the making. The garden has more cultivated space, a tool shed, composting operations, accessible beds, and a solar-powered greenhouse. As of September 2017, CCCG had distributed an impressive 33,622 pounds of produce to UNC employees, saving their families approximately \$169,539 in food costs. The garden has touched many lives during this relatively short time. It continues to be productive not only in terms of crops, but also in terms of opportunities for collaboration and learning. For example, CCCG's composting program is helping the UNC campus, local businesses, and Orange County with waste reduction initiatives. In addition, CCCG offers many prospects for "hands-on" discovery. CCCG sponsors workshops and demonstrations, with bee-keeping, shiitake mushroom cultivation, and worm composting among the recent offerings.

CCCCG's 2016 and 2017 anniversaries were celebrated amid a far-reaching (but related) initiative encompassing the entire UNC campus. The university-wide theme, "Food for All: Local and Global Perspectives" (<http://foodforall.web.unc.edu/>) was announced by Chancellor Carol Folt in April 2015. "Food for All," which extended into 2018, has challenged the university community to engage in a wide variety of experiences related to the importance of food (CCCCG Manager Claire Lorch serves on the Food for All steering committee). Per Chancellor Folt, "Through this initiative, we can bring our community together to address this global issue that plays a critical role across many facets of our society—culture, health and the economy." CCCG has been a great resource to students and others who want to embrace the campus food theme. (Another opportunity for student and community involvement is the Edible Campus Initiative—see below.) From the following list of stakeholders, it's clear that the "community" in CCCG is mostly university-affiliated.

Recipients: The UNC Housekeeping staff, part of Facilities Operations (within the campus Facilities Services Department), is eligible to receive produce from CCCG. The housekeepers are considered to be low-wage earners, and 40% of them are refugees from Burma. Of the 400 staff members, approximately 100 take advantage of the food distributions. These occur once to twice weekly year-round. The three housekeeping shifts take turns receiving allotments, which are sufficient to feed the employee plus three family members. CCCG is sensitive to cultural preferences and selects vegetable varieties that appeal to the housekeepers.

In the past, cooking demonstrations were held in conjunction with the food distributions. At least one easy, tasty, affordable and nutritious dish is prepared with the available produce, and the housekeepers are encouraged to sample. Although cooking demonstrations were suspended due to logistical issues, there is a good possibility that these efforts can resume in the future.

Volunteers: Volunteers are the heart and soul of CCCG. They include a few dedicated "townies" and Orange County Extension Master Gardener Volunteers as well as university staff, students, and student groups. The clear majority of garden volunteers are university undergraduates. Their motivation for working at CCCG may be independent from official study, may be service-related, or may be class assignment- or project-related. (CCCCG is an approved site for student community service. To fulfill graduation requirements, all UNC students must complete one course in "Experiential Education.") Some students volunteer throughout their four years. Selected individuals take on important responsibilities such as compost management.

A wide variety of courses at UNC, in disciplines ranging from English to Environmental Science to Communications, have focused on the garden as a learning laboratory. During spring semester 2017, both an English class and a Chemistry class were working on assignments related to CCCG. Student

experiences have been captured in video and written formats on the garden's website (www.uncgardenweb.unc.edu) and are well worth reviewing. During spring semester 2016, students in the course Communications and Nonprofits (COMM 625) created a charming pictorial essay about the garden. NCBG has also circulated articles related to student involvement at CCCG. For example, former NCBG Director Peter White included excerpted material from an English instructor's class encounters in the "Director's Message" of the May 2012 *NCBG Newsletter*. These accounts bring home the message that participating in the community garden may mean hard work, but it is rewarding . . . and fun, with activities such as "weed dating" (you've heard of "speed dating")!

High school students also volunteer, especially in the summer when far fewer college students participate and there is much to do at CCCG. The NCBG publication *Conservation Gardener* (Spring & Summer 2017) includes a college application essay, "Brown Thumb, Green Heart," by a local high school student volunteer.

Partners: In addition to the founding partners, CCCG has connections to many other groups and organizations. For example, Grounds Services and the Property Office, both under UNC Facilities Services, play critical roles in the garden's maintenance and development. Since the garden is in a historical district, the Town of Chapel Hill is involved in decisions regarding land use. The Carolina Center for Public Service, located across Wilson Street, and the nearby Newman Student Catholic Center, have provided space and resources for CCCG.

Sponsors: The garden's operation is heavily dependent on donations, both funds and in-kind services. CCCG has been fortunate to have a generous anonymous donor during its existence. Funding via grants from Stowd Roses, Inc. and the Fox Family Foundation, Inc. has been important in the development of the garden's programs. Student groups have donated proceeds from sponsored activities, and there have been a host of other organizations and local businesses interested in the garden's financial well-being. Fundraising, however, is an on-going necessity.

On April 21, 2017, as part of UNC's Earth Week awareness, the CCCG community celebrated the opening of the solar greenhouse. The addition of this greenhouse is a recent example of how both partners and sponsors have expanded the garden's capabilities. The student organization Renewable Energy Special Projects Committee (RESPEC) and Food for All donated funds for the greenhouse. Technical assistance was provided by local professionals from Szostak Design, Inc. and Szostak Build, Inc. as well as others including NC State University School of Design faculty and students.

In the February 2013 *NCBG Newsletter* "Director's Message," Peter White defined the role of modern botanical gardens and outlined ten themes: science, horticulture, food, sustainability, conservation, nature,

diversity, community, art & experience, and education. These themes are visible in the existence and continued success of CCCG, and the many outreach opportunities provided by CCCG demonstrate NCBG's responsiveness to the needs of a changing world. Moreover, NCBG's role in UNC initiatives, such as Food for All and UNC@Sustainability, is strengthened by the success of CCCG.

According to one of CCCG's food recipients, "these distributions make us feel like the University cares about us as people, not just housekeepers." Perhaps former Chancellor Holden Thorp said it best in his address at the CCCG first anniversary celebration: "Carolina cares about its people."

Sources:

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Simone Speizer, Volunteer, "Brown Thumb, Green Heart," *Conservation Gardener* (North Carolina Botanical Garden), Spring & Summer 2017.

Carolina Campus Community Garden "Picture Book," UNC Communications & Nonprofits (COMM625), Spring Semester 2016.

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EDIBLE CAMPUS, UNC

In early 2016, NCBG's Education Department took on a new responsibility: oversight of UNC's year-old Edible Campus (EC). This project was the first of its kind at a major university and grew out of a proposal by then-undergraduate student Emily Auerbach, as part of a senior independent study project evaluating UNC-Chapel Hill's agricultural potential.

According to landscape designer and writer Rosalind Creasy, edible landscaping is the practical integration of food-producing plants within an ornamental setting. It uses the same set of design principles, but substitutes edible plants—leafy greens, blueberries, fruit and nut trees—for otherwise unproductive plant material. It is "a mix of beauty and utility," providing a unique ornamental component "with additional health, aesthetic, and economic benefits."

As world population increases along with levels of urbanization, arable land will be at a premium. Increasingly, there will be a need to grow food in smaller spaces. Why not fill available landscape with plants that are not only pleasing to the eye, but help alleviate the problem of food accessibility? Emily imagined a “forageable campus,” one where “students could take a study break, walk outside and harvest a snack.” Through such interaction with the landscape, students might develop a clear understanding of where their food comes from, and their role in the food system. As Emily once put it, “If someone looks at an edible landscape, they might decide to plant something in their windowsill, or volunteer in a community garden, or donate to a food shelter.”

In April of 2015, Emily presented her proposal to Chancellor Carol Folt. Their meeting was timely. The issues of food access and sustainable agriculture education were soon to be the focus of the university-wide theme for 2015–17: “Food for All: Local and Global Perspectives.” Edible Campus had the potential for becoming a legacy project for this campus-wide theme, by incorporating edible, medicinal, and pollinator-friendly native plants into existing landscaped spaces slated for renovation and renewal. Chancellor Folt agreed to support a one-year fellowship position, and in September 2015, Emily, as a Chancellor’s Fellow, began her work as the first manager of Edible Campus.

The Edible Campus includes a 13,000-square-foot garden completed in the spring of 2017 adjacent to Davis Library. In addition, eleven smaller satellite gardens can be found at other locations across the campus; together, they constitute a network of “edible corridors.” A typical satellite garden is planted with kale, collard greens, rainbow chard, blueberries, and thornless blackberries. A “food forest” lines Stadium Drive. Produce from the Davis Library garden is allocated to student education and food justice initiatives on campus, whereas produce from the satellite gardens can be freely harvested by people who pass by, be they students, faculty members, staff, or campus visitors.

From the start, EC was seen as a community-driven project involving partners. A mix of people, organizations, and departments joined together to get the project off the ground. On the first organized “Planting Day,” 62 volunteers, 8 employees from UNC’s Grounds Services, and 11 team leaders put 300 plants in the ground. During a Planting Day in February 2016, Master Gardeners presented a workshop on pollinator-friendly plants, native plants, and proper transplanting techniques—and persimmons, pomegranates, blueberries, and other plants, were added to the Edible Campus landscape. Regularly scheduled Planting Days such as these not only help expand and maintain edible garden spaces at UNC, but also support an important goal of the program: to allow students to engage in hands-on learning about sustainable agriculture and community development in the heart of campus.

In June of 2016, as Emily Auerbach’s fellowship drew to a close, horticulturalist Tony Mayer became interim coordinator of the Edible Campus. On July 1, formal management of the EC was transferred to

NCBG, which had joined the initiative as the UNC Administrative Unit in January 2016. A grant provided financial support for the program through July 2017. On November 7, 2016, Laura Mindlin became the new full-time Edible Campus coordinator in the NCBG Education Department. She meets on a regular basis with fellow members of the Edible Campus Coordinating Group: UNC's Facilities Planning landscape architect, UNC's Grounds Services staff, and NCBG's director of education.

In 2016, NCBG Director Damon Waitt welcomed the addition of the program to NCBG, saying, "The Edible Garden Initiative is a natural extension of the Garden's mission and the University's broader mission of education, research, and public service."

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EDUCATION/COMMUNITY OUTREACH TIMELINE

1970 NCBG exhibits *Planting with Native Plants*, with plantings from mountain, piedmont, and coastal plain regions at the NC State Fair, the first of many exhibits throughout the state and Virginia using large collections of native trees, shrubs, and wildflowers in containers.

NCBG sponsors two non-technical courses, Winter Botany and Spring Wild Flowers, offered on Saturday mornings to the public through arrangements with the Extension Division of UNC.

The first Earth Day is celebrated.

1971 *Local Plants and Their Environments* is offered with funding from the Sarah Graham Kenan Foundation, taught by Ken Moore and Anne Benson in Burlington, Roxboro, Oxford, and Fayetteville, and by Julie Moore in Wilmington and Wilson.

Plant Propagation and Fall Wildflowers courses are offered.

NCBG's exhibit at the NC State Fair wins a grand premium ribbon and a cash award.

The first Labor Day Open House is held.

1972 There are now two staff (Ken Moore and Anne Benson) and 5 work study students. Anne Benson is developing environmental materials and programs for NC primary and secondary schools.

Local Plants and Their Environments, first offered in 4 cities in 1971, is offered in eleven mountain and piedmont cities.

Courses offered at NCBG now include *Fall Wildflowers*, *Plant Propagation* (offered twice as a result of demand), *Winter Botany*, *Spring Wildflowers*, *Birds of the Carolinas*, and *Wildflower Photography*.

Tour Guides, among NCBG's earliest volunteer groups, begin leading tours of the Garden for children and visitors, and *Habitat Hikes* are offered to BGF members.

1973 NCBG staff conduct environmental training courses for teachers in Chapel Hill, Brevard, Wilmington, and Carteret County.

Courses being offered are *Winter Botany*, *Plants and How They Work*, *Bonsai*, *Plant Propagation*, and *Spring Wildflowers*. (Courses are sponsored by the UNC Extension Division, and held in the Botany Department and in NCBG greenhouses.

Volunteers, led by Mercer Reeves Hubbard (for whom the Herb Garden is named in 1988), organize to create an herb garden, sell herbs, conduct herb workshops, and raise funds for construction of the Herb Garden and an endowment. The Herb Garden is a descendent of Dr. Totten's "drug teaching garden."

1974 Mason Farm Biological Reserve hosts community gardeners in the field across from Morgan Creek. Through the efforts of C. Ritchie Bell, Frank Parker, and the Chapel Hill Men's Garden Club, seven 25-foot by 50-foot plots are first made available to students and townspeople; this garden is managed by Nancy Hillmer. A second site is the university's Horace Williams property in Carrboro. Neither site is irrigated. (In 1978 a prolonged drought causes a decrease in gardener registrations, as does the condition of site access roads. In 1983, the Mason Farm Committee requests that the Mason Farm plots be phased out owing to interference with biological research, litter, and unkempt plots. 1988 is the last plot growing season at Mason Farm. Plot-holders are welcomed to transfer their activities to UNC's Horace Williams property in Carrboro.)

A "Child's Garden" pilot program is offered at Carrboro Elementary School. Garden staff and volunteers meet twice a week with a group of 6th graders to transform a patch of schoolyard clay into a cool-season vegetable garden.

NCBG assists the Garden Club of North Carolina and the Landscape Unit of the Division of Highways with the Operation Wildflowers project that will plant native wildflowers along the state's highways. Garden staff help choose the most appropriate wildflowers and are involved in cultivation methods best suited to the chosen plants.

1976 The first art exhibit is installed in the Totten Center: *An Exhibit of Art and Crafts*.

"Thirteen Colonies Trail; Useful Native Plants of Colonial America," a U.S. bicentennial project of NCBG, is made possible with assistance from the NC Association of Nurserymen and the Landscape Contractors Association of North Carolina, who furnish plant materials, and members of the Arnold Air Society and UNC Angel Flight, who organize much of the work and volunteer time to install the plantings.

1977 NCBG offers a 3-week course for Elderhostel: *Native Plants and Their Ecology*.

1978 A week-long celebration of the sun is held at NCBG.

UNC receives a Title I HEW grant that sparks the beginning of NCBG's Horticultural Therapy Program, joining 13 U.S. botanical gardens offering horticultural training and consultation to human services professionals in the use of horticulture as a therapeutic and/or recreational activity. The program is established, coordinated and led by Judy Carrier who, with Bibby Moore, works in many kinds of facilities to enable residents to grow plants for food and beauty.

A van provides the HT Program with outreach to rural and urban communities. It is equipped with gardening supplies, a reference library, a fold-down potting bench, and space for plants. The van also becomes a training center for volunteers and staff of social service agencies and health care facilities.

1980 The first English Garden Tour for BGF members is led by Ken Moore.

With CETA funding, NCBG participates in helping young adults, 16–19 years old who are working to earn a GED, to learn skills in grounds maintenance, machine and tool use, landscaping, trail clearing and maintenance, weeding, mowing, transplanting, and identification of native plants; they assist with new projects such as those in the Herb Garden (the training program continues through 1981).

NCBG offers *Ecology: Our Leafy Friends*, a week-long course during the Elderhostel Program held at UNC. This will continue as an offering in 1981, along with another ecology course.

Saturday morning walks through the Garden begin, conducted by Garden Curators.

Weekend Volunteers host 2000 visitors during the spring.

The Henry Roland Totten Botany Lecture Series begins, held at the Totten Center and offered to the public. Dr. John N. Couch gives the first lecture. (The series is discontinued in 1984).

1981 The Coker Arboretum distributes tree and shrub seedlings, free to the general public.

NCBG's HT Program contracts with Chapel Hill's Parks and Recreation Department to build and program a Learning Garden in Umstead Park (later moved to Chapel Hill Community Center), engaging UNC Hospital's child psychologist, special education classes in the CH/Carrboro school district, and elders in retirement communities in therapeutic gardening activities. The Learning Garden program is eventually terminated, due to lack of maintenance, and the program is moved to the NCBG campus. (As of 2016, a Learning Garden located at the Community Center has a Chapel Hill Parks and Recreation staff member assigned to plan and supervise planting.)

1982 Staff member Dot Wilbur-Brooks begins broadcasting a radio show on horticultural and botanical subjects, aired twice every Monday on WUNC-FM, with NCBG mentioned as sponsor. Scripts are written by Dot and volunteer Virginia White.

NCBG has a weekly column in 48 newspapers in North Carolina and southern Virginia.

1983 Volunteers help design and plant the award-winning exhibit on Plant Rescue at NC State Fair.

1985 NCBG's intern program is begun with funding from the Conservation Project program of the Institute of Museum Services; it will be funded in future years by the Botanical Garden Foundation.

1987 The 16th annual Labor Day Open House is held.

Growing with Gardening, by Bibby Moore, NCBG horticultural therapist, is published and distributed by NCBG as a training manual. It is used in 16 statewide workshops to train staff to develop horticulture programs for group home residents. Arrangements are made to publish a second, nationally distributed edition through UNC Press, in 1989.

1988 The Labor Day Open House features "Art for Outdoor Spaces," an exhibit of works by 22 local and regional artists. The exhibit is planned, organized, and curated by Kathy Buck. Many sculptures remain in garden spaces surrounding the Totten Center during September. This exhibition is the start of the now-annual "Sculpture in the Garden" show.

1989 NCBG receives the North Carolina Nature Conservancy's 1989 Public Service Award.

The North Carolina Rural Economic Development Center awards NCBG a grant to develop production methods for herbs as alternative crops for small and medium-sized farms. The project will be carried out in cooperation with NCSU, NCAT&T University, and selected farmers.

1990 Eighty Orange County seniors' views about the value of horticultural activities to their quality of life are studied in collaboration with the Program on Aging of the UNC School of Medicine.

1991 The Horticultural Therapy Program will train staff of retirement communities, nursing homes, and day care centers across North Carolina. It is expected that over 60 facilities will benefit from trainees' application of skills and knowledge with planted gardens and involvement of residents.

1993 NCBG participates in the Bicentennial Celebration Davie Poplar Project. NCBG and UNC Grounds staff collected seeds from beneath the campus Davie Poplar and nearby Davie Jr. (started from a Davie Poplar cutting). NCBG germinated the seeds and tended seedlings for two years, producing 500 saplings. Davie Poplar III is celebrated on University Day, with Dean Smith presenting 106 seedlings to a sixth-grade essay winner from each of the 100 counties, several municipalities, and the Cherokee Reservation to be planted on the students' school grounds. Various university officials, alumni, and others (including descendants of William Davie) receive 45 more seedlings. A poplar is also presented to the Capitol Foundation for planting on the grounds of a state government building.

A barrier-free access boardwalk and entrance deck to the Coastal Plain habitat are constructed.

1994 The British Broadcasting Company sends a film crew to the Garden to film carnivorous plants for a David Attenboro series, "The Secret Life of Plants," to be released in 1995. Garden staff play a pivotal role in coordinating the series segment. (The BBC film crew was especially interested in filming Venus flytraps capturing ants.)

1995 NCBG serves as a principal consultant for developing a rare plant exhibit at the NC Zoo.

Dot Wilbur-Brooks writes a monthly gardening column distributed to press sources by the Carolina News Services (1995–1997).

1996 NCBG's Administrative Board approves founding of a publication series with the first volume, a monograph, to be jointly published by the Chapel Hill Historical Society: *Chapel Hill and Elisha Mitchell, the Botanist* by Rogers McVaugh, Michael R. McVaugh, and Mary Ayers.

1997 The Jenny Fitch Lecture Fund is established by R. B. Fitch Jr. and friends and family members of the late Jenny Elder Fitch to provide annual free public lectures about native plant horticulture.

1999 NCBG Education Specialist Nancy Easterling and videographer Anne Lindsey of Laurel Hill Press collaborate to produce "Fire and the Longleaf," receiving two national awards, a Silver Telly and a Videographer Award of Excellence. The film is the first in NCBG's *Take A Closer Look* natural history video series.

The first Jenny Fitch Memorial Lecture is given by Rosemary Verey, English writer and gardener, in Memorial Hall on the UNC campus; attendance is 425, and it is followed by a book signing and refreshments served by Chapel Hill Garden Club members in Coker Arboretum.

2000 Wendy Wenck, Nursery and Greenhouse Manager, begins writing a monthly gardening column for the local Chapel Hill newspaper.

The Evelyn McNeill Sims Native Plant Lecture series is funded by a gift from Nancy and Ed Preston in honor of Nancy's mother, Evelyn McNeill Sims. The first lecture, "The Future of North Carolina's

Wildflowers in a Changing Landscape,” is given by Cecil Frost, director of the Plant Conservation Program of the NC Department of Agriculture.

2001 NCBG Certificate Programs in Native Plant Studies and Botanical Illustration are officially initiated, to be administered by Dot Wilbur-Brooks.

“Plants and the Cherokee” is the second in the *Take a Closer Look* video series by NCBG’s Nancy Easterling and Dr. Anne Lindsey, in partnership with the Museum of the Cherokee Indian.

2002 The first annual *Magic in the Garden* is held, organized to draw children and families to the Garden.

Volunteers assist with translation of several Garden brochures and information signs into Spanish.

2005 NCBG partners with the North Carolina Plant Conservation program to recreate the mountains, piedmont and coastal plain of North Carolina at the State Fair. Visitors to the exhibit, housed in the “Our Land, Our Legacy” tent, listen to a mountain stream, view a piedmont prairie, and explore a variety of carnivorous plants including Venus flytraps.

2006 Grant Parkins joins NCBG staff as the first full-time natural science educator. (In 2016, he leaves to take a position with the UNC Institute for the Environment.)

2007 NCBG is among 12 public gardens from across the country to design and construct a display garden in the U.S. Botanic Garden in Washington D.C. in the summer exhibition, “Celebrating America’s Public Gardens: A Sense of Place.” NCBG’s exhibit garden is a North Carolina Coastal Plain habitat garden, designed by Andrew Bell, who coordinated its planning and installation. Three distinct habitats are shown: a longleaf pine savanna, a pocosin, and a grass-sedge bog featuring several species of carnivorous plants native to those habitats.

2008 NCBG is established as a regional facilitating center for the Earth Partnership for Schools program, enabling NCBG to hold institutes of its own.

2009 The Education Center opens to the public, with dedicated children’s space now available. Elisha Taylor, coordinator of children’s and family education, starts *Bluets*, a class for 4 to 5 year olds. Other children’s programs follow: nature clubs, homeschool classes, *Nature Explorers* summer camp, *Sweet Peas*, *Blazing Stars*, *Sundrops*, *Habitat Heroes*, *Young Botanists*, *Junior Naturalists*, and *Young Explorers*, all assisted by volunteers and interns.

The Public Programs Department is re-named the Education Department, with Nancy Easterling appointed as the full-time director of education. Sally Haskett replaces Nancy Easterling as coordinator of the Horticultural Therapy Program.

The first Earth Partnership for Schools Summer Institute, a program developed by the University of Wisconsin in 1991, is offered at NCBG in partnership with the City of Durham Stormwater Services.

A Garden Birthday Party program is offered by the Education Department as another draw for children and families.

2010 The Carolina Campus Community Garden is planted. In its first year, the garden distributes 3,500 pounds of fresh fruits and vegetables, free of charge, to UNC housekeepers.

The Green Gardener Volunteer group is established and completes a 5-week training program. Volunteers will staff the Green Gardener Desk in the Allen Education Center to help the public with plant questions.

2011 NCBG begins to host “Healing and Hope through Science” (now called Wonder Connection), a horticultural therapy program with a science curriculum serving hospitalized children and their families at Duke and UNC Children’s Hospitals. Katie Stoudemire, who led it as a pilot program for 5 years through Sarah P. Duke Garden, joins NCBG’s Education Department staff to develop the program; it is funded through grants. (In November 2015, WRAL-TV features the program during the nightly news.)

The first phase of the Wonder Garden, “Play and Learn,” a model place-based education program serving infants through high-schoolers, their parents, and teachers, is being developed. The garden is designed by the Natural Learning Initiative of NC State University in consultation with NCBG staff.

“Around the Garden,” an on-line blog of informal writing and photos from NCBG is launched; postings continue periodically until July 2015 (aroundthegarden-blog.tumblr.com/)

NCBG is awarded the APPLES Community Award for its work with student interns and volunteers.

2012 The Visiting Naturalist Outreach Program (evolved from NCBG’s Visiting Plant Program of the 1990s) is begun, to be led seasonally by a trained UNC APPLES intern overseen by Grant Parkins.

NCBG’s Horticultural Therapy Program partners with the UNC Center for Excellence in Community Mental Health to create a community garden, The Farm at Penny Lane, in Chatham County.

2013 *Nature Explorers* Summer Camp expands its offerings to include week-long sessions, including Nature Illustration taught by Bob Palmatier. Classes such as *Nature Painting* and *Nature Journaling* (taught by Annie Nashold) also are offered during the school year.

Garden tours for Spanish-speaking visitors are offered, enabled by three UNC students.

2014 *Following in the Bartrams’ Footsteps*, a major juried exhibit of 44 original contemporary botanical illustrations from the American Society of Botanical Artists, highlights a series of events at NCBG that celebrate the contributions of John Bartram and his son William to the identification and propagation of native plants of the southeastern U.S. and their introduction in Europe.

2015 *Among Our Trees*, spotlighting trees of the southeastern U.S., is celebrated with exhibits, lectures, workshops, walks, and ceremonial planting of a blight-resistant American chestnut seedling in the Coker Arboretum (the seedling dies within months).

Saving Our Pollinators highlights the importance of pollinators with workshops, exhibits, lectures, field trips and tours.

The FloraQuest app is introduced, making *Flora of the Southern and Mid-Atlantic States* available through mobile devices. Development was funded by the Office of the Vice Chancellor for Research, through the Carolina Apps Program, at UNC.

2016 *Winter Spectacle*, a celebration of winter’s beauty, is installed in the Allen Education Center with an art exhibit, displays, informational posters, and haikus honoring the season.

NCBG’s autumn *Saving our Birds* program series is sponsored by Audubon North Carolina and New Hope Audubon.

2017 *Saving our Seeds: A Journey through Natural and Cultural History* is the theme for NCBG’s autumn series of programs, workshops, and classes.

FRIEND OF THE COMMUNITY

opening our gates

*Everybody needs beauty as well as bread, places to play in and pray in,
where nature may heal and give strength to body and soul alike.*

— John Muir

GARDENS WITHIN A GARDEN

In years preceding development of the NCBG's Display Gardens, the 10 acres along Laurel Hill Road were occupied by an 80-year-old loblolly pine forest. In the 1970s, over time, 5 acres around the Totten Center (building constructed in 1975 and dedicated in 1976) were developed into display gardens: Habitat Gardens, Herb Garden, and Garden of Flowering Plant Families. In 1996, the Garden Commons patio was constructed behind the Totten Center (an area occupied by greenhouses in NCBG's early days), with spaces for Carnivorous Plants, Aquatic Gardens, and raised beds for the Horticultural Therapy Program. Five more acres, formerly part of the Piedmont Nature Trails, were planted around the new Allen Education Center, beginning in 2010, and include the Children's Wonder Garden, Rare Plants area, Bioretention Ponds, Piedmont Collection, and Compost Demonstration area. The Piedmont Habitat garden was constructed around the same time.

The Habitat Display Gardens take visitors on a quick journey across NC, through the Mountains, Coastal Plain, Sandhills, and Piedmont. Plant rescues furnished the material to populate the habitat gardens, whose success depended, in part, on providing the correct soil for each plant community.

Mountain Habitat Garden: The first Mountain Habitat plants came from a rescue at Grandfather Mountain. The mountain laurel area and its big rocks came from rescues on the steep slopes of the Neuse River. Today's Mountain Habitat is expanded in area and species. It retains many large trees from the site's original piedmont forest (species found in both the piedmont and mountain regions of NC). Other trees here, such as eastern hemlock and eastern white pine, were planted to represent common mountain species. These tall trees provide shade for the shorter understory trees, shrubs, wildflowers, and ferns planted to represent mountain habitats. Since North Carolina's mountain climate is cooler and rainier than the piedmont's, this habitat garden receives extra water from a sprinkler system supplied by a well. Soils were enriched with extra leaf mulch to supply the higher organic content typical of the mountains' humus soil, where leaves decompose more slowly due to cooler mountain temperatures. In one planting area, some piedmont clay was dug out and replaced with a sphagnum mixture, then planted with skunk-cabbage, ferns, and other bog-loving plants. The Mountain Habitat is the only habitat garden with its own financial endowment (thanks to the Colvard family).

Coastal Plain Habitat Garden: This display garden represents the low-lying, wet areas of the state, roughly everything east of I-95. In 1975, plants for this habitat were obtained during a plant rescue from a bog in Supply, NC, that was about to be drained for a commercial garage expansion. Since these coastal plain plants are typically sun-loving, many trees were removed from the site. Even so, the first attempt at a Coastal Plain Habitat Garden was a losing struggle due to the heavy clay piedmont soil and competition from invading piedmont plants. In 1984, the Coastal Plain Habitat was renovated. In a core area (reduced

to 60% of its original size), a foot of piedmont clay soil was dug out and replaced with soil and plants taken from the coastal plain. These came from another plant rescue, courtesy of East Coast Limestone Inc., which was expanding a quarry for marl rock near Maple Hill. Over 20 dump truck loads of coastal plain topsoil, with its typical low pH and low nutrient content, was spread and then topped with 4 dump truck loads of individually cut blocks of sod from the quarry site.

The remaining 40% of the original Coastal Plain Habitat area was planted as a pocosin, an upland evergreen shrub bog typical of the southern coastal plain. The lower pond, between the coastal plain and Mountain Habitats, represents a mini-swamp, with water levels fluctuating seasonally. Bald-cypress and lizard's-tail are permanent residents. This pond is replenished by well water during dry spells.

Sandhills Habitat Garden: This habitat began in 1976–77 with 13 truckloads (more than 200 cubic yards) of sandy soil from a sand and gravel quarry in Fayetteville, NC. As in the Coastal Plain Habitat, many displayed plants competed poorly against piedmont species. Again, a renovation was carried out. In 1987–88, the area for display of the sandhills' unique flora was doubled using 22 truckloads, totaling 416 tons, of sandy soil from a family farm near Fayetteville. Both phases of the Sandhills Habitat project were dedicated in memory of Kathryn Lutie McCoy Grady, funded by a friend of her father, Donald McCoy.

The Sandhills Habitat represents a long-leaf pine savanna. The first long-leaf pines, at mixed stages of growth, were planted about 1977 on a ridge of extra-deep sand. Water snakes, snapping turtles, and frogs frequent the upper pond there.

Piedmont Habitat Garden: For NCBG's first 46 years, piedmont habitat was represented by the Nature Trails' indigenous piedmont forest. In 2012, the sunny side of piedmont flora went on display in the new Piedmont Habitat display garden, created on the site once occupied by Laurel Hill Road (extension), which cut straight from the present back gate up to the 15-501/54 bypass. The Piedmont Habitat displays plants from a typical sunny roadside and from a diabase glade. Diabase is a type of rock rich in magnesium, a challenge to many plants. Weathering of diabase releases calcium, which results in a less acidic soil. Many of the plants are rare because they are adapted to this uncommon type of soil.

By the path from the gazebo to the footbridge we find piedmont woodland plants. A bed with rusty farm implements displays some of our more sun-loving piedmont natives. Beside the Garden Shop path are typical plants of Orange, Durham, and Chatham County roadsides.

Fire in the Gardens: Fire is an essential tool in managing the Coastal Plain, Sandhills, and Piedmont Habitat Gardens. Fire interrupts ecological succession of plant communities by killing or setting back woody plants that would otherwise dominate at later stages of succession. It also removes accumulated leaf litter and discourages growth of fire-intolerant plants. Plants of these fire-maintained communities

require or tolerate open, disturbed, nutrient-poor habitats. Fire leaves behind a thin layer of mineral-rich ash that is quickly depleted by a pulse of growth as the plants resprout from the roots, and by leaching via runoff out of root-reach. Long-leaf pine is fire-adapted but rarely grows thickly enough to shade out a rich understory of short wildflowers and grasses, so long-leaf savannas are typically open.

All three sunny, open habitats feature plant communities representing an early stage of succession, with species either adapted to survive or in fact to thrive in the presence of frequent fire. North Carolina is second (after Florida) in number of fires set by lightning. In addition, native tribes are believed to have set fires regularly in pocosins to drive game into the open for hunting, and in piedmont prairies to keep woody plants from shading out the lush grazing enjoyed by bison and elk that once roamed our state. The plants themselves contribute to fire prevalence, as many species produce combustible resins and other volatile substances.

Prescribed fires at NCBG are usually planned for late winter: February or early March. The day must be cool, with little wind. Praying mantis egg cases are temporarily removed, and boardwalks are hosed down lest they too burn. The Habitat Gardens curator leads the effort; fire is ignited using drip torches.

Fern Collection: This garden, created in 1986, juxtaposes specimens of ferns that grow in various parts of NC. It occupies a shady horseshoe-shaped area in front of the Paul Green Cabin.

Perennial Circle: A circular area behind the Totten Center and bordering on the Mountain Habitat demonstrates a traditional perennial border garden using NC natives.

Garden of Flowering Plant Families: In this small garden directly behind the Totten Center, both non-native and native plants are organized to allow the study of similarities and differences within and between plant families. Beds are based on current knowledge of the evolutionary relationships among some important families of flowering plants. (1978, replanted 1983)

Water Gardens: Raised, rectangular aquatic beds show rooted and floating native plants of ponds and other aquatic habitats of the Southeast. (1996)

Carnivorous Plant Collections: On the Garden Commons patio behind the Totten Center, barrier-lined beds built of native stone are filled with specialized sandy, humus-laden soils. Here are planted native, cultivated, and hybridized pitcher plants, Venus flytraps, sundews, butterworts, and native, non-carnivorous plants at home in acidic bogs, such as orchids.

Horticultural Therapy Demonstration Garden: Built in 1996 to accommodate gardeners with special needs, these accessible, raised beds are used for garden vegetables and other plants that the HT staff and volunteers grow with visiting clients.

Totten Oak Garden: In front of the Totten Center (this building not open to the public) are examples of attractive native-plant settings, mostly in the shade, that can be used to complement a building.

Courtyard Gardens: Developed starting in 2010, this area embraced by the James & Delight Allen Education Center, showcases native trees, shrubs, vines, and perennials suited to a very sunny, exposed setting, with the goal of inspiring gardeners to try these plants at home. This garden area adheres to NCBG's collections policy requiring known wild provenance for displayed native plants, but exceptions are permitted for named cultivars obtained from reputable nurseries. The bio-retention ponds near the building, intended to control and filter runoff from impervious surfaces associated with the building, contain plants selected for their tolerance of dramatically shifting hydrology. Downslope from the building, next to the service entrance, is a compost demonstration with simple instructions for gardeners.

Rare Plants Area: This area between the Courtyard Gardens and bio-retention ponds highlights a number of rare southeastern plants and provides information on why they are rare and how they are being conserved.

Parking Lot: Planting areas interspersed in the visitor parking lot display short-stature plants (beds adjacent to parking spaces) and specimen trees, showcasing natural form and providing shade.

Children's Wonder Garden: The Children's Wonder Garden is an interactive space inviting nature play and learning for visitors of all ages. This area also serves as an outdoor classroom for youth and family programs (see Chapter 2). The main path has a hardened but permeable Klingstone surface for stroller and wheelchair accessibility. The blind in the Bird Garden provides opportunities to watch birds. It was funded by New Hope Audubon and constructed by NCBG volunteer David Ringenburg, with assistance from members of New Hope Audubon.

Children were responsible for parts of this garden: the pollinator garden strip beside the path was planned and planted by a home-school group; children helped artist Jeanette Brossart assemble the "Busy Pollinators" mosaic; and program participants sow, grow, harvest, and eat vegetables in the Children's Growing Garden section.

Mercer Reeves Hubbard Herb Garden ("A Garden of Plants and People"): The Herb Garden provides a visually appealing space for visitors as well as an educational representation of plants that have been cultivated for their usefulness to peoples of different cultures. Specimens are grouped according to their culinary, medicinal, and economic or industrial significance. The collection includes non-native, non-invasive plants from around the world that support the mission of this collection, as well as southeastern native plants of importance, including some of those used by indigenous peoples of the Southeast.

The Herb Garden began in the early 1970s, thanks to a group of NCBG propagation volunteers headed by Mercer Reeves Hubbard. With Mercer's vision, energy, leadership, and ability to find financial support, the Herb Garden came into being in 1973–74. At first it was located where the Perennial Circle lawn is today. After the Totten Center was built, a larger site north of the building was cleared and planted (1979–85). Plants in the original Herb Garden were intermingled, but in planning for the new garden, the Herb Volunteers divided into subgroups to research various uses of herbs. They planned a series of small gardens, each with its own theme and in its own “room.” In 1982, the Coker Arboretum curator provided cuttings from some of the arboretum plants, to symbolize the continuation of the medicinal herb garden (“drug garden”) formerly at the arboretum (1911–1948; see “Coker Arboretum”). At the celebration of its 15th anniversary in 1988, the Herb Garden was officially named for its founder.

In 1982, *Southern Living Magazine* gave the Herb Garden \$2,000 to study propagation, harvest, pests/diseases and their control, selections, and winter hardiness of herbs in the South. In 1984, the fruits of this labor, plus recipes provided by Herb Volunteers, appeared in the book *Growing Vegetables and Herbs*, published by Southern Living. NCBG's Herb Garden became the Southeast's herb mecca. In 1999, *Herb Companion Magazine* named it one of the top six herb gardens in the country.

Through the years, the Herb Volunteers held frequent potluck meals. In 1993, the Botanical Garden Foundation published a book of their most popular recipes, along with tips for cultivating herbs: *Anise to Woodruff 1793–1993: The Identification, Observation, Growing & Culinary Use of Herbs in the Southeastern United States*, by The Herb Volunteers of the North Carolina Botanical Garden.

For many years, herbs were a resource that NCBG brought to the community, and vice versa: the Herb Volunteers grew herb plants and sold them, as well as herbal crafts and products, at very popular annual or semi-annual Herb Sales, creating income for the Herb Garden. They also wrote pamphlets about herbs and contributed articles to the NCBG *Newsletter*. Both herbs and native plants were included in NCBG's plant sales until 2003, when all propagation space was devoted to a lengthening list of native plants.

The Mercer Reeves Hubbard Herb Garden consists of eight smaller gardens:

- The **Octagonal Garden** was originally planted in the style of a knot garden. This design proved hard to maintain and was re-done several times (more recently in 1998).
- **Evergreen Herbs** grow in the raised brick beds built in 1979. Featured are over 30 cultivars of rosemary installed in 1995 as part of the National Rosemary Collection of the Herb Society of America for the purpose of testing the hardiness of various rosemary cultivars in our climate.
- The **Espaliers** are planted with heirloom apple and pear tree cultivars. “The Story of Rosemary,” a set of 7 tiles by local artist Sarah Craige, hangs on the espaliers. “The Tree of Life” ceramic tile mural by the same artist stands at the far left of this area.

- **Shade-tolerant Herbs** grow under planted blueberry bushes and dogwood trees as well as other trees pre-dating the Herb Garden. The Lady Banks Rose Arbor provides a shady sitting area. ‘Alba’ has fragrant white blooms and ‘Lutea’ pale yellow blooms. (1982)
- **Industrial Herbs** provide perfumes, dyes, and fibers, help repel pests, or are otherwise economically useful in making textiles, cosmetics, and other products. (1981).
- **Culinary Herbs** represents herbs that flavor our food. (1982)
- **Medicinal Herbs** grow in separate sections designated for gastro-intestinal, cardiac, central nervous system, chest, and infectious diseases, as well as external complaints, obstetrical uses, and anti-rheumatics. (1982–83)
- Nearby, the stacked-stone sculpture “Inorganic Evolution,” by Joseph Kenlan, was a first-place winner in the 2001 *Sculpture in the Garden* show.
- The **Herb House** was built in 1983 by Scott McSwain and friends. The house currently highlights a “plant of the month.”
- **Poison Plants** walk begins at the Spider Gate, a functional piece of art by NC sculptor Jim Gallucci (1995). Most plants here cause problems only if ingested, but external irritants such as European stinging nettle and poison ivy are included too. Many plants here are repeats of medicinal herbs: “*the dose makes the poison.*” (1982; renovated 1990)
- **Native American Herbs** includes plants used by several southeastern tribes, particularly the Cherokee. (1985).

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COKER ARBORETUM

Coker Arboretum sits on the UNC-Chapel Hill campus at the corner of Cameron Avenue and Raleigh Street. Paid parking is available at the Morehead Planetarium, on East Franklin Street. A naturalistic garden of 5 acres, the arboretum displays both native and introduced trees, shrubs, and perennials.

Visitors stroll along brick walks and gravel paths, sit on benches, and lounge on the lawn. Dogs on leash are permitted. The arboretum is open during daylight hours, and visitors are asked to respect its tranquility.

Coker Arboretum is an outdoor classroom for UNC classes in art and botany, as well as a school field trip co-destination with the adjacent Morehead Planetarium and Science Center. Its beauty forms a popular backdrop for photographs: graduations, weddings, and quinceañeras. Weddings take place by reservation in the spring and fall. Free public tours are offered on the third Saturday of the month, March–November, at 11 am.

The arboretum began in 1903, when UNC President Francis P. Venable asked William Chambers Coker, UNC's first professor of botany, to beautify an open, boggy pasture at the east edge of campus. Coker was eager to prepare a teaching collection of native trees, shrubs, and vines to complement his instruct his classroom instruction. He began on the highest ground, at the northwest corner (now beside the planetarium). However, most of the site was too wet for the plants he wished to grow, so over the next several years an estimated one mile of subsurface drainage tiles were laid.

At first, Coker concentrated mainly on native plants. During the 1920s–40s, ornamental species from east Asia became popular in America, and many were added to the arboretum's collections. Thanks to some of the Asian imports, visitors find flowers blooming even in winter, adding color and fragrance to the mostly dormant display. After NCBG assumed management of Coker Arboretum in 1982, the pendulum swung back in favor of natives, especially in the sunny perennial beds.

The arbor at the south end of the arboretum was donated in 1911. Built of rot-resistant native black locust logs, it was planted with Carolina jessamine and American, Japanese, and Chinese wisteria (the latter eventually took over). The 1974 version of the arbor succumbed to rot and to damage from Hurricane Fran (1996). Thanks to a gift from the UNC-Chapel Hill Class of 1997, it was rebuilt, again using black locust, and raised a foot taller. A central entry with a stone gathering circle was created. In keeping with NCBG's focus on native plants, the new arbor was planted with ten species or cultivars of native vines.

The arboretum also held the university's first medicinal plants garden. Dr. Coker started this in 1916 for his student-turned-colleague Dr. Roland Totten, who taught pharmaceutical botany (pharmacognosy) to UNC medical students. The USDA encouraged the establishment of such gardens as Europe, the main

source of crude drugs, slid toward World War I, resulting in a scarcity in the U.S. Coker and Totten expanded the “drug garden”—from 5 species before 1916, to 176 species in 1925. In 1928, the USDA named it one of the nation’s best medicinal plant gardens. During World War II, Totten served in the military, while Coker emerged from retirement to tend the arboretum. By war’s end, penicillin and other “laboratory” drugs had replaced botanical medicines. The drug garden was terminated in 1948 to make room for a collection of native shrubs being displaced by the new Finley Golf Course on Mason Farm property. The 1951–52 “Proposal to Establish a Botanical Garden at UNC” stated that a drug garden and a nursery would be valuable adjuncts. Today the Mercer Reeves Hubbard Herb Garden fills this role.

Histories of the arboretum tell us of periods of overgrowth and neglect, alternating with cutting-back and fresh plantings. Hurricane Fran in 1996 and the ice storm of 2002 took huge tolls, damaging an estimated one-third of woody material. Losses continue as some trees succumb to the elements or reach the end of their natural lifespan. Nevertheless, as in any garden, each loss of an old favorite is also an opportunity to try something new, and the adventure continues.

There are venerable survivors. The Walter’s pine, planted by Coker in 1920, was named state champion of its species in 1992. The dawn redwood, 85 feet tall, planted in 1950, represents a now-popular garden tree that was known only from fossils until 1946, when a remote population was discovered in China. The round-lobed sweetgum is a sterile mutant lacking the prickly fruits produced by the straight-species sweetgum in the central lawn. Two overcup oaks are conjectured to pre-date the arboretum. Coker’s reputed favorite, the Marshall’s hawthorn, fell during a storm decades ago, but its branches took root and live on.

In 2003, NCBG celebrated Coker Arboretum’s centennial with a weekend of special events. NCBG Tour Guides interpreted the plants to visitors. There was a ceremonial planting of a new Marshall’s hawthorn (this was later determined to be misidentified, and was removed; luckily, the rooted branches of the old one flourish). The now-defunct Chapel Hill Museum (housed at 523 East Franklin Street) held an exhibit on arboretum history. There was also a book-signing for *Essays on William Chambers Coker, Passionate Botanist*, by author Mary Coker Joslin (Dr. Coker’s niece) and illustrator Sandra Brooks-Mathers (NCBG staff). This was followed by an open house at the William Coker home at 609 North Street, graciously hosted by then-owners Dr. Woodrow Burns and his wife Mary Jane. All of this occurred during and between a succession of April showers that drove the program of speeches, music, and poetry indoors (to Morehead Planetarium). The rain left ankle-deep puddles reminiscent of pre-arboretum days in the lowest-lying area, where Coker had shrewdly planted a grove of cypresses and red maple.

Notable later projects are the DeBerry Overlook entrance near Morehead Planetarium and Science Center, a gift from former Botanical Garden Foundation president Arthur DeBerry, and the nearby naturalistic

“spring” and stream among artistically placed boulders, given by Tom Kenan III and the Kenan Charitable Trust. Both date from 2008; these were designed by landscape architect David Swanson, who also designed the “gathering circle” next to the arbor.

We have Coker and Totten, among others, to thank for the existence of today’s North Carolina Botanical Garden. By the 1920s they had filled the arboretum’s 5 acres and began the campaign for a larger garden on land south of campus. Dr. Coker’s will left the site of the Totten Center and its display gardens, and Dr. Totten and his wife Addie left funds to construct the Totten Center. Mrs. Totten’s book collection became the nucleus of NCBG’s library.

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THE ROCKS

A 2.8-acre parklike garden at 609 North Street in Chapel Hill is the remains of a garden that surrounded the home of William Chambers Coker and his wife, Louise Manning Venable Coker. The Rocks reflects the Cokers’ interest in and talent for landscape design and gardening, and it carries the name of their home (“The Rocks”), selected by Professor Coker in recognition of the natural features in that spot. Bequeathed to UNC in 1983, management was turned over in 1998 to NCBG. Staff and Green Dragon Volunteers (see Chapter 5) have been actively engaged in its maintenance with support from the Preston

Fox Fund in remembrance of Louise Manning Venable Coker, aunt of Mrs. Fox. The park is open to the public. The house is privately owned and not open.

KOCH MEMORIAL FOREST THEATRE

Around the time the United States was poised to enter World War I, theatrical outdoor entertainment was exploding in popularity across the country. Many pageants, tableaux, and plays were created and staged in natural settings to commemorate the 300th anniversary of William Shakespeare's death. In 1917, UNC freshman Paul Green's play, *Surrender to the Enemy*, was performed in Battle Park during the annual Spring Festival, just before Green left the university to serve in the military (1917–19). In the same year, landscape architect and educator Frank Waugh published *Outdoor Theaters*, on the design of garden theaters and outdoor auditoriums, including influential examples on the campuses of Pomona College and Vassar College.

A model for university-sponsored folk and outdoor drama had been developed at the University of North Dakota, including a performance group known as the Dakota Players. The model's creator was Frederick Henry Koch, faculty member, playwright, lecturer, skilled actor (particularly in Shakespearean productions), and exemplar, advocate, and practitioner of folk and outdoor drama. In 1918, UNC President Edward Kidder Graham, with the recommendation of Dr. Edwin Greenlaw, chair of the English Department, recruited and hired Frederick Koch to teach a course in the writing of folk plays (Dramatic Composition). Koch was directed to develop and grow the dramatic arts at UNC and folk drama throughout the North Carolina, based on the North Dakota model. Koch founded the Carolina Playmakers in 1919, seeking membership from students and the community to write and produce original plays interpreting North Carolina life and people, and to promote this type of playmaking in North Carolina. Among his student Playmakers were Paul Green, Thomas Wolfe, Kermit Hunter, Jonathan Daniels, and Fannie Patton.

The need for suitable outdoor staging on campus was resolved in collaboration with Professor William C. Coker, Botany Department faculty, campus landscape designer, and chairman of the Grounds and Buildings Committee. Dr. Coker selected a natural bowl-like site within Battle Park, which Professor Koch and the Carolina Playmakers would develop into an amphitheater. The Carolina Playmakers' first outdoor production (July 31, 1919) was Shakespeare's *The Taming of the Shrew*.

"Prof Koch," as his students called him, designed the Forest Theatre stage in 1922 to include a semi-circular stone wall behind the main stage and worked with Dr. Coker and the Carolina Playmakers to install landscaping and a turf-surfaced stage. In 1924, evening performances were made possible with strings of Dutch lanterns around the theater. The Carolina Playmakers staged a Shakespearean play each

year together with plays written by Carolina Playmaker members. (Shakespeare plays were also presented in the Forest Theatre by the Shakespeare Playhouse Company of New York.)

Among the Carolina Playmakers' playwrights was Betty Smith (author of *A Tree Grows in Brooklyn*), who came to Chapel Hill in 1936 at the urging of Koch and Paul Green, initially under the auspices of the Federal Theatre Project (Works Progress Administration), to write and lecture. During her 30 years in Chapel Hill, she wrote 70 plays, many in collaboration with other writers. (Communal writing was another Koch innovation.)

Founding of a new Department of Dramatic Art in 1936, chaired by Koch, led to an expanded repertoire of plays and greater use of the Forest Theatre. The vicissitudes of weather and increased use of the Forest Theatre necessitated repairs, replacements, and upgrades. Renovations were made, starting in 1940, with a \$20,000 grant from the Works Progress Administration, later named the Work Projects Administration (WPA), a New Deal cooperative effort of federal, state, and local governments from 1935–1943, to provide public works employment during the Great Depression. Architect Albert Q. "Skipper" Bell, who in 1937 had designed the Manteo, NC, amphitheater on Roanoke Island for Paul Green's outdoor drama, *The Lost Colony*, designed and oversaw the construction at Forest Theatre that produced dressing rooms, two stone lighting towers, a director's box, the ticket box, the main entryway, tiers of terraced flagstone seating estimated to accommodate 800 playgoers, flagstone steps down the hillside to the stage, and new stonework around and behind the stage, built with local stones. WPA workers worked on the project for 2½ years.

In May 1943, UNC President Frank Porter Graham dedicated the newly remodeled Forest Theatre followed by a Carolina Playmakers performance of Shakespeare's *A Midsummer Night's Dream*. In 1948, the last significant infrastructure improvements were made with additions to the back of the stage, the present-day stone and timber dressing and storage rooms, and an access road. That project was overseen by architect Paul Henry Beidler, with funds that had proved insufficient to buy land and build a new theater on or near campus to be named the Koch Memorial Theatre in memory of Professor Koch, who chaired the Department of Dramatic Art from its establishment in 1936 until his death in 1944.

In 1948, at the suggestion of UNC President Frank Porter Graham, the Buildings and Grounds Committee of the Faculty Council recommended that the Forest Theatre be re-named the Koch Memorial Forest Theatre. On May 22, 1953, to recognize the vision, achievements, nationwide influence, and untiring efforts of Professor Koch, a memorial ceremony was held to formally re-name the Forest Theatre the Koch Memorial Forest Theatre, by action of the UNC Board of Trustees. The principal address was given by UN Envoy Frank Porter Graham. Koch's grandchild pulled the cord that unveiled a large brass plaque

set in the stonework of the theatre entrance, with an inscription written by Koch's close friend, Archibald Henderson:

THE FOREST THEATRE FOR HERE NOW UNDER THE GREENWOOD TREE IN A NEW-WORLD FOREST OF ARDEN THROUGH LOVE AND ADMIRATION OF THOUSANDS OF HIS STUDENTS IS DEDICATED TO FREDERICK HENRY KOCH BORN SEPT. 12, 1877 DIED AUGUST 16, 1944 THIS OPEN AIR PALACE OF LIGHT AND SOUND HAUNT OF BIRDS AND BREEZES AND HUMAN VOICES HOME OF NATURAL BEAUTY POETRY DRAMA SET UPON THE WARM EARTH IN ENDURING STONE TO COMMEMORATE AN ARDENT GENIUS WHO INSPIRED AND FOSTERED THE AMERICAN FOLK PLAY AND LIKE ANOTHER JOHNNY APPLESEED, SOWED THE CREATIVE SEEDS OF COMMUNAL AUTHORSHIP THROUGHOUT THE AMERICAN CONTINENT.

The Carolina Playmakers logo is mounted at the bottom of the plaque.

In the 1970s, a small picnic area with tables was added in a wooded area adjacent to the theatre entrance.

Until the mid-1970s, summer productions in the Koch Memorial Forest Theatre by the Carolina Playmakers, local theater companies, and community groups continued to entertain audiences. An annual Spring Festival, sponsored by the Bureau of Community Drama, founded by Koch, staged productions by high school and college students and community groups, weather permitting. In 1963, the Institute of Outdoor Drama was founded as an affiliate of the Department of Dramatic Art to serve as a clearinghouse for information and advice on outdoor drama production.

When UNC's Paul Green Theatre was opened and dedicated in 1978 (with a production of *Native Son* by Paul Green and Richard Wright), and after the establishment in 1976 of the resident professional Playmakers Repertory Company, and installation of the Kenan theater in 1999, use of the Forest Theatre sharply declined. In 2004, management of Battle Park and the Koch Memorial Forest Theatre was turned over to NCBG with the stipulation that the tract of land was to remain parkland.

Major users of the theatre today include UNC student groups, community theater groups, student and UNC departmental gatherings and picnics, and weddings. It is home to Battle Park work crews and volunteers, who meet there to begin their work sessions. Tools and equipment to maintain Battle Park and the Forest Theatre are stored in one of the small dressing rooms. For the past 19 years, on August and early September weekends, Paperhand Puppet Intervention, co-founded by Jan Burger and Donovan Zimmermann, stages a fantastical play performed by giant puppets. Each year, original inspirational script and music convey ecological messages to sold-out audiences of all ages through the magic of contemporary puppetry.

In 2008, "The Dignity of Restraint," an historic landscape master plan for the UNC campus, was prepared by Hoerr Schaudt Landscape Architects in collaboration with UNC Facilities Services, supported by

funding from the Getty Foundation Campus Heritage Grants Program. The Forest Theatre was one of five selected campus sites for improvement. NCBG was represented by Director Peter White and Battle Park Curator Stephen Keith. The theatre's tree inventory was prepared by Michael Dirr. Three major recommendations were made:

1. Improve existing infrastructure, including pursuit of National Register of Historic Places designation, and explore an expanded umbrella organization to aid in programming.
2. Maintain and enhance vegetative character.
3. Increase accessibility and enhance entrance connections.

In 2010, with a grant from the Carolina Parents Council, electrical wiring in the stage area and the director's box was updated and improved, and electrical outlets were added in the orchestra pit area and at the base of the light towers. Additional funding is needed to further improve the overall infrastructure (stone work and wood deterioration), and to provide basic public amenities (shelter, restrooms, water fountain, and accessible walkways). There is ongoing need for maintenance of this historic property that stimulated outdoor theater and folk drama in the state and throughout the country, and was the training ground for the later successful careers of actors, playwrights, directors, and producers.

Located at 123 S. Boundary St., Chapel Hill, the Koch Memorial Forest Theatre is available for performances, weddings, and other events through NCBG.

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FOREST THEATRE TIMELINE

1917 The first reported outdoor drama in Battle Park on the site of the current Forest Theatre is a production of UNC freshman Paul Green’s one-act play, “Surrender of the Enemy.”

1918 Dr. William Chambers Coker selects the Forest Theatre site, a sloping, wooded grassy hillside leading down to a natural plateau.

Frederick Henry Koch comes to Chapel Hill from North Dakota as professor of dramatic literature in UNC's English Department to teach folkplay writing and to develop and grow dramatic art at UNC and folk drama throughout North Carolina.

1919 Koch founds Carolina Playmakers in January. In July, they stage their first outdoor performance in July, *The Taming of the Shrew*, in The Forest Theatre. Over the years, this is the venue for an annual staging of a Shakespeare play by Carolina Playmakers.

1924 Evening performances begin in the Forest Theatre, with Dutch lanterns strung around the theatre.

1936 Founding of a new UNC Department of Dramatic Art, chaired by "Prof" Koch, leads to an expanded repertoire of plays and greater use of the Forest Theatre for outdoor drama.

1940 Renovations, restorations, replacements, and new construction, funded by a \$20,000 grant from the Works Progress Administration (WPA), begin and are completed in two and half years.

1943 UNC President Frank Porter Graham dedicates the newly remodeled Forest Theatre, followed by a Carolina Playmakers performance of Shakespeare's *A Midsummer Night's Dream*.

1948 The last significant infrastructure improvements are made: the present-day stone and timber dressing and storage rooms at the back of the stage, and an access road.

1953 In May, a memorial ceremony is held in Forest Theatre to commemorate and honor Koch by renaming the theatre the Koch Memorial Forest Theatre. UN Envoy Frank Porter Graham gives the principal address, paying tribute to Koch's accomplishments from 1918 until his death in 1944. A brass plaque is installed in the stonework entrance with an inscription written by his close friend, Archibald Henderson.

1999 Paperhand Puppet Intervention begins staging their annual outdoor production during weekend evenings in August and early September in the Koch Memorial Forest Theatre.

2004 Management of Battle Park and Koch Memorial Forest Theatre is turned over to NCBG, with the stipulation that the tract of land is to remain parkland.

2008 "The Dignity of Restraint," an historic landscape master plan for the UNC campus, is prepared. The Koch Memorial Forest Theatre is one of five selected campus sites described as needing improvement. Director Peter White and Battle Park Curator Stephen Keith represent the NCBG.

2010 With a grant from the Carolina Parents Council, electrical improvements are made.

2017 Funding is needed for stonework and wood restorations, provision of basic public amenities (shelter, restrooms, water fountain, and accessible walkways), and property maintenance.

PAUL GREEN CABIN

The Paul Green Cabin is tucked away into a quiet and shady pocket of the NCBG's Display Gardens, west of the Mountain Habitat, at the far end of the Fern Collection. This rustic log cabin, with its dovetail joints, was once the writing studio of Paul Green, best known for his work as a playwright, folklorist, and

outspoken social activist. The Paul Green Theatre within UNC's Center for Dramatic Art, home to Playmakers Repertory Company, is named for him.

In an address given at the dedication of the Paul Green Theatre, in 1978, Walter Spearman of UNC's School of Journalism quoted Paul Green's old friend, law professor Albert Coates, who once aptly described Paul Green as, "plain as an old shoe, honest as an old field pine, impulsive to a hurt, generous to a fault, full of earthiness without a trace of vulgarity, and full of flare as a lightwood knot."

Green was born in 1894, on a cotton farm in Harnett County, North Carolina. Out of his childhood experience—in particular, a close friendship with the son of a black tenant on his family's farm—grew a deep conviction regarding the immoralities of racial discrimination. This would later be reflected in both his writing and civic action.

In 1916, Green left home to enroll as a freshman at the University of North Carolina at Chapel Hill. Within a year, like other members of his generation, he set his education aside to join the U.S. Expeditionary Force in Europe. He returned to Chapel Hill following the end of World War I, just as American Folk Plays festivals led by Carolina Playmakers founder Frederick Koch were gaining popularity.

In 1927, Paul Green's play *In Abraham's Bosom* won the Pulitzer Prize. It was one of a succession of plays by Green that put a spotlight on controversial social issues of the time; it concerned the lynching of a black school teacher. In 1936, his play *Hymn to the Rising Sun* served as a strong condemnation of the chain gang system, a widespread practice in the South from the end of Reconstruction well into the first half of the twentieth century.

Two years earlier, in 1934, Paul Green had bought land in Chapel Hill, on Greenwood Road, and built a home for his family. In need of a retreat within a convenient distance of his spacious home, but where this father of four could focus on his writing, Green purchased a cabin that sat on old NC 86, between Calvander and Hillsborough, and had it disassembled, piece by numbered piece, and moved to the Greenwood Road property. Its former owners, the Robert Davis family, were African-American craftsmen who made caskets, furniture, and baskets, which they sold locally. Notes from a diary Green kept during the months he spent rebuilding the cabin refer to its "old logs full of age and meaning," the day his "little girls"—aged 7, 9, and 13—helped nail down the flooring, and the "wonderful quiet" experienced during his first day of work in the finished cabin.

It was in this cabin studio that Green wrote *The Lost Colony*, an outdoor drama that is still performed every summer on Roanoke Island. The play, with its cast of "royals" and "commoners," makes clear his

belief in an egalitarian society, where a person's value is determined not by their family name or social status, but rather by their work ethic and contribution to society's greater good.

During both the 1930s and 40s, Green worked as a scriptwriter in Hollywood. A fellow writer said of his Hollywood years: "The honest, tender and gifted soul stood out like a stalk of good sugar cane in the thicket of poison ivy." In 1941, while home in Chapel Hill, Green worked with Mississippi-born writer Richard Wright in adapting Wright's novel *Native Son* to the Broadway stage—the first such collaboration between a black man and white man in the Jim Crow South. By openly welcoming Wright into his home as a guest, Green raised eyebrows and drew the unwanted attention of the Ku Klux Klan. He was advised by townspeople to find more suitable accommodations for Wright in neighboring Carrboro. The community reacted in similar fashion when Green invited Zora Neale Hurston, who at that time was teaching at North Carolina Central University, to join a writing group. In the words of NCBG staff member Charlotte Jones-Roe, "This was a time in the South when, even in Chapel Hill, welcoming a person of color in through the front door, as an equal, rather than offering the back door or servant's entrance, was a political statement and could result in a warning such as a cross burning, with the implication that the house could be burned if the action was repeated. [For some] who violated the code, consequences could be much harsher. . . . It is a tribute to [Green's] status in the community and the position of respect that he held that [Green] received verbal censure, but did not receive the harshest treatment of the Klan."

Paul Green's belief in social justice and civil rights continued to manifest itself in both his writing and civic engagement. In 1942, when William Wellman of Iredell County, NC was wrongly convicted of rape, despite undeniable proof that Wellman was in Washington, DC at the time of the crime, Green paid a lawyer to investigate the case. As a consequence, within minutes of his scheduled execution, Wellman was fully exonerated.

Years later, in 1963, Green took action when a Speaker Ban Law imposed by the NC General Assembly threatened academic freedom and the right to free expression on the campus of the University of North Carolina. He firmly stood his ground when criticized by then-Senator Jesse Helms for his views on this and other issues. Helms later visited Green at his new home on Old Lystra Road, in Chatham County, a farmhouse known as "Windy Acres." Despite their differences, these "Tar Heels" shared a common heritage: both were "country boys" at heart.

At Windy Acres, a series of file cabinets steadily filled with an accumulation of letters written to and by Green throughout his life. Of these letters, 329 were later compiled and annotated by Laurence Avery, professor emeritus in the English Department at UNC, and former president of the Paul Green Foundation, into a "living biography" of Green titled *A Southern Life: Letters of Paul Green, 1916-1981*.

Green loved words. When in public, he always wore a suit coat with pockets, and in those pockets were a set of note cards. On these cards, Green habitually wrote down words and phrases that came to him throughout a given day, words that struck him as both interesting and “of the people.” An alphabetized collection of these words and expressions was later edited by Rhoda Wynn, Green’s long-time assistant, and published posthumously in a two-volume set, *Paul Green’s Wordbook: An Alphabet of Reminiscence*.

Some might wonder why the North Carolina Botanical Garden is an appropriate home for the Paul Green Cabin. What is the tie that binds Green’s legacy to this garden of native plants? Although Green is best known as a writer and activist, he also loved plants. He would often visit UNC botanist Al Radford—key contributor to the *Manual of the Vascular Flora of the Carolinas*—bringing specimens he wanted Radford to identify. In addition to his many other interests, Green was also a folklorist, keenly interested in the uses early residents of his beloved Cape Fear Valley found for plants native to the area. His writings on this subject later became the primary source for the fascinating and often humorous *Paul Green’s Plant Book: An Alphabet of Flowers and Folklore*, compiled and edited by Green’s daughter Betsy Green Moyer and then-Assistant Director of NCBG Ken Moore.

The cabin was moved from Greenwood Road to NCBG in 1991, ten years after Green’s death. Rhoda Wynn and Sally Coker Vilas spearheaded the effort. Rhoda was the first executive director of the Paul Green Foundation and did not want the cabin to be torn down. She expressed her concern about the cabin’s future, and asked if it could possibly find a home at the Garden. There were two problems: funding the moving expense and determining where the cabin would be sited. The university had come to the conclusion that, considering its state of disrepair, the cabin was not worth preserving. Not only would it take an estimated \$50,000–\$75,000 to restore the structure, but the possibility of vandalism was a concern. The fate of the cabin appeared uncertain. A group of NCBG staff, after visiting the rundown cabin, suggested that it might make a nice interpretive center within the Garden. Soon, a committee was formed and NCBG’s first official fundraising effort was launched. The cabin was moved to its present location and two highly respected historic restoration specialists were hired to reconstruct the cabin.

On April 12, 1992, a formal dedication of the Paul Green Cabin took place at NCBG (see Appendices). Among the speakers were NCBG Director Peter White; Dr. Laurence Avery, chairman of the UNC Department of English, president of the Board of Trustees of the Paul Green Foundation, and author of *A Southern Life: Letters of Paul Green, 1916–1981*; Dr. Albert Radford, retired UNC professor of botany and biology; John Ehle, North Carolina writer and longtime friend of Paul Green; Dr. Josephine Newell, family physician and one of the founders of the Country Doctor Museum in Bailey, NC; and Charles Wheeler of the Botanical Garden Foundation.

Today, the cabin contains a display of panels from *Paul Green's Plant Book*, as well as photos of its move on a flat-bed truck from Greenwood Road to the Garden. A handcrafted century-old cradle donated to NCBG in 1995, by the Davis family, descendants of the cabin's original owner, is stored elsewhere. Many visitors ask about the cabin's chimney: why stone was used for the lower section of the chimney, while the upper section was built of brick. According to the specialists who restored the cabin, this mix of stone and brick was quite common at the time the cabin was built. It resulted in a chimney with a better draft than an all-stone chimney, but cost less than one built exclusively of brick.

In the words of Marsha Warren of The Paul Green Foundation, "Paul Green's historical significance stems not only from his influence on the art of the drama, which he loved so well and long, but from his influence on the social values of the South during a period when he stood almost alone in preaching the equality of the races, the richness of Southern tradition as possible source of great literature, and the value and worth of every person, even the condemned felon." The Paul Green Cabin serves not only as a quiet place of repose and a fascination to school children (who wonder what's hidden upstairs) but as a tribute to a native son who loved the land and its people, and resolved to do what he could to make it a better place for all.

Sources:

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Spearman, Walter. "The Carolina Playmakers, 1918–1978." Address included in a playbill for a performance of *Native Son*, held as part of a University of North Carolina dedication ceremony to commemorate the opening of the Paul Green Theatre, September 29, 1978.

OTHER LANDS WITH TRAILS OPEN TO THE PUBLIC

Note that most of the areas with trails described below are also discussed in Chapter 1, "Land Management: Conservation in Natural Areas."

Piedmont Nature Trails: Traversing 88 acres of oak-hickory forest, four named trails offer spring wildflowers, summer shade, diverse fungi, fall colors, and winter vistas. A map is available at the

trailhead, at the reception desk in the James & Delight Allen Education Center, and at the NCBG website. Two connected loops lie south and southeast of the Allen Education Center. The lower loop, the half-mile-long Streamside Trail, crosses Meeting-of-the-Waters Creek on elevated bridges and connects to the more difficult Oak-Hickory Trail at three places, one point being a connector trail to Maintenance Drive (former Laurel Hill Road). Farther south and uphill, the ¾-mile-long Oak-Hickory Trail runs across and along ridges. A side loop overlooks the OWASA water treatment plant to the east.

To the south, the main loop meets Kings Mill Road Trail. At that intersection Elephant Rock Trail begins a gradual descent of 130 feet on a ¼-mile slope to Morgan Creek. Projecting above the creek is Elephant Rock, an outcrop of 630-million-year-old volcanic rock (slightly metamorphosed felsic welded tuff). The outcrop was used as an abutment for dams at historic gristmills (Daniel Mill, 1833, followed by King's Mill, until a major flood in 1924). More Slate Belt rock is exposed in a small quarry begun by William Hunt. The trail follows Morgan Creek for about ¾ mile and then ends at Ashe Place. To avoid backtracking, hikers can return to the Garden via Kings Mill Rd. and Laurel Hill Road.

A bike-pedestrian path extends from Old Mason Farm Road (near NCBG's main entrance) to Laurel Hill Road to provide access to the trails even when the Display Gardens area is closed after hours.

Coker Pinetum: The Coker Pinetum is a narrow strip of wooded land along Meeting-of-the-Waters Creek north of the Fordham Blvd/US 15-501 Bypass. It acts as a natural buffer between the UNC campus and residential neighborhoods. A portion of the 25 acres parallels Manning Drive near its intersection with US 15-501 Bypass. Dedicated Green Dragon volunteers have cleared out invasive plants and helped reconstruct the trail. Part of the Campus-to-Garden Trail, the 0.2-mile Coker Pinetum Trail extends from Ridge Road (near Boshamer Baseball Stadium) to an access point near the Fern Lane and Iris Drive intersection. The trail parallels an OWASA easement that provides an easier and more direct path. Red circular trail markers help locate the uneven trail that crosses the creek four times. Confined to buried culverts on the main campus, the creek flows freely from the upper reaches of the Pinetum to its confluence with Morgan Creek east of the US 15-501 Bypass. A few of the remaining pine trees retain resin-tapping scars made in the 1940s. UNC botany professor William C. Coker (1872–1953) gifted the Pinetum to NCBG in his will.

Battle Park: About 3 miles of variously named trails and OWASA easements intertwine through the 93-acre campus forest, known as Battle Park, which predates European settlement (1740s). Kemp Plummer Battle (UNC president 1876-1891) built the original trails. Most of the area is underlain by a 633 million-year-old granite that forms the "hill" in Chapel Hill. NCBG has been restoring and building trails since it began managing Battle Park in 2004. The trail system was rededicated in September of 2005. For UNC campus visitors, metered parking is available along Country Club Road and in the Raleigh Road Visitors

Lot one block east of Country Club Road. Parking may be available at the Cobb Deck, 355 Paul Green Theater Drive. Trail access can be found near the Park Place parking lot (kiosk), Forest Theatre (kiosk), Sisters' Corner at Glendon Drive and Gimghoul Road, and Gimghoul Castle on Gimghoul Road. Free parking can be found at the Community Center Park on Estes Drive where the town-owned Battle Branch Trail begins; it joins the Battle Park Trail system, with a total trail length of 1.5 miles on moderate slopes.

Two other Battle Park features are the Brock Terrace (2015), a gift from Eunice Brock honoring the memory of her daughter, Melinda Kellner Brock, and the meeting place called The Sisters' Corner (2005), created courtesy of neighbors and friends in celebration of the 90th birthday of twin sisters Barbara Stiles and Bernice Wade. The sisters had graciously opened their garden on Gimghoul Road to the public each spring for many years. In the northern portion of the park is an impressive view to the east from the Piney Prospect Overlook.

Campus-to-Garden Trail: The Campus-to-Garden Trail connects urban natural areas managed by NCBG on campus to NCBG trails located just off campus on the east side of US 15-501 Bypass. It begins at the south side of Coker Arboretum on East Cameron Avenue and crosses Country Club Road to reach the entrance to Battle Park near Forest Theatre. In Battle Park, Deer Track Trail leads to the Sisters' Corner (see above) at Gimghoul and Glandon Roads. The trail follows a sidewalk southward along Country Club Road and crosses Raleigh Road (also known as South Road and NC 54 Business). The trail angles right onto Ridge Road for a short distance to the Boshamer Baseball Stadium parking lot. From there begins the OWASA utility easement and Coker Pinetum Trail that ends at Fern Lane. In a short distance off Fern Lane is a pedestrian crossing at US 15-501 Bypass to Old Mason Farm Road and the entrance to NCBG. The entire 1.5-mile trek ranges from sidewalks to uneven dirt trails in the natural areas.

Mason Farm Biological Reserve (MFBR): In 1894, the 800-acre Mason farm was donated to the University of North Carolina by Mary Elizabeth Morgan Mason, the great-granddaughter of the first European settler on this land (Mark Morgan). Of that original farm, 367 acres of fields and forest are now managed by NCBG for conservation, research, and education. (Visitors are requested to acquire a permit, available at the reception desk in the James & Delight Allen Education Center.) Pets are not allowed, due to sensitive ongoing research projects. The trail is a level 2.2-mile old farm road circling through fields and meadows and around a bottomland forest. Nature lovers and birders enjoy this gentle trail where diverse habitats attract many animal species, some traveling from the adjacent New Hope Game Lands to the east. Funded by a \$15,000 grant from the U.S. Fish and Wildlife Service, and with the help of volunteers, a boardwalk was constructed over Siler's Bog at the south end of the loop in 2014 (major flooding events have required repairs and reinforcement). Branching off the southwest edge of the loop, a 0.5-mile trail follows a former road bed and then diverges to a foot trail as it crosses slopes and ridges of

metavolcanic rock and diabase intrusive rock. At the south edge of the 108-acre Parker Preserve (also managed by NCBG), it merges with Parker Road. Official access to MFBR begins with a gravel road behind the Finley Golf Course club house on Old Mason Farm Road. It crosses a ford through Morgan Creek to a small parking lot at the trail head. The nearby short (2/3-mile) Hackberry-Warbler trail can be closed due to flood damage.

Penny's Bend Nature Preserve: Surrounded on three sides by the Eno River in eastern Durham County, this 84-acre property, owned by the U.S. Army Corps of Engineers, is subleased to the NC Division of Water Resources and managed by NCBG. Once grazed by horses and cattle, the uplands are managed as a remnant piedmont prairie. The preserve protects rare plant species that are supported by circumneutral soils formed over a diabase sill about 200 million years old. The 1.5-mile-long George Pyne Trail follows the Eno River through alluvial and basic mesic forests. The 0.3-mile Cash Point Trail cuts diagonally across the central grass-covered ridge. The NC Natural Heritage Program Trail connects both trails; it runs from a private drive northward to Little Blowing Rock (a diabase boulder outcrop). All trails start from a small parking lot on Snow Hill Road just off Old Oxford Road. Near the parking lot on the north bank of the Eno River is the historical site of Cameron's New Mill (1836–1880). Only portions of the dam remain. These trails are part of the Mountains-to-Sea Trail that extends across the state of North Carolina. To reach Penny's Bend from the NCBG, take US 15-501 north and merge onto Interstate 85 N. Take Exit 177 to Roxboro Rd/US 15-501 Business north (left) for 1.5 miles. Turn right onto Old Oxford Road and go 3 miles. Turn left onto Snow Hill Road just after crossing the Eno River on a small bridge. Park at a small gravel lot immediately to the left (before Wanderlust Lane).

Sources:

Bradley, Philip J. and Timothy W. Clark, eds. *The Geology of the Chapel Hill, Hillsborough and Efland 7.5-minute Quadrangles, Orange and Durham Counties, Carolina Terrane, North Carolina*. Carolina Geological Society Annual Field Trip, November 4 and 5, 2006.

www.kmmcna.org/history

PLANT SALES

NCBG's native plant sales essentially began in 1979 with the first wildflower sales. At various times in the past, large sales have taken place in the spring or in the fall, sometimes supplemented or replaced by daily plant sales during the growing season. From the beginning, wildflower sales attracted large crowds: in 1979, the 44 species offered were sold out; in 1980, 12,000 plants were sold. As of 2016, about 10,000 plants were sold each year, grossing \$50,000–\$70,000. About one-quarter of these sales occur during the big fall plant sale. In spring 2016, NCBG invited other growers of native plants to take part in a joint

Spring Sale and Festival, including live music, family entertainment, and food trucks. Its success won it a place on the NCBG calendar, alongside the annual members-only preview sale the evening before the Fall is for Planting sale. At the preview sale and party, a tradition begun in 2005, members enjoy live music, refreshments, and a social evening with staff and fellow gardeners, as well as first choice of the merchandise: wildflowers, including cultivars of some species, as well as ferns, vines, and native woody shrubs and trees. The sale includes a mix of popular favorites as well as new offerings to entice adventurous veteran gardeners.

Beginning in 1975, Spring and/or Fall Herb Sales, organized by the Herb Volunteers, attracted large crowds. Later, herbs were included in the sales of native plants. Sale of herbs was eventually discontinued so that the limited greenhouse and nursery space could be dedicated 100% to supporting NCBG's mission of native plant conservation and propagation. Originally, the daily sales area was behind the Totten Center, near the nursery, with payment into a cash box on the honor system. In 2012 it was moved to the pavilion outside the Garden Shop (in the Allen Education Center).

At any one time, NCBG's nursery contains 20,000–30,000 individuals of about 400 species of plants, including cultivars of some species. Ninety percent of plants sold at NCBG are raised there by staff and volunteers. The other 10% of plants are produced by other growers, which include North Creek Nursery (Pennsylvania), the NC Forest Service's Claridge Nursery (Goldsboro Forest Center), and Mellow Marsh Farms (Siler City). Venus flytraps are grown from root cuttings by S and J Greens, of State Road, NC, but a few dozen are also propagated at NCBG.

Seeds sold by NCBG, and the free seeds offered as a member benefit each year, are 95% collected on-site. The remaining 5% come from other properties managed by NCBG or from non-NCBG properties, collected with the owners' permission.

NCBG has a policy of selling and distributing plants only within the southeastern U.S., to prevent accidental introduction of hidden pests into other areas of the country, and to avoid "polluting" the gene pool of native plant populations in other parts of the country. See NCBG's website for the **Policy on the Sale of Rare Plant Species**.

CULTIVAR* INTRODUCTIONS

From time to time, NCBG staff and friends have found or bred native plants with characteristics worth preserving. These plants did not breed true, and so they were propagated by vegetative methods,* often in

cooperation with commercial growers. These cultivars, clones* of the original plant, were eventually named and introduced to the nursery trade.

Coral Honeysuckle (*Lonicera sempervirens*) ‘Major Wheeler’: This naturally occurring mutant features a long bloom time, into December. It was originally rescued from a sand dune at a construction site on Emerald Isle by Patricia Wheeler and Charles Wheeler, president of the Botanical Garden Foundation. They planted the rescued clump in their Raleigh garden and later shared cuttings with NCBG staff, who in turn shared plants with Niche Gardens. NCBG and Niche Gardens named this cultivar ‘Major Wheeler’ to honor its rescuer. The characteristic dangling red flowers of native coral honeysuckle attract hummingbirds. (1988)

Rough-leaf Goldenrod (*Solidago rugosa*) ‘Fireworks’: This plant was among many rescued near Wilson, NC, and planted in NCBG’s Coastal Plain Habitat in the mid-1970s. During the next several years, NCBG’s Ken Moore noticed that this goldenrod has unusual long, gracefully arching flowering stems. Experiments over the years at NCBG determined that this special form did not breed true from seed, and thus all offspring were produced by division and cuttings. Other goldenrods like this were never found in NC, and so it was judged worthy of a special name, ‘Fireworks.’ It was introduced to the nursery trade jointly by NCBG and Niche Gardens. (1993)

***Sarracenia* x Hybrid* Pitcher-plants:** Dr. Lawrence Mellichamp of UNC-Charlotte and the late NCBG curator Rob Gardner worked for many years to hybridize pitcher plants. They aimed to produce superior forms and reduce collection pressure in the wild. The hybrids range about 6–18 inches in size, with variations in leaf form, color, and veining. Some are hybrids* of two species, while others involve four or even six species in complex crosses. After evaluation by staff, the UNC hybrids deemed worthy were named: ‘Dixie Lace,’ ‘Doodlebug,’ ‘Flies Demise,’ ‘June Bug,’ ‘Ladies in Waiting,’ ‘Ladybug,’ ‘Lovebug,’ ‘Mardi Gras,’ ‘Red Bug,’ and ‘Ritchie Bell.’ (‘Flies Demise,’ ‘Ladies in Waiting,’ and ‘Ritchie Bell’ are not readily found in the nursery trade.) (1998)

***Baptisia* x ‘Purple Smoke’ Hybrid Wild Indigo:** Late NCBG employees Rob Gardner and Janie Bryan found this paler-flowered variant growing among dozens of typical tall blue wild indigo, *Baptisia australis*, at NCBG’s field growing facility. Gardner propagated the plant from cuttings and observed them for 3 or 4 years. Its muted flower color, charcoal stems, and gray-green foliage suggested the name ‘Purple Smoke.’ This coloring points to white wild indigo, *B. alba*, as the other parent of a natural hybrid of *B. australis*. Niche Gardens helped to ready the new cultivar for its public debut. (1996)

***Baptisia* x ‘Carolina Moonlight’ Hybrid Wild Indigo:** This wild indigo hybrid was selected at NCBG by Rob Gardner. A natural cross between yellow-flowered *B. sphaerocarpa* and white-flowered *B. alba*,

‘Carolina Moonlight’ blooms a pale, glowing yellow. It was released in collaboration with Niche Gardens, Plant Delights Nursery, and Shady Oak Nursery. (2002)

Sources:

NCBG website and various *Newsletters*.

Gardner, Rob. “A Gift of Nature’s Diversity: *Baptisia* x ‘Purple Smoke.’” *NCBG Newsletter* 24, no. 2 (Mar–Apr 1996): 11.

Gardner, Rob. “Introducing ‘Carolina Moonlight’.” *NCBG Newsletter* 29, no. 6 (Nov–Dec 2001): 9.

***Definitions:**

Clone: The original plant and all vegetatively produced offspring, barring mutations; all are genetically identical.

Cultivar: A word meaning “cultivated variety.” A cultivar is a different form selected for a unique characteristic and reproduced vegetatively. All the plants mentioned above are cultivars. Note that some cultivars are naturally occurring variants, but others are hybrids (produced naturally or deliberately), and therefore are not ‘varieties’ in the strict sense defined above. So for instance the cultivar ‘Carolina Moonlight’ is an individual (a single genotype) that was selected from a number of seedlings (several genotypes) that originated from a hybrid cross between *B. alba* and *B. sphaerocarpa*. Though the individual or genotype known as ‘Carolina Moonlight’ is not a variety of a specific species, it is still considered a cultivar. The only way to get more ‘Carolina Moonlight’ is to clone it.

Hybrid: A cross between members of two different species. (For example, a mule is a hybrid between a mare [horse] and a jackass.) In plants, pollen from a closely related species can land on a flower’s stigma and eventually achieve fertilization, giving rise to a natural hybrid. Artificial hybrids arise when people deliberately transfer pollen from one species onto the stigma of a related species: the resulting seed grows into a hybrid plant. In theory, a hybrid cannot breed with members of either parent species, and generally not with other hybrids either, so it’s an evolutionary “dead end.” *Baptisia* “Carolina Moonlight” is a hybrid of *B. sphaerocarpa* and *B. alba*, which are yellow- and white-flowered, respectively. As a hybrid, it is sterile—it cannot produce seed to grow more plants like it. Likewise, the Mellichamp/Gardner pitcher plants are hybrids of known parental species. Although most hybrids are sterile, using vegetative propagation methods, we can grow more of a hybrid plant in the nursery.

Native: Occurring naturally in an area; not introduced by human transport (deliberate or accidental). Native plants can give rise to variants that become cultivars (selections of naturally occurring variants), and they can naturally or artificially hybridize.

Species: A group of organisms that can interbreed with one another and produce fertile offspring. For plants, especially, species may have a lot of “blur” around the edges.

Variety: A group of plants with a consistent and characteristic difference from the “straight” species, but not different enough to warrant calling it a separate species. (Different varieties of one species by definition would be able to interbreed and produce viable offspring, though possibly not with the characteristics we value.).

Vegetative reproduction: Reproduction of a plant by means other than seeds: by cuttings, division, or tissue culture. [With few exceptions, reproduction via seeds is sexual reproduction.]

ART EXHIBITS AND EDUCATIONAL EXHIBITS

NCBG has long been committed to the educational branch of its mission. Educational opportunities, whether hands-on experiences or those in the more formal setting of a lecture or class, date back to the 1970s. Early on, staff members Ken Moore and Dot Wilbur-Brooks saw the benefit of using art not only to attract visitors, but to teach valuable lessons as well. Even with the opening of the Totten Center in 1976, however, inside space for art and educational exhibits was limited. Nonetheless, the “Art at the Garden” initiative was undertaken, with regularly scheduled exhibits of two-dimensional art and photography in the Totten Center’s multi-purpose room. Because this venue was often used for classes, lectures, and other activities, the caveat “call us to ask about viewing availability before you come” accompanied every exhibit announcement. Perhaps one of the most memorable “Art at the Garden” exhibits was held May 1–June 30, 2005, featuring the works of the first graduates from NCBG’s Certificate Program in Botanical Illustration (renamed Certificate in Botanical Art & Illustration [BAI] in 2012; see Chapter 2).

Kathy Buck, an art student at UNC-CH (and wife of then-Assistant Director Ken Moore), saw NCBG’s Display Gardens as a perfect backdrop for what is now one of NCBG’s longest-running art programs: *Sculpture in the Garden*. Kathy envisioned something experimental and interesting—a collection of truly unique sculptural art pieces intended for outdoor display. She planned, organized, and curated the *Art for Outdoor Spaces* exhibit, which opened during the 17th annual Labor Day Open House in 1988 and included three-dimensional art crafted from a variety of media by local and regional artists. *Sculpture in the Garden* became an annual event (though it was skipped in 2008, during Education Center construction). Over the past 28 years, it has transitioned from an experiment to a juried exhibition (“by invitation only”). The exhibition is officially opened at the “Preview Party,” where artists are honored and those attending for the “People’s Choice” award. Each year, a new juror with strong credentials in the art world selects the sculpture for “Best in Show” and “Honorable Mention.”

Typically, *Sculpture in the Garden* features the works of 25 artists, with 50 pieces on display for at least two months during autumn. Although the annual event does not usually have a specific theme, artists

participating in the 2009 show were asked to interpret the theme *Celebrating Life Forces—Earth, Air, Water, Spirit* (the desire was to have a powerful message to accompany the 2009 dedication and opening of the Education Center). The 29th annual exhibition (2017) displayed more than 40 installations of original artwork, some of them multi-piece works, in assorted media, including steel, concrete, ceramic, glass, stone, and marble. Perhaps the most exceptional feature of this exhibition each year is how it changes with the advancement of fall: one visit to see the sculptures is not enough!

After years of intense planning and fundraising, ground was broken for the construction of the Education Center in April 2007. Once the Education Center was completed in 2009, it provided space for world-class exhibits, displays, and programs. The Eleanor Smith Pegg Exhibit Hall in the center of the complex was named after a generous contributor, as was the adjacent DeBerry Family Botanical Art & Illustration Gallery. Former NCBG Director Peter White, remarked that the building was filling with life—people, exhibits, and art—from the moment of official opening.

The Pegg Exhibit Hall has been the heart and soul of educational displays for Garden visitors. Exhibits must align with the NCBG mission, convey educational messages by engaging multiple learning styles, and appeal to both adults and children. The hall displays the ever-expanding collection of Wildflower of the Year quilts, as well as other art and artifacts on panels, within cases, or in other formats. The DeBerry Gallery, a carefully designed side-room to the main hall, provides an intimate setting for viewing selected two-dimensional works of art—botanically or nature-inspired drawings, paintings, and photographs. Exhibits change every two months, or so, and one exhibition period per year is typically reserved for the works of the faculty or new graduates of the Botanical Art & Illustrations Certificate Program.

In 2008, the NCBG Public Programs Department was upgraded to Education Department and Nancy Easterling was promoted to associate director of education (later, director of education). New staff positions have been added since then, notably an exhibits coordinator part-time position (Cricket Taylor, 2012–2018). The exhibits coordinator position has been essential in developing guidelines and policies relating to exhibits and managing logistics. The Education Department has sought to strengthen contributions to the public by developing “educational exhibit programming” in which programs, workshops, classes, hikes/tours, and special events related to an exhibit theme are offered. For example, *Following in the Bartrams’ Footsteps* (2014) presented many opportunities to explore different disciplines and to participate in both indoor and outdoor events. Record numbers of visitors came to see the exhibit of contemporary botanical art on loan from the American Society of Botanical Artists in the DeBerry Gallery. Visitors were also drawn to *Homegrown*, the monumental “stick” sculpture built by world-renowned, Chapel Hill-based environmental artist Patrick Dougherty and a team of volunteers in

the Allen Education Center courtyard during October 2014. Dougherty was officially titled “NCBG Artist-in-Residence,” and *Homegrown* remained a favorite feature at the Garden for the next two years.

Since the Bartram events in 2014, the Education Department has used this integrated programming approach to present other themes, including:

- *Among Our Trees—Celebrating Our Southeastern Trees*, March–May 2015
- *Saving Our Pollinators—Highlighting Their Importance, Their Challenges and Offering Solutions*, June–October 2015
- *Winter Spectacle*, January–April 2016
- *NCBG50—A Celebration of the North Carolina Botanical Garden’s 50-Year History*, April–October 2016
- *Saving Our Birds, Inspiring Awareness and Understanding of Our Native Birds*, August–December 2016
- *Saving Our Seeds—A Journey through Natural and Cultural History*, August–December 2017

An exciting newer development in the Education Department has been the design and creation of a traveling exhibit, which allows NCBG to loan existing materials to other institutions or organizations. Using the appropriate graphic art technology, poster contents have been transferred to transportable vinyl sheets. *Saving Our Pollinators* is available in this format and as of this writing, plans were underway to present the illustrations and information from *Plant This—Not That: Alternatives to Invasives* (developed by six BAI alumni artists for the 2012 National Invasive Species Awareness Week) in a traveling exhibit. The portable educational exhibit system is another way that NCBG’s messages can reach beyond its physical boundaries.

Sources:

Nancy Easterling and Cricket Taylor, personal communication and materials to author, 2017.

NCBG Newsletters, for example, **2004**—Vol. 32, no. 4; **2005**—Vol. 33, no. 2; **2007**—Vol. 35, nos. 2, 5, 6; **2008**—Vol. 36, no. 1.

PUBLICATIONS

The NCBG defines “publication” broadly, as “a means of providing the public with information.” Many media are employed to spread the word of NCBG’s mission; its research, horticultural, and conservation projects; and its education and public service programs.

Radio:

Beginning in 1982 and continuing for about 13 years, WUNC-FM listeners enjoyed entertaining, informative weekly commentaries on horticulture and gardening by Dot Wilbur-Brooks, NCBG manager of public programs.

Video:

Bell, C. Ritchie and Anne H. Lindsey. *Wild Flowers of the Eastern Forests*, 1 “Spring,” 2 “Summer,” 3 “Fall” (Chapel Hill, NC: Laurel Hill Press, 1995).

_____. *Woodland Harvests of the Eastern Forests* (Chapel Hill, NC: Laurel Hill Press, 1996).

Bell, C. Ritchie, Director. *Fall Color Trees and Woodland Harvests of the Eastern Forests* (Chapel Hill, NC: Laurel Hill Press, 2004), Video.

Easterling, Nancy and Anne H. Lindsey. *Take a Closer Look* Natural History Video Series, 1 “Fire and the Longleaf;” 2 “Plants and the Cherokee” (Chapel Hill, NC: Laurel Hill Press, 1999–2001). “Fire and the Longleaf” won two national honors: a Silver Telly and a Videographer Award of Excellence.

Digital and Online:

The iPhone App “Flora Quest” makes available to mobile devices *Flora of the Southern and Mid-Atlantic States* by Alan S. Weakley, director of the UNC Herbarium. Developed under the auspices of the UNC Vice Chancellor for Research, Carolina Apps Program, the creators were Alan Weakley, Michael Lee of the UNC Biology Department, and Rudy Nash, application designer.

Current online archives of NCBG include

Conservation Gardener magazine ncbg.unc.edu/magazine-archive/

NCBG Newsletter (not a complete archive) ncbg.unc.edu/newsletter-archive/

Garden Records and Management System (GRIM) wotas.org/grim/

Mason Farm Biological Reserve, presentation ncbg.unc.edu/uploads/files/MFBRYesterday.pdf

Booklets:

Jones-Roe, Charlotte A., Sandra Brooks-Mathers, and Laura Cotterman. “A Guide to the Old Farm Trail” (Chapel Hill, NC: North Carolina Botanical Garden, 1999, revised 2009).

Herb Volunteers of the North Carolina Botanical Garden. “A Taste for Herbs: Basil to Woodruff” (Chapel Hill, NC: North Carolina Botanical Garden, 1985).

Books authored by NCBG staff or volunteers, or published by Botanical Garden Foundation:

- Bell, C. Ritchie and Bryant J. Taylor. *Florida Wild Flowers and Roadside Plants* (Chapel Hill, NC: UNC Press, 1982).
- Bell, C. Ritchie and Anne H. Lindsey. *Fall Color and Woodland Harvests: A Guide to the More Colorful Leaves and Fruits of the Eastern Forests* (Chapel Hill, NC: UNC Press, 2007).
- Cotterman, Laura, Damon Waitt, and Alan Weakley. *Wildflowers of the Atlantic Southeast* (Portland, OR: Timber Press, 2019)
- Herb Volunteers of the North Carolina Botanical Garden. *From Anise to Woodruff 1793–1993: The Identification, Observation, Growing and Culinary Use of Herbs in the Southeastern United States*. (Chapel Hill, NC: Botanical Garden Foundation, 1993). [Includes the recipe for lemon thyme cookies served during the 1988 visit of Lady Bird Johnson and a recipe for roast possum, a favorite of long-ago UNC students].
- Joslin, Mary Coker. *Essays on William Chambers Coker, Passionate Botanist* (Chapel Hill, NC: University of North Carolina at Chapel Hill Library and the Botanical Garden Foundation, 2004).
- Justice, William, C. Ritchie Bell, and Anne H. Lindsey. *Wild Flowers of North Carolina*, 2nd Ed (Chapel Hill, NC: UNC Press, 2005).
- McVaugh, Rogers, Michael R. McVaugh, and Mary Ayers. *Chapel Hill and Elisha Mitchell the Botanist*. (Chapel Hill, NC: Botanical Garden Foundation, 1996).
- Moore, Bibby. *Growing with Gardening: A Twelve-Month Guide for Therapy, Recreation, and Education* (Chapel Hill, NC: Botanical Garden Foundation, 1989).
- Moyer, Betsy Green and Ken Moore, eds. *Paul Green's Plant Book: An Alphabet of Flowers & Folklore* (Chapel Hill, NC: Botanical Garden Foundation, 2005).
- Phillips, Harry R., with Rob Gardner, Charlotte A. Jones-Roe, and staff of the North Carolina Botanical Garden. *Growing and Propagating Wild Flowers* (Chapel Hill, NC: UNC Press, 1985).
- Radford, Albert E., Harry E. Ahles, and C. Ritchie Bell. 1968. *Manual of Vascular Flora of the Carolinas* (Chapel Hill, NC: UNC Press, 1968).
- Stern, Daniel. *A Haven in the Heart of Chapel Hill: Artists Celebrate the Coker Arboretum* (Chapel Hill, NC: Botanical Garden Foundation, 2004).
- Terres, John K. *From Laurel Hill to Siler's Bog: The Walking Adventures of a Naturalist* (Chapel Hill, NC: UNC Press, 1993).

Weakley, Alan S., J. Christopher Ludwig, and John F. Townsend. *Flora of Virginia* (Fort Worth, TX: Botanical Research Institute of Texas Press, 2012).

Weakley, Alan S. 2015. *Flora of the Southern and Mid-Atlantic States, Working Draft of 21 May 2015* (Chapel Hill, NC: UNC Herbarium, 2015). Note: though bound copies of this book do exist, it is available online as a pdf document herbarium.unc.edu/flora.htm

White, Peter, T. Condon, J. Rock, and C. A. McCormick. 2003. *Wildflowers of the Smokies*, 2nd ed (Gatlinburg, TN: Great Smoky Association, 2003).

Books written by early advocates for NCBG:

Coker, William Chambers and Henry Roland Totten. *Trees of North Carolina* (Chapel Hill NC: UNC Press, 1916).

_____ 1934. *Trees of the Southeastern States including Virginia, North Carolina, South Carolina, Tennessee, Georgia and Northern Florida* (Chapel Hill, NC: UNC Press, 1935). A complete list of Dr. Coker's publications can be found here: herbarium.unc.edu/Collectors/coker.htm

Couch, John Nathaniel. 1938. *The genus Septobasidium: with Notes on Other Water Molds*. (Chapel Hill, NC: UNC Press, 1938). A complete listing of Dr. Couch's publications can be found here: herbarium.unc.edu/Collectors/couch.htm

Hunt, W. L. *Southern Gardens, Southern Gardening* (Durham, NC: Duke University Press, 1982). More information about W. L. Hunt's publications can be found here: herbarium.unc.edu/Collectors/Hunt_Wm_Lanier.htm

Magazines:

In 2016, NCBG launched *Conservation Gardener*, published biannually. It includes articles on botanical, horticultural, and conservation topics accompanied by photographs and drawings. NCBG news, a message from the director, and recognition of gifts from supporters appear regularly.

Newspaper Columns: J. Kenneth "Ken" Moore, NCBG assistant director emeritus and volunteer, wrote a weekly column titled "Flora" for the *Carrboro Citizen*, from 2007 until the newspaper ended publication in 2012. His advice was valued for its easily understood and inspiring style as well as horticulture expertise. The columns are archived here: ibiblio.org/carrborocitizen/main/2012/10/26/flora-a-november-bouquet/

Newsletters:

Garden Trails, NCBG's first publication (1968), was mailed to members of the BGF, the non-profit membership organization established to support NCBG. Following the example of most business and educational entities of the time, it was produced on a mimeograph machine. In the first issue, Director C. Ritchie Bell introduced it as a "little leaflet giving news, notes or general information about the Garden and our natural flora," to be published twice a year. In time, photocopies replaced mimeographs.

Beginning in 1973, the aptly named *NCBG Newsletter* communicated regularly with BGF members by mail, reporting in each issue a message from the director and expressions of appreciation to donors. Information about upcoming classes, lectures, exhibits, plant sales, and other events was included. There were scientific features on conservation, biodiversity, sustainability, and horticulture. In 2010, it became a quarterly rather than a bimonthly publication. Editors through the years were Dot Wilbur-Brooks, Sandra Brooks-Mathers, Laura Cotterman, and Jennifer Peterson. The last issue was published in 2015.

At present, NCBG news updates are transmitted via email (between issues of the *Conservation Gardener* magazine) and occasional mailed postcards.

Pamphlets:

Pamphlets and brochures that inform and educate are designed in-house and distributed as needed. Through the years, they have ranged from early illustrated trail guides (fee 25 cents) to current (no charge) descriptions of programs. Examples include a brochure on growing the current Wildflower of the Year (includes a packet of seeds), and two brochures describing the Native Plant Studies and the Botanical Art & Illustration Certificate Programs. Brochures covering these and others are placed near the Reception Desk in the Pegg Exhibit Hall. Brochure guides are placed in kiosks in Coker Arboretum and Battle Park.

Surveys—Anthropological and Biological Surveys Conducted within NCBG Areas (excl. MFBR):

Botanical Inventory of Penny's Bend Nature Preserve and Gordon Butler Nature Preserve. NCBG Annual Report, 1993–94.

Daniel, I. Randolph Jr. "An Archaeological Survey of Portions of Orange County, North Carolina." Research Report 12, Research Laboratories of Anthropology, University of North Carolina, 1994.

Daniel, I. Randolph Jr. and H. Trawick Ward. "Test Excavations at Selected Log Cabin Sites in Orange County, North Carolina." Research Report 10, Research Laboratories of Anthropology, University of North Carolina, 1993.

Dirr, Michael A. and Margie Boccieri. "Tree Inventory and Health Status, Forest Theatre Area," May 20, 2008.

Giaquinto, Frances. "Tentative identification of Fungi in the Botanical Garden's Nature Trails Oak – Hickory Woods." Unpublished manuscript, 1995.

Giencke, Lisa, Stephen Keith, Dave Vandermast, Peter White, Elinor Benami, and Alan Weakley. "Conservation Project: Battle Park" (Chapel, NC: North Carolina Botanical Garden, 2010).

Graffunder David. "Botanical Survey of all University Garden Lands." NCBG Annual Report, 1992–93.

Jones, Charlotte A. "An Interpretive Plan and Resource Inventory for the North Carolina Botanical Garden" (Plainfield, VT: M.A. Thesis Goddard College, 1980).

McCormick, Carol Ann, and Peter White. 1993. "Conservation Project: The Nature Trail Area, Coker Pinetum and Stillhouse Bottom Nature Preserve" (Chapel Hill, NC: North Carolina Botanical Garden, 1993).

Hoerr Schaudt Landscape Architects. "The Dignity of Restraint: A Study to Preserve and Enhance the University at Chapel Hill's Majestic Tree Landscape." 2008 Historic Landscape Master Plan, UNC-Chapel Hill. Available here: facilities.unc.edu/master-plan/historical-plans/2008-historic-landscape-master-plan/dignity-of-restraint/

Rare Plant Inventory Seed/Spore Inventory. 1991. Appendix X, NCBG Annual Report, 1990–91.

White, Peter S., Richard T. Busing and Julia O. Larke. 1991. "Conservation Project: William Lanier Hunt Arboretum and Gray Bluff Garden" (Chapel Hill, NC: North Carolina Botanical Garden, 1991).

Wichmann, Brenda L., Alla L. Wall, and Peter S. White. "Conservation Project: The Laurel Hill Preserve and 'Billy' Hunt's Garden with an Update on the Rare Species and Exotic Species of the Hunt Arboretum and Gray Bluff Garden and the Mason Farm Reserve" (Chapel Hill, NC: North Carolina Botanical Garden, 2000).

Surveys—Conducted on Mason Farm Biological Reserve:

Breeding Bird Surveys by New Hope Audubon Society and Chapel Hill Bird Club.

Cemetery of the Morgan/Mason Family surveyed by UNC Anthropology Department, c.1999.

Hall, Stephen P., C. A. Jones-Roe, and R. H. Wiley. "Checklist of Vertebrates of the Mason Farm Biological Reserve and Adjacent Areas" (Chapel Hill, NC: Friends of Mason Farm, 1986).

Jones-Roe, Charlotte A. 1983. "Plant Communities Assembled at the N.C. Botanical Garden: Simulation of Native Habitats." *Restoration and Management Notes* 1(3): 38.

Jones-Roe, Charlotte, Peter S. White, Trawick Ward, and Brenda Wichmann. "Archaeological and Botanical Survey of the Mason Farm Biological Reserve and Other Lands of the North Carolina Botanical Garden" (Washington, DC: Institute of Museum and Library Services, 2005).

King, Scott. "Shallow Groundwater Hydrology and Wetland Vegetation in a Field in the Mason Farm Biological Reserve." Independent Study in the Native Plant Studies Certificate Program, 2009.

Maher, Thomas O. and H. Trawick Ward. "Archaeological Testing at 31OR281 and 31OR4d on the Mason Farm and Finley Golf Course Property, the University of North Carolina at Chapel Hill. Technical Report No. 25, Research Laboratories of Anthropology, University of North Carolina, 1996.

Perlmutter, Gary B. "The Lichen Biota of the Mason Farm Biological Reserve." *Journal of the North Carolina Academy of Science* 124, no. 3 (Fall 2008): 82–90. www.jstor.org/stable/24336316

Wang, Y. and Charlotte A. Jones-Roe. 2005. "Vegetation of the Mason Farm Biological Reserve." Unpublished manuscript, 1989.

Ward, Trawick H. and R.P. Stephen Davis Jr. "Indian Communities of the North Carolina Piedmont A.D.1000-1700." Monograph No. 2, Research Laboratories of Anthropology, University of North Carolina, 1993.

White, Peter S., Richard T. Busing, and Julia O. Larke. "Conservation Project: Mason Farm Biological Reserve" (Chapel Hill, NC: North Carolina Botanical Garden, 1992).

GREEN GARDENER SERVICE

The Green Gardeners Program is a public service offered by NCBG's Horticulture Department and trained volunteers. Anyone with questions about plants may bring them (with specimens, if pertinent), to the Green Gardener Desk, located near the Reception Desk in the Allen Education Center, Tuesdays and Thursdays, noon–2 pm (to be safe, call ahead: 919-962-0522). Frequently requested information includes plant, insect, and disease identification; soil preparation tips; weed management; and which plants might work in sites with specific characteristics. Novice gardeners have many questions about virtually everything to do with plants. Experienced gardeners often ask questions that call for more research.

Members of three groups share Green Gardener duty. At the desk you may find a Green Gardener Volunteer, a graduate of a five-week training program at NCBG. The program covers the philosophy and

mission of NCBG, as well as sustainable gardening practices in North Carolina. It was first organized by Dot Wilbur-Brooks, retired NCBG programs coordinator, who arranged for staff members and Garden friends to provide the training sessions. At the completion of the training program, volunteers take a competency test. After launching the program, Dot turned it over to Herb Garden Curator Wendy Wenck.

Volunteers in the second group are Orange County Master Gardener Volunteers, affiliated with NC State's Cooperative Extension Service. They take a specially designed training program in horticulture and then qualify by passing an exam. Master Gardeners must provide 40 hours of volunteer service during the following year, and 20 more hours each subsequent year.

NCBG staff constitutes the third group serving at the Green Gardener Desk. A staff member serves as backup for questions beyond a volunteer's expertise.

The two volunteer groups essentially provide the same service, and some volunteers have gone through both training programs. Volunteers typically continue to learn more about plants and gardening during their service.

THE SARAH FORE GAINES LIBRARY

The Sarah Fore Gaines Library opened in 2010 in the James & Delight Allen Education Center. Sarah, then married to NCBG's founding director Dr. C. Ritchie Bell, was a champion of NCBG from its earliest days; she also volunteered after retiring from teaching at the University of North Carolina at Greensboro (formerly Woman's College of the University of North Carolina). Sarah Fore Gaines and her second husband, John Gaines, held NCBG in high esteem and left a generous bequest for the library space, which now bears her name.

Before the creation of the Sarah Fore Gaines Library, the library was known as the Addie Totten Library. It was located in the Totten Center, named for Dr. Roland and Addie Totten, who bequeathed their house and furnishings to NCBG. The original library space in the Totten Center was a small room with a large glass window located just inside the Totten Center foyer. The library outgrew the small room and was relocated to the Totten Center small classroom.

The initial books were donated by Addie Totten, who was an especially strong advocate for gardening and horticulture; she was also the president of the Garden Club of North Carolina. The library collection grew quickly as many other people donated suitable books.

When William Lanier Hunt, NCBG benefactor and first president of the BGF, died in 1996, he left his extensive collection of horticultural books to NCBG. Many of his books are published in and relevant to England/the U.K. Some are rare books as these were another interest of his. There are thousands of these books that are being catalogued. Private individuals continue to donate their pertinent books to the library.

Today all of NCBG's library books are divided between the Sarah Fore Gaines Library, the Colvard Room, and the Hunt Archives Room (rare books are in the Hunt Archives Room). The library will eventually be moved, when an herbarium and plant research center are built.

From 1975 until her retirement, Dot Wilbur-Brooks was the staff liaison for library volunteers, including Villa Zala, Kitty Harding, Barbara Emerson, and Mary Ishaq (all now deceased). Dot currently serves as volunteer librarian. Five other volunteers help on a regular basis with the very large project of cataloguing the growing collection of botanical and horticultural books.

THE JUDY AND BURKE DAVIS GARDEN SHOP

The Garden Shop began in 1982, with sales of that year's T-shirts on a small table in the reception/foyer area. Elisa Jones, the receptionist, was responsible for shop sales and the library. The T-shirts were very popular and sold out quickly.

The next items created for sale were note cards. 1978 had marked the start of another annual tradition: a Holiday Party (centered around a tree decorated with handmade, natural ornaments) for Botanical Garden Foundation members. Each year, invitations with botanical illustrations by Dot Wilbur-Brooks were sent to the membership, and in about 1983, the shop began selling cards printed with the invitation illustrations.

Books published at the University of North Carolina Press were added to the growing list of items for sale. By 1985, the shop was selling *Growing and Propagating Wild Flowers* by Harry R. Phillips, and in 1987, *Wild Flowers of North Carolina*, by William Justice and Ritchie Bell (a later, revised edition included Anne Lindsey as coauthor). The shop items were stored in and displayed on the beautiful sideboard from the Tottens' estate (now in the C. Ritchie Bell Seminar Room of the Allen Education Center).

When Frances Allen became the business manager, she was very interested in the continued development of the Garden Shop. In 1986, Dot Wilbur-Brooks's husband built a display case in the Totten Center foyer; items were stored in the bottom of the case and sold from the counter on the top. Bird and butterfly guides, environmental games, hummingbird feeders, children's books, and other items were added to the

inventory. The shop was profitable, and soon the back wall of the Totten Center classroom served as an additional shop display area.

In 2001, the first NCBG Certificate Programs in Native Plant Studies and Botanical Illustration were officially initiated. Books supporting these classes were sold to students through the shop.

Early on, no one person handled the sales, and whoever was at the front desk at the time was responsible. Items were not kept under lock and key, and there was never any problem with theft even though the front desk may have been left unattended for short periods. Security concerns were more relaxed at that time, when compared with today: even after someone was hired to oversee the sale of items, money proceeds from the sales were kept in the top desk drawer—until the auditor noticed. At that point, a safe was purchased and records with daily deposits were instituted.

With the completion of the James & Delight Allen Education Center in 2009, the Garden Shop found a new home. The greatly expanded space, located in the Eleanor Smith Pegg Exhibit Hall, includes a storage room, small office, and an outdoor plant sales pavilion, in addition to the display and sales area. Funds to name the book and gift shop, which continues to be a source of revenue for NCBG, came from Tim Burnett and his wife, Janie, in honor of Tim's mother and stepfather, Judy and Burke Davis. Tim, chair and member of UNC's Board of Trustees, was glad to find a way to honor his parents, both of whom were avid gardeners.

When the shop was located at the Totten Center, plants were displayed and sold behind the building, on an honor system, with a money box fastened to the wall. When the shop moved to the new building, a large outdoor pavilion, just outside the shop, was the perfect location for displaying plants for sale.

In 2013, Rebecca Dotterer was hired as the first Garden Shop manager, a part-time position that became full-time within two years. Having a dedicated staff member to oversee the shop allowed for the professionalization of all aspects of the operations. Updating and overhauling of point-of-sale and inventory systems, development of new policies and procedures, creation of a working budget, a quarterly volunteer and work-study student training program, and development of a merchandizing plan were all implemented. A wide range of new products reflective of the education, horticulture, conservation, and research mission of NCBG were brought in, and a consignment contract was developed so the work of local (NC) artists could be sold. The mission of the Garden Shop was formalized during this period, and growing profits have supported several part-time positions in other parts of NCBG.

There are currently 38 local artists represented in the shop. To date, native plants are the best seller, followed by note cards. The shop sells a wide variety of merchandise, including logo baseball caps, T-shirts, tote bags, sweatshirts, car decals, and mugs, as well as food and beverages. Shop merchandise

often ties in with NCBG programs, such as lecture series, art gallery receptions, educational classes, workshops, and exhibitions. To the delight of staff, volunteers, and visitors, the shop even includes a small coffee and tea bar.

Sources: Interviews with Dot Wilbur-Brooks, Elisa Jones, Rebecca Dotterer, and Nadia Alamo.

PARTNER WITH OTHERS

joining hands

When spider webs unite, they can tie up a lion.

— Proverb from Ethiopian folklore

INSTITUTIONAL MEMBERSHIPS

Benefits abound from membership in organizations that advocate for a professional field. NCBG belongs to organizations concerned with botany, conservation, horticulture, and the role of nature in human health. The publications and conferences of these organizations inform about current research, trends, and leadership opportunities. Members exchange ideas and news of events. In addition, the special features, accomplishments, and reputation of NCBG reach a wide audience through institutional memberships.

American Horticultural Society: This society is headquartered within a 25-acre public garden, “River Farm,” located across the Potomac River from Mt. Vernon. It is a lovely setting for the promotion of gardening as a means of connecting people and nature. NCBG participates in the American Horticultural Society’s reciprocal admission program, which grants free admission to 300 public gardens for BGF members. See ahsgardening.org/gardening-programs and the NCBG website.

American Horticultural Therapy Association: Horticultural therapy serves those with health issues and/or other limitations by involving them in plant-centered activities. It utilizes the healing power of nature to encourage physical and emotional well-being. The American Horticultural Therapy Association supports and promotes horticultural therapy programs throughout the U.S. and beyond. It sponsors an annual conference that attracts attendees from around the world and hosts a series of events and activities celebrating National Horticultural Therapy Week. The *Journal of Therapeutic Horticultural*, a collection of academic articles, is published by AHTA twice a year. Members receive a quarterly e-magazine.

American Public Gardens Association: Formerly the American Association of Botanical Gardens and Arboreta,” this international professional association advocates for public gardens, encourages sustainability practices, and educates about invasive exotic plants. Based in Kennett Square, PA, it publishes *Public Garden* magazine. APGA convenes professionals working in public gardens who contribute to ecological and environmental causes at an annual conference held in the spring.

American Society of Botanical Artists: A promoter of ecological awareness, the ASBA educates and exhibits a community of artists that combine scientific accuracy with creativity in botanical illustration. It sponsors botany conferences that strengthen the bonds between artists and botanists. Classes in botanical illustration are customized for natural scientists. A journal, *The Botanical Artist*, is published quarterly (copies available in the Sarah Fore Gaines Library).

Center for Plant Conservation: In 1984, NCBG was a co-founder of the Center for Plant Conservation (CPC), now numbering 40 institutions. The focus of the organization is the protection and restoration of native plants in the wild. A national collection of material from imperiled natives is stored, studied, and used for propagation by member gardens. CPC has developed restoration guidelines for imperiled species.

The successes and failures of each project are documented to aid in preventing the extinction of any native plant. *Save Plants* is the magazine published by the CPC.

Sources: Author interview with Charlotte Jones-Roe, October 3, 2016.

NCBG website and websites of other member institutions.

PROJECTS WITH PARTNERS

When compatible partners engage in a project, their efforts are magnified to benefit each other as well as their common cause. Through the years, NCBG has been involved in cooperative ventures with wildlife, horticulture, and art societies, with community organizations, government agencies, and researchers. These relationships of mutual enhancement have produced conservation results, research studies, engagement with the public, and goodwill for NCBG. Following are examples of active partners and brief descriptions of the projects that widened NCBG's circle of friends while also fulfilling its mission.

American Society of Botanical Artists: *Following in the Bartrams' Footsteps*, a contemporary art exhibit of plants noted by John and William Bartram in the 18th century.

Eno River Association and the NC Department of Agriculture Plant Conservation Program: Protection of water quality and restoration of imperiled plants at Penny's Bend Nature Preserve.

Macrofungi Collection Consortium (35 Institutions): Creation of a database for macrofungi specimens.

Millennium Seed Bank, Royal Botanic Gardens, Kew; New England Wild Flower Society; The Plant Conservation Alliance; and the U.S. Department of Interior, Bureau of Land Management: "Seeds of Success" Program, involving the collection and storage of native plant seeds.

National Fish and Wildlife Foundation: Reintroduction at Penny's Bend Nature Preserve of smooth purple coneflower, *Echinacea laevigata*.

New England Wild Flower Society: Project to collect and distribute seed for restoration projects in response to Hurricane Sandy.

New Hope Audubon Society: Building a bird blind in NCBG's Wonder Garden.

North American Lily Society: Recovery of sandhills lily, *Lilium pyrophilum*.

NC Department of Agriculture: Protocol development for rare plant introduction.

NC Department of Transportation: Plan for plantings that support pollinators at rest stops and welcome centers.

UNC Hospital: Hands-on nature experiences for pediatric inpatients.

UNC Campus Community Garden: Organic fruit and vegetable garden providing food to UNC employees in need.

UNC Center for Excellence in Community Mental Health: Creation of a community garden within the Farm at Penny Lane, serving those with mental health issues.

UNC Edible Campus Initiative: Campus gardens for student study of food production and for snacking.

USDA Forest Service, U.S. Dept. of Interior, Bureau of Fish and Wildlife, and the Nature Conservancy: Restoration of longleaf pine, *Pinus palustris*, in the Gordon Butler Nature Preserve.

U.S. Dept. of Defense, U.S. Army, Ft. Bragg: Reintroduction and monitoring of 5 endangered and at-risk plants: sandhills pyxiemoss (*Pyxidanthera brevifolia*), sandhills lily (*Lilium pyrophilum*), rough-leaved loosestrife (*Lysimachia asperulifolia*), sandhills milkvetch (*Astragalus michauxii*), Georgia leadplant (*Amorpha Georgiana*).

U.S. Dept. of Defense, U.S. Army Corps of Engineers; NC Division of Water Resource; and Eno River Association: Durham Diabase Sill Project, a soil and plant study at Penny's Bend Nature Preserve.

U.S. Dept. of Energy: Switchgrass, *Panicum virgatum*, collection for bioenergy research.

U.S. Dept. of Interior: Native seed for erosion control on federal lands damaged by natural disasters.

U.S. Dept. of Interior, Fish and Wildlife Service: Milkweed (*Asclepias syriaca*) seed collection and propagation in support of the Monarch butterfly.

Sources: Interviews with Nancy Easterling and Johnny Randall.

PROJECTS WITH PARTNERS TIMELINE

1968–70 Director C. Ritchie Bell opens NCBG research and greenhouse areas for the Chapel Hill Appearance Commission's annual Forsythia Sale (fall) and the Chapel Hill Men's Garden Club spring Azalea Sale.

1969 NCBG requests readers of *Garden Trails* to submit yearly records of blooming dates of plants in their area to NCBG as part of a long-range, systematic observation program of plants of the southeastern U.S. started by Dr. Helmut Leith of the **UNC Botany Department**.

The Camellia Project, under the direction of UNC's Dr. Clifford Parks, begins research to cold-test plantings grown outside, compared with plantings grown in the greenhouse.

1974 NCBG assists the **Garden Club of North Carolina** and the **Landscape Unit of the NC Division of Highways** with the Operation Wildflowers project that will plant native wildflowers along the state's highways. Garden staff helps choose the most appropriate wildflowers and identify cultivation methods best suited to the selected plants.

Used Styrofoam cups are solicited from the **community** for use in potting seedlings and rooted cuttings.

1978 Streetlights installed along Laurel Hill Road with funds donated by **Ridgewood Garden Club**.

1980 Community Garden Plots (50 ft x 25 ft) in Mason Farm and a Horace Williams tract are available to rent at \$10/plot, a project with the **Chapel Hill Parks and Recreation Department**.

1981 Cutbacks in government and private grants strain the NCBG budget for academic and public service activities. Support is received from **Chapel Hill Men's Garden Club, Chapel Hill Garden Club, Ridgewood Garden Club**, and the **Botanical Garden Foundation**.

NCBG volunteers become even more important to continuation, improvement, and expansion of Garden programs.

NCBG's Horticultural Therapy Program contracts with **Chapel Hill Parks and Recreation Department** to build and program a Learning Garden on the grounds of Umstead Park (later moved to Chapel Hill Community Center), engaging **UNC Hospital's** child psychologist, special education classes in the **Chapel Hill/Carrboro School District**, and elders in retirement communities in therapeutic gardening activities. **CNN** carries a story about the Learning Garden, and **National Geographic** includes the Learning Garden in an article. The Learning Garden program terminated due to lack of NCBG/Parks maintenance. The program is later moved to NCBG's campus. (As of 2016, the Learning Garden is at the Community Center with a CH Parks and Recreation staff member in charge.)

1982 Wildflower of the Year program begins, co-sponsored by the **Garden Club of North Carolina**, to promote a showy southeastern native plant each year. The inaugural plant is cardinal flower.

NCBG's Dot Wilbur-Brooks starts recording a weekly radio spot on horticultural and botanical subjects, aired twice every Monday on **WUNC-FM**.

1984 A new NCBG sign on the 15/501 bypass is a gift from the **Ridgewood Garden Club**.

1985 NCBG's intern program is begun with funding from the **Conservation Project** program of the **Institute of Museum Services**; it will be funded in future years by the **Botanical Garden Foundation**.

1986 A cooperative use agreement is reached with the **NC Wildlife Resources Commission** that adds several thousand acres of Jordan Lake's natural woodlands contiguous to the Mason Farm Reserve and thus increases the biological research potential of NCBG.

1993 **Fitch Lumber Company** of Carrboro provides lumber for 11 wooden picnic tables, which are built and installed by volunteer Jim Wilkerson.

1995 NCBG's first website is created by **graduate students in the UNC School of Information and Library Science**.

The Spider Gate, created by Jim Gallucci and exhibited during the 1994 *Sculpture in the Garden* show, is donated with funds from **Chapel Hill Garden Club** and many other private donors. It becomes a permanent entry to the Herb Garden Poison Plants path.

NCBG serves as a principal consultant for developing a rare plant exhibit at the **North Carolina Zoo**.

1996 UNC Senior Class of 1997 selects design and reconstruction of the wisteria arbor in Coker Arboretum as the focus of their class gift.

The **Herb Society of America** chooses NCBG as one of the sites for the National Rosemary Collection.

1997 NCBG's *Sculpture in the Garden* show is awarded a grant from the **Orange County Arts Commission** with funds from the **Grassroots Arts Program of the North Carolina Arts Council**.

1999 NCBG is spotlighted by Chapel Hill's **Wellspring Grocery** (predecessor of Whole Foods) with an exhibit of photos and NCBG publications; 8 donation boxes allow shoppers to support NCBG.

The First Jenny Fitch Memorial Lecture is given by Rosemary Verey, English writer and gardener, in Memorial Hall; it is attended by 425 persons, followed by a book signing and refreshments served by **Chapel Hill Garden Club** members in Coker Arboretum.

NCBG organizes the North Carolina Chapter of the **Southeast Exotic Pest Plant Council**.

2001 "Plants and the Cherokee" is the second in the *Take a Closer Look* video series by NCBG's Nancy Easterling and Dr. Anne Lindsey in partnership with the **Museum of the Cherokee Indian**.

2005 Eleanor Smith Pegg offers to donate an 82-acre tract of land in Chatham County on the Haw River to be sold, with proceeds to benefit the future NCBG Education Center. To save the mature forest and protect the site for a state park, NCBG staff and the Botanical Garden Foundation work with other local conservation groups, including **Triangle Land Conservancy**, **Haw River Assembly**, **NC State Parks**, and **NC Clean Water Management Trust Fund**, to ensure that the land will be protected. Mrs. Pegg also designates an adjacent tract as a bequest to UNC, to be sold with proceeds to fund a scholarship named for Eleanor and her husband, the late Carl Pegg.

NCBG partners with the **North Carolina Plant Conservation Program** to recreate the mountains, piedmont, and coastal plain of NC in an exhibit at the State Fair. Visitors to the exhibit, housed within the "Our Land, Our Legacy" tent, listen to a mountain stream, view a piedmont prairie, and explore a variety of carnivorous plants, including Venus flytraps.

2007 Whole Foods in Chapel Hill donates 5% of sales on May 8, and proceeds from donation boxes throughout the month of May, to NCBG to benefit construction of the Education Center: \$5,105 in total.

At the request of the Botanical Garden Foundation and **Morgan Creek Valley Alliance**, the **Town of Chapel Hill** establishes the 92-acre Morgan Creek Preserve, running from Frank Porter Graham Elementary School to Merritt Pasture. BGF already holds conservation easements on some of the Morgan Creek corridor downstream from Merritt Pasture.

2008 NCBG becomes a regional facilitating center for the **Earth Partnership for Schools** program, enabling NCBG to hold Earth Partnership institutes of its own.

2010 A long-term exhibit of floral quilts in the Allen Education Center is a gift of members of the **Durham Orange Quilters Guild**, who made the quilts, each representing a Wildflower of the Year (initiated and organized by volunteer and BGF board member Muriel Easterling).

2012 The Horticultural Therapy Program partners with **UNC Center for Excellence in Community Mental Health** to create a community garden, The Farm at Penny Lane, in Chatham County.

In the Children's Wonder Garden, **New Hope Audubon Society (NHAS)** sponsors a bird garden with a bird blind (staff member Elisha Taylor's NC Environmental Education Certification final project). Dave Ringenburg is volunteer architect for the blind, built by Dave, Elisha, and NHAS volunteers.

2014 NCBG cooperates with **New England Wild Flower Society** and **Mid-Atlantic Seed Bank** to begin Seeds of Success East, a two-year, \$3.5-million project to collect and distribute seed for restoration projects in response to Hurricane Sandy.

AWARDS

Award plaques and framed certificates received by NCBG are currently housed in the Bell Seminar Room. The examples listed here are followed by a more complete "timeline" of awards and honors.

Conservation and Sustainability: A LEED Platinum certification plaque greets visitors at the Garden's entrance since 2010. Conservation awards at the national level have come from Gulf Oil, 1983; Bureau of Land Management and USDA Forest Service, 2001; Invasive Weeds Awareness Coalition, 2002–03; American Association of Botanical Gardens and Arboreta, 2004; and U.S. Department of the Interior for Seeds of Success Partnership, 2010.

At the state level, NCBG's mission-based exhibits won awards at the NC State Fair, 1971, 1983, and 2005. A similar display at the Southern Living Show won an award for the Herb Volunteers in 1979. Other awards came from NC Nature Conservancy, 1989; Sustainable NC, 2004; and Audubon NC, 2009. Also, the NC Unit of the Herb Society of America chose NCBG's Herb Garden as one of the sites to hold living specimens of the National Rosemary Collection, 1996.

UNC Waste Reduction and Recycling unit named NCBG "Green Department of the Year," 2007.

In addition, employees C. Ritchie Bell, 2007; Ken Moore 2005; Johnny Randall 2005, 2009; Andy Walker, 2009; Jim Ward, 2005; and Peter White, 2002, 2003, 2004, 2005, 2014, 2015 all received awards for their conservation efforts.

NCBG-managed lands are included in the NC Registry of Natural Heritage Areas: Olive Tract and Pinky Falls Natural Areas, 1979; Gordon Butler Nature Preserve, 1983 (all owned by BGF); and Penny's Bend Natural Area, 1990 (owned by Army Corps of Engineers). In addition, Laurel Hill Nature Preserve and

Stillhouse Bottom Nature Preserve, both BGF-owned, are state Dedicated Nature Preserves, rated “Outstanding” by the NC Natural Heritage Program.

Two champion trees have grown on NCBG-managed property: a Walter’s pine in Coker Arboretum, and a Carolina [southern shagbark] hickory in Mason Farm; this tree fell during Hurricane Fran (1996), but a painting and a trunk cross-section memorialize it.

Appearance and Preservation: Most awards in this category come from Chapel Hill Town Commissions: Paul Green Cabin, 1994; Garden Commons behind the Totten Center, 1997; Arbor Replacement, Entrance, and Stone Gathering Circle at Coker Arboretum, 1998; Louise Coker Park, aka “The Rocks,” 2000; and Battle Park, 2006, 2008. *Garden Design* magazine ranked NCBG among the four best native plant gardens in the country (1996) and Coker Arboretum was named second most beautiful among 50 U.S. college arboreta (2015).

Community Service and Education: NCBG has a long history of serving the community, particularly special populations. In 1982, NC Recreation and Parks Society gave NCBG an award for its part in The Learning Garden. Other special population awards came from Orange County Disability Awareness Council in 2015 and Core77 Design for Social Impact, for NCBG Wonder Connection Program’s WonderSphere, in 2016.

There were also an APPLES Service-Learning Program award in 2011 and a Positive Impact on NC Citizens award from NC GlaxoSmithKline to the BGF in 2013.

In 2002 a UNC Chancellor’s Award went to Ken Moore for 31 years’ government and public service, and in 2011 UNC recognized Claire Lorch for her work at Carolina Campus Community Garden. County, state, and national awards went to Horticultural Therapy employee Bibby Moore in 1987, 1989, 1990, and 1991, and to Nancy Easterling in 1993, 2005, and 2007 (elected president 1998, 2002). Easterling also was awarded with membership in the Order of the Long Leaf Pine in 2018.

Publications: Dot Wilbur-Brooks’s “A Decade of Wildflowers” poster won a blue ribbon at AABGA in 1993, and Peter White’s *Wildflowers of the Smokies* won first prize for Natural History Books in the 1998 Excellence in Interpretation competition from the National Park Service. Also, “Fire and the Longleaf,” a video by Nancy Easterling and Anne Lindsey, won two awards: a Videographer Award of Excellence, and a Silver Telly Award from the Center for Creativity, both in 1999.

Awards Given by NCBG: NCBG traditionally holds an annual event where volunteers are recognized for milestone years of service and for especially notable achievements that year. Staff have also nominated

volunteers for recognition from “outside.” For example, volunteer librarian Barbara Emerson received a Governor’s Award (1994) and Barbara Wendell was named Home Town Hero by WCHL Radio (2016).

NCBG has honored staff by naming various Garden features after them, including: “Look Who’s Coming to Dinner,” a sculpture honoring Curator Rob Gardener, 2002; (retired Assistant Director) Ken Moore Gathering Circle, 2004; display of art by retired NCBG Programs Coordinator Dot Wilbur-Brooks, 2013 (expanded 2018); (retired Horticulture Director) Jim Ward Gazebo, 2016.

In 2005, NCBG celebrated the first two groups (8 + 2) of graduates of its Botanical Illustration Certificate Program with receptions and exhibitions in the Totten Center. This tradition continues every other year for recent graduates, alternating with exhibits of art by program instructors. For the annual *Sculpture in the Garden* show, NCBG gives a “Best in Show” and “People’s Choice” awards.

NCBG honored twin sisters Bernice Wade and Barbara Stiles, whose home garden in the Gimghoul neighborhood was open to the public for decades, with the new Sisters’ Corner entrance into Battle Park on their 90th birthday (2005), and with a party at their home on their 100 birthday (2015).

The ***Flora Caroliniana Award*** was established to “honor those who make outstanding contributions toward achievement of the goals for which the Garden stands.” The first award was a framed work of botanical art created by NCBG’s Dot Wilbur-Brooks. Later awards were copies of the art with text inserted. The award was given five times: in 1988, to Lady Bird Johnson, former First Lady, local flora advocate, and author of *Wildflowers Across America*; in 1991, to John Terres, naturalist and author who wrote about NCBG’s Mason Farm in *From Laurel Hill to Siler’s Bog*; in 1996, to BGF founder, land donor, and staunch NCBG supporter William Lanier Hunt; in 2000 to C. Ritchie Bell, NCBG’s first director and author of both scholarly and popular works on our state’s native flora; and in 2016 to Tom Earnhardt, former BGF president, for “enthusiasm and service to the preservation, restoration, and appreciation of the natural world around us.” At the same 2016 event NCBG also honored its dedicated friends Thomas Kenan III, Florence Peacock, Harriet Martin, and Joan Gillings.

The **North Carolina Botanical Garden Award** is a \$300 (formerly \$200) prize given by NCBG, through the Southeastern Section of the Botanical Society of America and the Southern Appalachian Botanical Society, for a presented paper at the Association of Southeastern Biologists annual meeting that best advances our understanding of the biology and conservation of southeastern plants and thus contributes to the mission of the North Carolina Botanical Garden.

AWARDS AND RECOGNITION TIMELINE

1971 NCBG's exhibit at the NC State Fair wins a grand premium ribbon and a cash award.

1979 NCBG Herb Volunteers receive Best of Horticulture award at the Southern Living Show. BGF's Olive Tract Natural Area and Pinky Falls Natural Area (both in western NC) are included in the NC Registry of Natural Heritage Areas by NC Dept. of Natural Resources and Community Development.

1982 Delegations of distinguished botanists from Harvard University, the People's Republic of China, South Africa, and England visit NCBG to collect plant material and observe operations.

The Learning Garden, a 1982 joint project of NCBG's Horticultural Therapy Program and the Special Populations Program of Chapel Hill Parks and Recreation, is given Award of Excellence by the NC Recreation and Parks Society.

1983 NCBG wins the 1983 Gulf Oil Conservation award of \$500 for conservation leadership.

Volunteers help design and plant the award-winning exhibit on Plant Rescue at the N.C. State Fair.

BGF's Gordon Butler Nature Preserve is included in the NC Registry of Natural Heritage Areas by NC Department of Natural Resources and Community Development.

1987 NCBG Horticultural Therapist Bibby Moore receives a Community Service Award from the Orange County Chapter of the Association for Retarded Citizens.

1988 Lady Bird Johnson visits and tours NCBG to help launch the first fund-raising campaign, "Celebrating Wildflowers," and is presented with the first Flora Caroliniana Award during a campaign gala at Fearington.

The American Forestry Association National Register of Big Trees names a Carolina shagbark hickory growing on Mason Farm Biological Reserve as the largest of its species reported in the U.S., with a circumference 100 in., height 114 ft., crown spread 51 ft. (Hurricane Fran fells this tree in 1996. It is memorialized in a framed watercolor painting presented to NCBG by then-NC Governor Beverly Purdue in 2009. A cross-section of the trunk is also preserved.)

The Herb Garden is named to honor its founder, Mercer Reeves Hubbard, and celebrates its 15th anniversary.

1989 NCBG receives the NC Nature Conservancy's 1989 Public Service Award.

A revised edition of *Growing with Gardening: A Twelve-Month Guide for Therapy, Recreation and Education*, by Bibby Moore, coordinator of NCBG's Horticultural Therapy Program, is published by UNC Press. The guide helps to establish NCBG's Horticultural Therapy Program as a model and is considered to be "the best horticultural therapy text ever written." The American Horticultural Therapy Association presents Bibby Moore with one of its highest honors, the Rhea McCandlis Service Award.

1990 Bibby Moore receives the 1990 Mental Health Citizen Award from the Mental Health Association in Orange County.

Penny's Bend Natural Area is included in the NC Registry of Natural Heritage Areas by NC Dept. of Natural Resources and Community Development.

1991 The American Horticulture Society presents Bibby Moore with its esteemed Horticultural Therapy Award. Bibby's work is described as both "inspiring" and "pioneering."

John Terres is honored with the Flora Caroliniana Award.

1993 The tenth year of Wildflower of the Year T-shirts is celebrated with a special Wildflower of the Year design by Dot Wilbur-Brooks. Her “A Decade of Wildflowers” poster wins a blue ribbon at the 1993 national meeting of the American Association of Botanical Gardens and Arboreta.

From Anise to Woodruff: 1793-1993; The Identification, Observation, Growing and Culinary Use of Herbs in the Southeastern U.S. is printed on the occasion of the UNC Bicentennial Observance (October 1993–May 1994). Authored by NCBG’s Herb Volunteers, it is selected as an official Bicentennial publication by the UNC Bicentennial Observance Policy Committee.

Peter White is Hero on the Hill, 1993, by the *Daily Tar Heel* (UNC campus newspaper).

Nancy Easterling is awarded the Distinguished Service Award by the Orange County Disability Awareness Council.

1994 NCBG receives the 1994 Award for Excellence in Preservation of the Paul Green Cabin from the Chapel Hill Community Appearance Commission.

Volunteer Barbara Emerson, NCBG volunteer librarian for 7 years, receives the Governor’s Award for Outstanding Volunteer Service. She is acknowledged for her vision, actively building and organizing the collection, redesigning the catalog, coordinating the jobs of two other volunteers, and coordinating with the Library Committee. (Barbara dies in 1995.)

1996 NCBG is ranked as one of “America’s Best Public Gardens” by *Garden Design* magazine. In the category of Native Plants, NCBG is one of four gardens considered by the panel of experts to be the best in the country.

The day before his death, William Lanier Hunt is presented with the *Flora Caroliniana* award as BGF founder, land donor, and staunch NCBG supporter.

The NC Unit of the Herb Society of America chooses NCBG as one of the sites to hold the National Collection of Living Rosemary Cultivars.

Members of the International Dendrology Society from England, Argentina, New Zealand, France, Canada, Australia, the Netherlands, and the U.S. visit NCBG, the UNC campus, and Coker Arboretum.

Carnivorous plant experts and enthusiasts from around the world convene at the Totten Center for the Southeastern Carnivorous Plant Conference.

During a visit of Garrison Keillor and his Prairie Home Companion Company to celebrate WUNC-FM’s 20th anniversary, Keillor describes the Coker Arboretum on the radio show: “*This is forest country down here . . . beautiful trees all around and not far from Carmichael Auditorium here on the campus of UNC is an incredible 5-acre arboretum, right in the middle of campus with loblolly pines, northern catalpas, pond cypress, and water hickories, sweetgum trees and the magnolias, of course. It’s a lush forest here. . . these are woodland people here, a little more modest than the rest of us.*”

The Garden Commons, behind the Totten Center, is awarded the Jean and Pearson Stewart Appearance Award from the Chapel Hill Appearance Commission.

1998 Director Peter White’s book, *Wildflowers of the Smokies*, wins first prize for Natural History Books in the annual Excellence in Interpretation competition, National Park Service.

Chapel Hill’s Community Design Commission presents the Robert E. Stipe Appearance Award to Coker Arboretum for the Arbor Replacement and Entrance Design, funded by UNC Class of 1997.

Nancy Easterling is elected president of the Carolinas Chapter of the AHTA.

1999 “Fire and the Longleaf,” a video produced by NCBG Education Specialist Nancy Easterling and videographer and BGF Board member Anne Lindsey, receives two national awards: a Silver Telly from the Center for Creativity, and a Videographer Award of Excellence.

The Mercer Reeves Hubbard Herb Garden is named one of the top six U.S. herb gardens by *Herb Companion* magazine.

C. Ritchie Bell is presented with NCBG’s *Flora Caroliniana* Award for his lifelong contributions to the scholarly and popular literature in botany; for his persistent and tireless promotion of the conservation of the rich flora of North Carolina and the Southeast; for his contagious and unforgettable enthusiasm in sharing a love of wildflowers, gardening, and people with students of all ages and backgrounds; and for his leadership and vision as the first and founding director of the North Carolina Botanical Garden.

2000 Chapel Hill Community Design Commission presents the Jean and Pearson Stewart Appearance Award to the Woodrow Burns family and NCBG for Louise Coker Park (aka “The Rocks”).

2001 NCBG receives National Natural Resource Conservation Award for Leadership in Native Plant Conservation from the Bureau of Land Management (U.S. Dept. Interior) and USDA Forest Service.

Laurel Hill and Stillhouse Bottom, both owned by BGF, are officially approved as dedicated nature preserves by the NC Natural Heritage Advisory Committee and the NC Council of State. They are ranked “Outstanding” by the NC Natural Heritage Program.

2002 NCBG Assistant Director Ken Moore receives the 2002 UNC Chancellor’s Award, recognizing him as NCBG’s ambassador in the areas of Outstanding State Government Service and Public Service during the past 31 years. (Ken retires in 2003.)

Look Who’s Coming to Dinner, by sculptor Harold Quidley, is commissioned by friends and colleagues of Rob Gardner to swirl over the *Sarracenia* plants that Rob bred and cultivated for more than 27 years.

Nancy Easterling is elected president of the American Horticultural Therapy Association.

Peter White is Tar Heel of the Week by the *News and Observer*.

Peter White and NCBG are named Star Heel by the *Daily Tar Heel* (UNC).

NCBG receives the 2002–03 Invasive Weeds Awareness Coalition award for exceptional educational efforts and initiative in the battle against invasive plants in the U.S.

2003 Director Peter White receives a National Botanical Garden Award from the Federal Interagency Committee on the Management of Invasive Noxious Exotic Weeds.

2004 NCBG receives two national awards: Program Excellence for the Conservation Garden, from the American Association of Botanical Gardens and Arboreta; and Sustainability Award for the Conservation Garden and Education Center, from Sustainable North Carolina. An Award of Excellence is presented to Director Peter White by National Garden Clubs, Inc. In acknowledgement, Peter White observes that the awards recognize the entire NCBG staff, who, with volunteers, define and carry out the Conservation Garden mission and wildflower conservation in the southeastern U.S.

The Ken Moore Gathering Circle, adjacent to the Totten Center, honors J. Kenneth Moore for 32 years of service, inspiration, leadership, and nurturing.

NCBG receives the Village Pride Award, WCHL Radio (Chapel Hill).

2005 Sisters' Corner seating area, a new pedestrian entrance into Battle Park, is dedicated, honoring the 90th birthday of Gimghoul residents Bernice Wade and her twin sister Barbara Stiles, whose home garden has been open to the public for 30 years.

The first eight graduates of the Botanical Illustration Certificate Program celebrate in a reception and exhibition of their work in the Totten Center in May. In autumn, two more students complete certificate work and are also honored with a reception and exhibition.

NCBG receives a Certificate of Appreciation for support of the 2005 *Our Land, Our Legacy* exhibit at the NC State Fair.

Director Peter White is profiled in *Southern Living* (May).

Peter White is one of 50 people involved in a 3-year project for the Smithsonian: Biodiversity, Science and Education Initiative.

Peter White is named Full Time Sustainability Supporter by the UNC's Sustainability Office, for his role as director of NCBG, recognized worldwide for its leadership in plant conservation; for NCBG's plans for the new Education Center, designed to achieve LEED Platinum certification; for chairing the selection committee for the Morehead Planetarium Director; and for his role as Botany Professor.

At the same ceremony, Johnny Randall and Jim Ward receive Sustainability Awards, as founding members of the UNC Sustainability Coalition.

Ken Moore receives the Tom Dodd Jr. Award of Excellence from the Cullowhee Native Plant Conference for efforts to support the conservation and preservation of native plants in their habitats, propagation of native plants and appropriate uses of native plants in cultivated situations.

Nancy Easterling is named Horticultural Therapist of the Year by the Carolina Chapter of the Horticultural Therapy Association.

2006 NCBG receives the Chapel Hill Greenways and Open Space Honor Award for renovating and improving Battle Park.

2007 NCBG awarded "Green Dept. of the Year" by UNC Office of Waste Reduction & Recycling. On University Day, UNC honors C. Ritchie Bell with the Distinguished Alumnus Award.

Nancy Easterling receives the Rhea McCandliss Professional Service Award from the American Horticultural Therapy Association, in recognition of significant contribution to horticultural therapy.

2008 NCBG is honored with the Preservation Award from the Preservation Society of Chapel Hill, for the restoration and preservation of Battle Park forest and trails.

NCBG receives the Dorothy E. Hansell Publication Award from the American Public Gardens Association, for NCBG's website—first place in the mid-size public garden category.

2009 NCBG is honored with the Bird-Lore Conservation Education Award from Audubon North Carolina, for exceptional efforts to educate the public about birds, their habitats, and to inspire conservation of the special landscapes we share with all wildlife.

A Seeds of Success Collector Award goes to staff member Andy Walker, who in 2008 made over 100 collections for Seeds of Success—the national native seed collection program led by the Bureau of Land Management in partnership with other federal agencies and organizations such as NCBG.

Director of Conservation Johnny Randall receives the N.C. Native Plant Society's Henry Roland Totten Award, "in recognition of his superior efforts to advance knowledge and appreciation of native plants of North Carolina for the purpose of their conservation."

NCBG Director Peter White is named an "Outstanding Southerner" by *Southern Living* (March).

2010 The Education Center earns the highest certification from the U.S. Green Building Council, LEED Platinum. It is the fourth LEED Platinum building in NC, and the first state-owned building and first public museum and outreach center to earn LEED Platinum status.

NCBG receives U.S. Dept. of Interior Partners in Conservation Award for Seeds of Success Partnership.

2011 NCBG receives the APPLES Service-Learning Program Community Partner Excellence Award for its work with student Interns and volunteers.

5.6 acres purchased by the Botanical Garden Foundation, and added to its Stillhouse Bottom Nature Preserve, is dedicated as the Joslin Slope to honor and recognize the many contributions, including advocacy, by the late Bill Joslin and his family.

Robert E. Bryan Public Service Award (UNC) is given to Claire Lorch, NCBG Outreach Coordinator for the Carolina Campus Community Garden, for exemplary public service: "an effort that has brought town and gown together to provide free fresh produce for University employees most affected by current economic problems."

2012 Peter White is named a Home Town Hero by WCHL radio.

2013 NC GlaxoSmithKline cites the BGF for Positive Impact on the Lives of NC's Citizens.

Retired NCBG Programs Coordinator Dot Wilbur-Brooks is honored with a display of her art outside the Reeves Auditorium.

2014 Artwork by two graduates of NCBG's Certificate in Botanical Art and Illustration, Bill Alberti and Maryann Roper, are among 44 accepted as part of a major national juried exhibition, *Following in the Bartrams' Footsteps*, which visits NCBG in the fall.

As Peter White retires from NCBG's directorship, he receives a Star Award for service to the conservation of the flora of the U.S.; Order of the Long Leaf Pine award from the State of North Carolina, and Proclamation of Peter White Day, Dec. 3, 2014 by the Town of Chapel Hill.

2015 Coker Arboretum is awarded second place among the 50 most beautiful U.S. college arboreta.

The Melinda Kellner Brock Terrace, constructed by a gift from Eunice Brock to honor her daughter, is completed and dedicated in Battle Park.

Peter White, NCBG's former director, receives the Pritzlaff Conservation Award from the Santa Barbara Botanic Garden for service to plant conservation, and the Edward Kidder Graham Award, UNC, given to a faculty member for service to the state, nation, and world.

NCBG receives a Community Access Award from Orange County Disability Awareness Council.

2016 Volunteer Barbara Wendell, NCBG volunteer coordinator since 2009, is named WCHL Home Town Hero for her steadfast support of NCBG: serving on the BGF Board, where she organized the annual Carolina Moonlight Galas; Herb Garden volunteer; and coordinator of all volunteers, growing the volunteer force from 250 to 800 (and giving about 1400 volunteer hours of her own each year).

NCBG's Wonder Connection program, which brings the natural world to hospitalized pediatric patients, wins a Core77 Design for Social Impact award for the WonderSphere, invented by NCBG's Katie Stoudemire. The WonderSphere allows immune-compromised children to interact with natural materials without risk of infection.

Tom Earnhardt, recent president of the BGF, becomes the fifth person to receive the Flora Caroliniana Award, for his "enthusiasm and service to the preservation, restoration, and appreciation of the natural world around us." Earnhardt has tirelessly advocated for the natural landscape of NC as the host and producer of *Exploring North Carolina* on UNC-TV, as the author of several books, and as a board member for many conservation organizations. At the same event NCBG also honors dedicated friends Thomas Kenan III, Florence Peacock, Harriet Martin, and Joan Gillings.

GRATEFUL BENEFICIARY



support from founders and friends

I desire no future that will break the ties with the past.

— George Eliot

THE BOTANICAL GARDEN FOUNDATION

In 2016, The Botanical Garden Foundation, Inc. (BGF) celebrated the 50 anniversary of its establishment and chartering together with the 50th anniversary of NCBG's trail-opening to the public, an expression of their shared history and partnership.

The BGF officially began with the Articles of Incorporation, signed on January 25, 1966 and notarized on March 25, 1966. It is a private, 501(c) (3) non-profit organization that supports NCBG financially, advocates for NCBG, provides for the association of members, and holds and protects land for conservation as a land trust. It is an Associated Entity Foundation of the University of North Carolina at Chapel Hill (UNC).

During the November 18, 2016 meeting of the BGF Board, two additional Articles of Amendment to the Articles of Incorporation and a Revision of the By-Laws were passed by the Board.

Origins: The North Carolina Botanical Garden was established at UNC in 1952 by action of the UNC Board of Trustees at the request of Dr. John Couch, then chair of UNC-CH's Botany Department. Its founding was enabled by the vision, inspiration, determination, leadership, contributions, influence and importance of the members of the Botany Department: Dr. W. C. Coker, Dr. H. R. Totten, Dr. William Koch, Dr. John Couch, Dr. C. Ritchie Bell, Alma Holland Beers, Dr. Albert Radford, Laurie Stewart Radford, and others.

Land acquisition and assigned land management were central to the establishment and growth of NCBG and accelerated once the BGF was established. Beginning in 1927, with a proposal by Dr. Coker to UNC President Chase, dedicated land for a botanical garden accumulated with (1) Dr. Couch's request in 1952 to the UNC Trustees to approve creation of a botanical garden on 72 acres of Mason Farm woodlands, (2) W. C. and Louise Venable Coker's deeding of the Pinetum in 1953, (3) William Lanier Hunt's land donation of 103 acres along Morgan Creek in 1961 (to be known as the William Lanier Hunt Arboretum), (4) Nancy and Edward Gray's donation of 8 acres (known as Gray Bluff Garden) adjacent to Hunt's land in 1961, and (5) the UNC Trustees' addition of 96 acres of Mason Farm for research, teaching, and conservation in 1965.

Coker Arboretum (1903) and the UNC Herbarium (1908), both founded by Dr. Coker, were staffed and led by Botany faculty and used for teaching and research. Each, over time, were kindred to the future NCBG and later became an administrative part of NCBG. In 1961, the Botany Department presented a prospectus to the UNC president: "The North Carolina Botanical Garden, A Review of the History and Status, and Prospectus for a Public Botanical Garden and Arboretum Operated as a Unit of the Department of Botany." In the same year, Botany Department faculty member Dr. C. Ritchie Bell was

appointed the first director of NCBG by Dr. Couch, but without staff or resources with which to develop plant collections and build the potential for research, teaching, and public service. NCBG needed a base of funds to grow, thrive and prosper.

In 1961, NCBG Advisory Board member William Lanier Hunt (horticulturist, former student of Dr. Coker, and 1931 UNC graduate with a double major in romance languages and botany) led the effort to form the Botanical Garden Foundation. The goal was to have this new organization be a base of financial support for NCBG and to also serve as a “land trust” that could acquire, protect, and manage land for conservation. Many supporters were members of the Botany Department and of the N.C. Wild Flower Preservation Society. Working with Dr. C. Ritchie Bell, a proposed Certificate of Incorporation was circulated for comment in Spring 1965 to Advisory Board members and others, citing three primary BGF purposes: fundraising, land protection, and advocacy.

1966–1988: The Botanical Garden Foundation was incorporated in 1966, followed in 1967 by the first annual meeting, chaired by George M. Stephens. William Lanier Hunt was elected Foundation president. Other officers included Hugh Morton of Wilmington, E. L. Demmon of Asheville, and Harry Billica of Greenville. Elected Board members included George Stephens of Asheville, William Joslin of Raleigh, Chase Idol of Charlotte, Pearson Stewart of Chapel Hill, Stanley Peele of Chapel Hill, Charles E. Ray of Waynesville, R. M. Watkins of Chapel Hill, Mrs. R. D. McMillan of Red Springs, and Mrs. W. C. Coker of Chapel Hill. When Foundation membership invitations were sent to prospective members by William Lanier Hunt in 1967, 291 individuals and 18 organizations became charter members. Four categories of membership were established subsequently: Active, open to interested persons with annual dues of \$2; Contributing, \$10; Sustaining, \$100; and, Honorary, as elected by the Board of Directors. Two classes of group membership were defined: Organization such as Garden Clubs, \$25; and Junior Organizations such as schools, \$5. In December 1967, the BGF bank balance totaled \$117.31. In 1967, a Trust Fund account was established within UNC’s Accounting Department for NCBG, “to provide funds for the operation and development of the NCBG.”

During the period 1966–1988, the BGF fulfilled its purpose, according to Dr. Anders Lunde in his “Notes for a History of the Botanical Garden Foundation” (unpublished draft, written 1987–1988). Lunde’s preface to this document summarized the Foundation’s accomplishments over 22 years:

- Took title to lands and preserved them as natural habitats.
- Held property until it could be transferred to another conservation entity.
- Became the custodian of public funds for NCBG support, acting as “trustee” for donated gifts and as “fiscal agent” in the case of grants and special gifts.

- Accumulated funds for investment purposes.
- Used unencumbered funds to supplement needs uncovered in the UNC budget, including paying staff salaries in full or in part for the director, superintendent, secretaries, bookkeeper, public programs coordinator, receptionist, membership coordinator, and curators. In periods of severe need, the Foundation's members provided funds for operational expenses.
- Became the custodian of special gifts to develop, endow, and maintain the Herb Garden.
- Increased membership to over 2,000 by 1986, and held picnics and potlucks for members who attended annual membership meetings.
- Received unpaid service to the Foundation and NCBG by hundreds of individuals including Foundation officers, Board and committee members, and volunteers.

Lunde concluded his preface by noting, "The story of the North Carolina Botanical Garden and the Foundation is one of great expectations, many frustrations, and impressive achievement."

In 1969, the BGF received its first gift of land to be preserved as natural habitat—a 15-acre tract on Chesser's Island in the Okefenokee Swamp in Georgia, donated by Dr. and Mrs. Francis Harper. The tract was retained until it could be transferred to the Okefenokee National Wildlife Refuge.

Arrival at 50 Years: The mission of the BGF in 2016 is directed toward raising funds and protecting lands to benefit NCBG's mission and programs. Sources of funds include membership dues, unrestricted gifts, restricted gifts, memorial and planned gifts and bequests, and endowments. The BGF has no paid staff but uses its resources to support salaries and NCBG expenses, most related to fundraising, membership, and management of lands the Foundation holds for conservation. Endowment income is used by NCBG for purposes established by each endowment, administered by the UNC Investment Fund. Funds in the BGF's accounts and trusts are also managed as part of the UNC Investment Fund. Income from special events, including the Carolina Moonlight Gala, initiated as a fundraising activity by the BGF in 2012, provide additional support.

In 2016, to increase the appeal of membership, BGF initiated a benefit that enables members visiting any of 300 public gardens and arboreta affiliated with the American Horticultural Society to gain free admission and receive discounts on purchases made there. This new membership benefit is in addition to the existing 10% discounts on NCBG class and program fees, and Garden Shop and plant purchases, as well as invitation to members-only events. An annual meeting of members is held each fall. NCBG/BGF membership in mid-2016 totaled over 3400 individual members and organizations.

Members receive *Conservation Gardener*, a biannual magazine first published in 2016; they also receive digital monthly newsletters (successor to a printed newsletter mailed to members for 40 years).

In 2015, private gifts through BGF constituted 30–40% of NCBG’s annual budget. From 1966 through 2016, private fundraising totaled \$25 million, including \$12 million of private contributions for the Allen Education Center.

In 2016, the BGF’s properties, conservation easements, and managed lands totaled 327:

BGF Properties (128 acres)

- Stillhouse Bottom Nature Preserve 23 acres
- Laurel Hill Nature Preserve 75 acres
- Laurel Hill Residence and Grounds 2 acres
- Highland Pond 3 acres
- Creekside Bluff 1 acre
- Gordon Butler Nature Preserve 12 acres
- Villa Pinea 12 acres (includes an easement)
- (Pinky Falls Nature Preserve, 5.7 acres, and Lindsay Olive Reserve, 4 acres, in Macon County were transferred to the BGF in 1974 by The Nature Conservancy; in 2004 they were transferred to the Highlands-Cashiers Land Trust.)

• **BGF Easements (115 acres)**

- Morgan Creek Easements (12 parcels) 6 acres
- Laurel Hill Easements 12 acres
- Stillhouse Bottom 5 acres
- Villa Pinea (included in Properties, above)
- Morgan Creek Preserve 92 acres

• **BGF Managed Lands 84 acres**

- Penny’s Bend Nature Preserve 84 acres

In its fifty year history, the BGF’s support and advocacy have increased the viability and visibility of NCBG. Financial support grew from a 1967 bank account with a balance of \$117.31 to more than \$1 million in annual fundraising income and a \$3.66 million permanent endowment (providing \$180,000 in investment income to NCBG each year) by 2016. Public support for NCBG started with 291 individual and 18 organizational charter members in 1967; it has grown to more than 3400 individual and organizational members (in mid-2016). NCBG has succeeded as a result of the energy and dedication of staff, volunteers, students, and the sustained support of the BGF.

Looking to the Future: What do the next 50 years hold for NCBG and the BGF? At or near the top of the list are a state-of-the-art herbarium facility and a research library, both of which will expand NCBG’s

research capacity and allow for greater on-site training of UNC students. Also hoped for are an increase in the number of endowments for interns, and expanded offerings of conferences, courses, classes, and seminars responsive to NCBG's commitment to research, botanical education, conservation, and public service. Future generations of botanists, conservationists, citizen scientists, and volunteers will be needed to carry NCBG's mission forward. There is a role for the BGF in supporting this planned growth. If history and experience are instructive, today's students will lead and implement new pathways toward "sowing the seed, nurturing the sapling, and watering and fertilizing to create the right growing conditions for the Garden to flourish" (Director Damon Waitt, 2016).

Sources:

Dr. Anders Lunde. "Notes for a History of the Botanical Garden Foundation." Unpublished manuscript written 1987–88, submitted to Peter White, edited by Charlotte Jones-Roe (June 15, 1988).

Ken Moore. "William Lanier Hunt, FRHS, 'Dean of Southern Horticulture'." Unpublished document, revised November 23, 2005.

Anne Lindsey. "Botanical Garden Foundation, 1966- ." Unpublished document, February 18, 2016.

Peter White. "Celebrating 28 Years." Video, ca. 2016.

Conversations with Sally Vilas, Ken Moore, Charlotte Jones-Roe, Damon Waitt, and Barbara Wendell.

"Financial Literacy for BGF Board Members." Unpublished document, 2016.

Conservation Gardener, Spring & Summer 2016 and Fall & Winter 2016–17.

GENEROUS FRIENDS

The following individuals and organizations have given significant and sustained support to NCBG through the Botanical Garden Foundation (BGF). Many others have also supported the mission of NCBG through membership and through monetary and in-kind gifts.

Ann and Lex Alexander	Ann and Lex Alexander have contributed generously, especially through sponsorship of <i>Sculpture in the Garden</i> .
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Paula and Bruce Alexander	Paula and Bruce have provided generous annual gifts for general support of NCBG.
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Dorothy Allard and G. W. Martin	Dorothy and Bill have given generously for many years.
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Frances Meadows Allen	Former NCBG business manager, Frances has provided many unrestricted and designated gifts as well as in-kind gifts.
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James E. Allen and Delight Allen	Jim and Delight Allen's commitment of \$8M for an unrestricted endowment brought about forgiveness of the debt on the Education Center. The James & Delight Allen Education Center was then named in their honor.
Anonymous	Many Garden donors have chosen to remain anonymous.
Antonia Foundation	The Antonia Foundation gave for conservation and interpretive materials.
E. Reid Bahnson	Former BGF President E. Reid Bahnson made gifts of books and cash.
C. Ritchie Bell and Anne H. Lindsey	C. Ritchie Bell and his wife, Anne H. Lindsey, made gifts of real estate to both the Herbarium and the Education Center and made other generous contributions throughout NCBG history. The Bell Seminar Room is named in honor of NCBG's founding director, C. Ritchie Bell.
Elizabeth Gant Bennett	Lib Bennett, a UNC alumna and wartime journalist, contributed generously to the Porch of Ideas, which now bears her name.
Charles and Patricia Biggs	Charles and Patricia Biggs contributed 5 acres of land that expanded the Gordon Butler Nature Preserve near Hope Mills, NC (see Dixie Yarns, Inc., below). Land came with a reverter clause. Gordon Butler, for whom the preserve was named, was a much-admired plantsman and leader in the NC Wild Flower Preservation Society.
Larry Blanton and Candace Haigler	Larry Blanton and Candace Haigler, botany graduates of UNC, have given generously to many Garden areas, especially the Mary McKee Felton Internship for the UNC Herbarium.
Blumenthal Foundation	The Blumenthal Foundation was an early supporter of NCBG.
Catherine Bollinger and Tom Scheitlin	Catherine, an NCBG volunteer, and her husband Tom have made generous annual gifts for general support and special projects.
Marjorie N. Bond	Marjorie Bond left \$50,000 to NCBG in her will.
Bill H. Bracey	Former BGF President Bill Bracey contributed financially through his real estate firm, Arbor Realty, and he contributed his service in handling dozens of gifts of real estate and rental property.
Anne W. Branscomb	Anne Branscomb, a BGF Board member, contributed cash plus early computer equipment through her employer, IBM.
Eunice M. Brock	Eunice Brock made major contributions to Battle Park for construction and care of the Melinda Kellner Brock Terrace.
Brown F. Finch Foundation	Established in memory of Brown Finch, brother of BGF Board member Emily Finch Lambeth, the Finch Foundation contributed to funding of the George Finch Porch of Education in honor of Emily's father, who always encouraged his daughters as well as his sons to become well educated.

Sally J. Brown/ Marin Development Company	When Sally Brown purchased and developed land formerly owned by William Lanier Hunt, she made generous contributions of land to protect the adjacent Mason Farm Biological Reserve. Her company, Marin Development Company, contributed 26 acres fee simple plus approximately 10 acres in conservation easements to the Botanical Garden Foundation in 1995.
Clyde and Lois Browning	Lois and Clyde Browning are loyal supporters who have included NCBG in their estate plans.
Cotton and May Martin Bryan	BGF Board member Cotton Bryan and his wife May have contributed generously for general support and special projects at NCBG.
Tim and Janie Burnett	Tim Burnett (Chair, UNC Board of Trustees) and his wife Janie gave \$250,000 to sponsor the Davis Garden Shop in honor of Tim's mother, Judy Davis, and her husband, author Burke Davis. Both Judy and Burke served on the BGF Board.
Barbara J. Burns	Barbara Burns is a loyal supporter of NCBG who has made a generous commitment to NCBG.
John and Mary Louise Burress	John and Mary Louise Burress made a generous contribution in memory of BGF Board member Cordelia Penn (Cannon).
Thomas C. Butler	Thomas Butler made a memorial gift in memory of his mother, early NCBG plant rescue volunteer Pauline Butler. The Butler Endowment sponsors research on medicinal plants.
Edward E. Caldwell	Ted Caldwell, a UNC alumnus, gave generously in memory of his friend and classmate, Mary McKee Felton. Mrs. Felton worked at the UNC Herbarium until her retirement at age 83; an herbarium internship carries her name.
Pam and Bill Camp	Pam and Bill Camp provide general support for NCBG as well as for specific areas, and they arrange for matching by Bill's former employer, IBM.
Center for Plant Conservation	The Center for Plant Conservation has provided generous grants for conservation of rare plants over the years. NCBG was one of the center's founding institutions.
Chapel Hill Garden Club	The club's generous contributions, advocacy, and outstanding Chapel Hill Spring Garden Tours (see below) helped build the Allen Education Center and have supported NCBG in many ways.
Chapel Hill Spring Garden Tour	The Chapel Hill Garden Club's Chapel Hill Spring Garden Tour has raised funds and contributed generously to the Allen Education Center and, more recently, the Children's Wonder Garden.

Claire and Hudnall Christopher	Claire Christopher, elected honorary lifetime member of the BGF Board after many years of service, made generous unrestricted gifts to NCBG through the “Great Recession” and helped fund the Allen Education Center. The Plant Sale Pavilion bears a plaque honoring Claire and her mother, the late Cordelia Cannon; both were close friends with Judy Davis, whose son Tim Burnett named the adjacent Garden Shop in his mother’s honor.
Mike and June Clendenin	June, a volunteer, and her husband Mike, have made generous annual gifts and arranged for them to be matched by Mike’s employer.
Becky and Munroe Cobey	Becky Cobey established the Jim Todd Living Plant Endowment in honor of her father, an avid plantsman. Becky became a BGF Board member, and she and her husband, Munroe, have gone on to support a wide range of projects at NCBG and to sponsor many events.
Charles and Joan Coker	Charles and Joan Coker, relatives of founder William Chambers Coker, made a generous gift to add to the Coker Arboretum Endowment on the occasion of the Arboretum Centennial.
William Chambers Coker	Professor William Chambers Coker (died 1953) founded the campus garden now known as the Coker Arboretum, the UNC Herbarium, and other UNC campus institutions. He hired the first campus landscape architect and many botany professors and staff. The land that is now the site of the Totten Center and original Display Gardens and the land along Meeting of the Waters Creek that is now known as the Coker Pinetum, one of his favorite teaching sites, was contributed after his death. Coker’s deed restrictions on the land prevented UNC from selling the land or using for purposes other than a botanical garden.
J and Jerry Colvard	J Colvard and his wife Jerry made three gifts of \$100,000. Two of these gifts sponsored rooms in the Education Center, and the third is an endowment for the Mountain Habitat collections. J’s only request was to get to meet C. Ritchie Bell and have him sign his worn copy of <i>Wild Flowers of North Carolina</i> .
Tom and Cindy Kaye Cook	NCBG volunteer Cindy Cook and her husband Tom have been loyal supporters. They recently sponsored replacement of the propagation greenhouse and provided funds for a horticulture intern.
Else Ruprecht Couch	Else Couch, the widow of John Couch (chairman of the UNC Botany Department), who requested that the UNC Trustees charter the botanical garden, believed that volunteers had an important role and that they should have a place that recognized their contributions. Mrs. Couch supported NCBG, the Herbarium, and made the first gift for the Volunteer Room in the Allen Education Center. Her daughter Sally Couch Vilas and other family members completed and named that room in her honor.

Gretchen Cozart	Gretchen Cozart, an early BGF Board member from Wilson, NC, became a lifetime honorary Board member. She joined her friends Teeny Stronach and Eleanor George in making gifts to sponsor the Staff Break Room in the Allen Education Center in honor of Superintendent J. Kenneth Moore.
Hazel Craige	Hazel Craige gave generously for general support and encouraged gifts of sculpture by her daughter, Sarah Craige, whose work graces the Herb Garden.
Scott and Nancy Cramer	Nancy Cramer was an early BGF Board member. Her husband Scottie continues to make generous annual contributions.
Chicita Culberson	Dr. Culberson, a lichenologist and chemist at the Duke University Herbarium, gave her home, Villa Pinea, and annual contributions for its upkeep and care. She also gave two vehicles that continue to serve staff for daily transportation.
Mary Lockwood Curry	Mary Lockwood Curry, the “Arboretum Angel,” provided funds immediately after Hurricane Fran in 1996 to hire specialists to clean up fallen trees and debris. She made gifts in life and a planned gift to support the Education Center.
Van Womack Daniel III	Van Daniel provides general support to NCBG and has documented a generous planned gift.
James and Jan Dean	Jan Dean is a member of the BGF Board and the Chapel Hill Garden Club. She and her husband Jim have provided generous annual gifts for general support.
Arthur S. DeBerry, Martha DeBerry, Mignon DeBerry	Arthur DeBerry, former president of the BGF, made the first gift for the permanent endowment for Coker Arboretum at the urging of his late-wife, Martha. Arthur and his family funded a new entry and overlook for the Coker Arboretum; sponsored the DeBerry Gallery for Botanical Art and Illustration in the Allen Education Center; contributed generously for the entry renovation; and Arthur and his wife Mignon have documented planned gifts to provide support for internships and facilities in the future.
Clyde J. Dietz; Dennis and Doris Higdon	Mr. and Mrs. Clyde J. Dietz and Mr. and Mrs. Dennis C. Higdon Jr. (Doris C. Higdon) gave 54 acres of land in the mountains (Jackson County, NC) to the BGF in 1977. The land carried no restrictions and after assessment for value as a natural area was sold to benefit NCBG’s Conservation programs.
Nancy and Robert DeLong	Nancy DeLong, once a tour guide at NCBG, has with her husband Bob provided operating support for many decades.
Dixie Yarns, Inc.	Dixie Yarns, Inc. gave 7.5 acres in Cumberland County, NC, to the BGF in 1975, “dedicated to the preservation of native plants and natural habitats characteristic of the sandhills.” An additional 5 acres was given to the BGF by the Biggs and Huie families in 1988. The preserve was named for well-known plantsman Gordon Butler.

DuBose Family	Gave NCBG its first greenhouse.
Duke Power Company	After selecting another location for a transmission tower and lines, Duke Power deeded 7 acres of land at Stillhouse Bottom to the BGF in 1985.
Muriel Easterling	Muriel Easterling, a former officer and now lifetime honorary BGF Board member, has provided support for NCBG in many ways. She volunteered for decades in many capacities, and she sponsored the reception desk in the Allen Education Center with a generous gift made “in honor of the Garden staff.” Her artistic contributions may be seen among the Wildflower of the Year Quilts she arranged for from the Durham Orange Quilters Guild.
Bob Eaves and Beverly Perdue	Bob Eaves was a contributor and member of the BGF Board for many terms. After the death of his wife Joanne, he married Beverly Eaves Perdue, who later became governor of North Carolina and presided over the “ground honoring” and dedication of the Allen Education Center.
James and Mary Eder	Jim and Mary Eder donated 5 acres of land in 1995 to add to the BGF Stillhouse Bottom Nature Preserve. They also gave \$5,000 to establish an endowment to help care for the land. The fund, known as the Natural Areas Endowment, continues to receive contributions and generates revenue for monitoring and stewardship of BGF nature preserves.
Barbara Emerson	Barbara Emerson, NCBG volunteer librarian, was a generous contributor of time and money. After her death, her son Richard presented NCBG with her collection of books and professional photographs.
C. Page Fisher	C. Page Fisher was a loyal member and included NCBG in her will. A bench commemorating their wedding anniversary was placed by her husband, Gordon.
R. B. Fitch	R. B. Fitch, former president of the BGF, endowed the Jenny Fitch Wildflower Lecture in memory of his wife, who was also a BGF Board member. The lectures are free to the public and provide information about native plant gardening and horticulture.
Martin and Carolyn VanEvery Foil	Carolyn “Puddin” Foil, a BGF Board member, gave generously to Horticultural Therapy in recognition of the benefits of HT for their son Philip after he sustained a head injury. Her husband, Martin, made additional generous contributions after her death.
Jean and James Coker Fort	James Coker Fort, nephew of W. C. Coker, served on the BGF Board and continues to make generous contributions, especially to Coker Arboretum.
June Foushee	June Foushee has provided support for NCBG and Mason Farm Biological Reserve.
Charles and Preston W. Fox	Charles and Preston Fox endowed The Rocks to make sure that the memorial to Preston’s aunt, Louise Venable Coker, will be cared for and preserved.

Paul Gabrielson and Mary Love May	Paul and Mary Love have provided general support as well as gifts designated to support molecular taxonomy.
Sarah Fore (Bell) Gaines	Sarah Fore Gaines was the first wife of founding director C. Ritchie Bell. She included a gift of \$160,000 in her will, and her name may be seen in the Library and Green Gardener area.
William E. Garwood	UNC alumnus Bill Garwood and his wife Betty made generous contributions to the Coker Arboretum for the irrigation system; he also gave funds requesting that there be a classroom named for his professor of botany, John N. Couch. Mr. Garwood was a chemist who invented synthetic oil for Mobil.
Eleanor A. George	Eleanor and Claude George lived next to and were fans of NCBG. Eleanor bequeathed a gift, to be split between Coker Arboretum Endowment and the Education Center, in honor of Ken Moore. Gretchen Cozart and Teeny Stronach added their gift to Eleanor's, to name the Ken Moore Staff Break Room.
Joan H. Gillings	Joan Gillings is a generous supporter of NCBG programs and events.
David and Lallie Godschalk	Dave and Lallie Godschalk served as BGF Board member and Garden volunteer, respectively. They gave generously to the Education Center and sponsored the cistern nearest the main entry.
Lucinda Gordon	Lucinda Gordon and family made a generous gift to the Coker Arboretum in memory of volunteer Bob Gordon.
Mary C. Gore	Mary Gore, who worked as a bookkeeper for NCBG in its earliest days, included NCBG in her will.
Governors Club Limited Partnership	During residential development of the Governor's Club, the Limited Partnership deeded approximately 3 acres atop Edwards Mountain to the BGF. Now known as the Highland Pond Nature Preserve, this site with a vernal pool is an important breeding site for salamanders.
Grace Jones Richardson Trust	Many gifts have come to NCBG through the Grace Jones Richardson Trust from members of the Richardson family.
Marcella and Paul Grendler	After her retirement from UNC Libraries, Marcella Grendler became a dedicated volunteer and contributor of items needed by staff to do their jobs. Marcella and Paul have contributed vehicles, sponsored staff showers in the basement of the Allen Education Center, and most recently co-sponsored the replacement of the propagation greenhouse and matched contributions for Garden entry improvements.
Edward and Nancy Gray	Edward and Nancy Gray gave rhododendron bluffs along Morgan Creek ("Gray Bluff Garden") in the early 1960s. According to the Gray family, Nancy worked closely with William L. Hunt to make sure the proposed Duke Power trunk line to campus did not bisect the neighborhood or the future NCBG.

William and Julia Sprunt Grumbles	Julia Sprunt Grumbles and her husband William have given very generously to the Wonder Connection, a nature program for children who are in long-term or permanent hospital care.
Dixie and Rus Hapgood	Dixie and Rus Hapgood sponsored the space in the Allen Education Center where the plaque honoring them and other donors may be found.
James and Dorothy Hardin	Jim Hardin, former director of the NCSU Herbarium, is a fan of the UNC Herbarium; he and his wife Dorothy have contributed generously to the fund for a future herbarium and research facility.
Anne Fleishel Harris	Anne Fleishel Harris, a retired botanist and member of the BGF Board, has made generous contributions toward the future herbarium building and for general support of NCBG.
Sandra Henson	Sandra Henson provides generous annual support for NCBG and its programs.
Elizabeth “Betty” Burch Heston	Betty Burch Heston and her sister, Barbara Burch Safford, are both UNC alumnae. Betty made an initial gift to establish an internship at the UNC Herbarium in honor of their great (5X) grandfather, Charles T. Mohr, an early American botanist who wrote the <i>Flora of Alabama</i> .
Deborah L. Hill	Debbie Hill, a former BGF Board member, makes annual contributions and a few years ago gave a Dingo, a loader for use by staff.
Jim and Deborah Hock	Jim and Deborah Hock contributed to the Allen Education Center.
Virginia Houk	Virginia Houk contributes generously to the permanent endowment for a student sustainability internship that friends gave in memory of her husband, Fred Houk.
Jonathan and Mary Howes	Jonathan Howes, former BGF president and interim director of NCBG, with his wife Mary, sponsored the Howes Bridge of the Allen Education Center.
Mercer Reeves Hubbard	Mercer Reeves Hubbard, one of the first NCBG volunteers, organized a group to fund and create the Herb Garden. Their sales and fundraisers added to a permanent endowment established by the Reeves Foundation to provide support for the Herb Garden. Mercer appealed to her relatives to assist with the Education Center, and the Reeves Foundation supplied a generous gift for the Reeves Auditorium in the Allen Education Center.
J. Kevin and Vicki Daniel Huggins	Kevin and Vicki Huggins donated 5 acres of land in 1995 to add to the BGF Stillhouse Bottom Nature Preserve.
William Lanier Hunt	William Lanier Hunt, founder and president of the BGF, gave land along Morgan Creek to UNC plus cash gifts for the care of what is formally named the William Lanier Hunt Arboretum. His estate included cash gifts, several parcels of land, and an extensive library.

Marguerite P. Hutchins	Marguerite Hutchins gave the chairs and tables for the classroom wing of the Education Center, and she made early contributions for the Children's Wonder Garden and entry landscape improvements.
Greg and Lori Ireland	Greg and Lori Ireland made contributions for additions to Stillhouse Bottom.
Julia E. Irwin	Mrs. Irwin's annuity trust pays out approx. \$23,000 unrestricted for 12 years.
Julie E. Irwin	Julie E. Irwin makes annual gifts to NCBG, and it was she who encouraged her mother to include NCBG in her annuity trust (see above).
Ellen M. and Charles Johnson	Ellen, a volunteer, and her husband Charles, have given generously over the years for general support and special projects.
Glenda Parker Jones	Glenda Parker Jones, an NCBG volunteer, provided the proceeds of a trust to help with unrestricted support plus gifts for many NCBG needs.
Charlotte Jones-Roe and Chuck Roe	Charlotte Jones-Roe and husband Chuck contribute annual gifts for many aspects of NCBG.
David and Laurie Joslin	David Coker Joslin, former member of the BGF Board, makes annual contributions, especially to conservation and Coker Arboretum.
Ellen D. "Nell" Joslin	Nell Joslin, also a former BGF Board member, makes annual contributions and served as the executor of her parents' wills (William and Mary Joslin, below).
William Joslin and Mary Coker Joslin	Bill Joslin served as BGF president; Mary and Bill were elected honorary lifetime Board members. They were among NCBG's most generous contributors throughout their lives. Recent planned gifts have provided unrestricted support and added to the permanent endowment for Coker Arboretum and the Herbarium Building Fund. The Joslin Slope at Stillhouse Bottom recognizes the family's contribution for purchase of 5 critical acres.
Betty Kenan	Betty Kenan and other members of her extended family have contributed generously for many years.
Thomas S. Kenan III	Tom Kenan has long been a supporter of NCBG and at one time served on the BGF Board. He funded a naturalistic water feature in Coker Arboretum as well as much of the cost of the deer fence around the Display Gardens.
Kew Gardens	Kew Gardens has supported conservation and rare plant projects at NCBG.
Lynn Knauff	Lynn Knauff, volunteer and keeper of history and objects, makes generous annual contributions and has included NCBG in her estate plans.

Thomas Krakauer	Tom Krakauer established a permanent endowment in memory of his late wife, Janet M. Krakauer, for support of botanical illustration and related exhibits and programming.
Randy and Cathy Lambe	Cathy and Randy Lambe are UNC alumni who make annual gifts and have included NCBG in their estate plans with contributions for the Coker Arboretum Endowment and interns, the Battle Park Endowment and interns, and general needs of NCBG.
Charles and Emily Finch Lambeth	Emily Finch Lambeth was a BGF Board member who, with others in her family, contributed to sponsorship of the George Finch porch adjacent to the classroom wing of the Allen Education Center.
William and Linda M. Lamm	Linda Mitchell Lamm of Wilson was an early BGF Board member and a generous contributor. Linda presented NCBG with the “Bell Bell,” a schoolteacher’s hand bell, in honor of Founding Director C. Ritchie Bell.
Paula LaPoint	Paula LaPoint, a tour guide and volunteer on the <i>Wildflowers of the Atlantic Southeast</i> book project, is also a generous annual contributor.
Lee and Iris Haynes Large	Lee and Iris Large, family friends of Director of Conservation Johnny Randall, left a gift for conservation. Their \$300,000 was the first gift for a quasi-endowment to support conservation projects at NCBG.
Laurel Hill Associates	Laurel Hill Assoc. gave 2 acres near Morgan Creek in 1999, valued at \$70,000.
Edgar and Nan Lawton	The Lawton family has been associated with the Coker family for many generations. Edgar Lawton’s father was the executor of W. C. Coker’s estate. Nan Lawton of Hartsville was a BGF Board member. The Lawtons continue to make annual gifts and have helped build the Coker Arboretum Endowment.
Doug and Nelda Lay/ The Persian Carpet	Doug and Nelda have provided cash support as well as in-kind gifts for NCBG, including the carpet in the Bell Seminar Room (Allen Education Center).
Rebecca N. Leager	Becky Leager was a plant rescue volunteer during the development of the mountain collection. Her son Ned Leager was an early NCBG employee. Her will included a gift for NCBG.
John and Ione Coker Lee	Ione Coker Lee, a great niece of William C. Coker and a former BGF member, continues to make generous annual gifts. She recruited gifts from family to sponsor the Joslin Classrooms in honor of her aunt and uncle.
Nolan D. Lovins	Nolan Lovins, a UNC alumnus, makes generous yearly gifts and has helped build the Coker Arboretum endowment.
Paul and Mary MacDougal	Paul majored in botany at UNC as an undergraduate; he and his wife Mary continue to make generous gifts each year.

Alan MacIntyre	Alan sponsored the green elevator in exhibit hall wing of the Education Center in honor and memory of his wife, Marguerite. Marguerite was an avid gardener, a member of the early Plant Rescue team, and a generous supporter of NCBG.
Harriet and D. G. Martin	Harriet Martin, a BGF Board member, and her husband D. G. make generous contributions, often in ways that help the staff participate in events. Their gift for the Education Center sponsored the Martin Porch, aka Harriet's Party Porch.
Mary Elizabeth Morgan Mason	The land on which much of the main NCBG site sits, including the Allen Education Center, Nature Trails, and Mason Farm Biological Reserve, came to the University as a bequest from Mary Elizabeth Morgan Mason. Mrs. Mason was the great-granddaughter of early settler and community leader Mark Morgan, whose advocacy and land contributions helped persuade General Davie and other NC leaders to locate the University of North Carolina in what is now Chapel Hill. She and her husband, Rev. James Pleasant Mason, had made parallel wills. Conveyance of 800 acres to the university carried three conditions: the 800 acres was not to be divided and sold; portraits of their deceased daughters, Martha Ann (Mattie) and Varina Caroline (Rena) were to be painted and hung in an appropriate hall of the university; and the small family cemetery was to be marked and maintained. The bequest included \$1,000 to help carry out the Masons' requests. Portraits currently hang in the main workroom of the Totten Center (see Appendix A).
Jim R. Massey	BGF secretary and curator/director of the UNC Herbarium from 1970 to 2000, Dr. Jim Massey developed the Plant Families Garden and made and recruited gifts for the Mary McKee Felton Internship for the UNC Herbarium. Massey organized the Friends of the UNC Herbarium and initiated the first herbarium newsletter in the U.S.
Michael Mathers and Sandra Brooks Mathers	Sandra Brooks Mathers, a former NCBG staff member, served as a member of the BGF Board. She and her husband Mike have made generous gifts over the years to many different areas.
John and Alice May	The Mays make annual gifts to NCBG, especially Battle Park. Alice has included NCBG in her will.
Clara L. McClamroch	Clara McClamroch, mother of Sandy McClamroch, left a bequest for Coker Arboretum.
Roland P. "Sandy" and Elizabeth McClamroch	Sandy McClamroch, a BGF Board member and officer, encouraged other Board members to consider making IRA rollovers. He and his wife Bet made generous annual gifts and left generous bequests for NCBG.
Arden and Sam W. McCleskey	Sam and Arden McCleskey made a generous gift to the Education Center.
Mari J. McLean	Mari McLean made generous gifts for Battle Park in memory of her husband, Scott McLean.

Michael and Julia McVaugh	Michael and Julia have made generous gifts, especially for the UNC Herbarium.
Rogers McVaugh	Rogers McVaugh made generous gifts, especially for the UNC Herbarium.
Carol L. Miller	Garden volunteer Carol Miller, and later her children, made generous contributions for general support.
Mark Morgan and family	Mark Morgan, early settler to the area (1740s), gave land for the University and persuaded his neighbors to do the same. Some of this land is now managed by NCBG, including Mason Farm, Coker Arboretum, Battle Park, and Forest Theatre. Morgan's great-granddaughter, Mary Elizabeth Morgan Mason, added additional lands and conveyed the family land to the university upon her death.
Sherry Morgan	A graduate of UNC with a Masters in Botany, Sherry has made many contributions to NCBG, especially to the Mary Felton Internship and in honor of former Herbarium Curator Jim Massey.
Nell and C. L. Morton	Garden volunteer Nell Morton and her husband C. L. Morton have made generous gifts to NCBG over the years.
Katherine Bradley Mouzon and Olin T. Mouzon	Katherine (Kay) Mouzon was a volunteer at the UNC Herbarium and a Tour Guide. Olin served as BGF treasurer. Kay's \$2.7 M bequest of cash and real estate allowed NCBG to launch planning and construction of the Education Center. The classroom wing is named in their honor.
Betsy Green Moyer	Members of the Green family have contributed toward the restoration of the Paul Green Cabin and toward publication of a book about Paul Green.
Mt. Cuba Center, Inc	Gifts/ grants from Mt. Cuba Center funded wildflower research.
Ken and Bette Nelson	Ken Nelson served on the BGF Board and made generous annual gifts, matched by his employer, Procter & Gamble. Ken and Bette have included NCBG in their estate plans.
Catherine E. Nerantzis	Cathy Nerantzis worked with her siblings to deliver a check from the Soo Foundation. Their mother, Dixie Lee Boney Soo, a former Herbarium volunteer (after a career as a neurologist), had expressed a desire to help with a new UNC Herbarium building.
New Hope Audubon Society	New Hope Audubon helped defend Mason Farm from construction of a major highway ("Laurel Hill Parkway"). Members have always supported NCBG and Mason Farm through their gifts. The group provided funds and labor to build the bird blind in the Children's Wonder Garden, and they have sponsored exhibits about bird conservation at NCBG.
Maurice E. Newton	Maurice Newton donated the Paul Green Cabin to NCBG.

Charles and Nancy Norwood	Charles Norwood was a member of the BGF Board and went on to be a member of the UNC Board of Governors. Charles has contributed generously to NCBG, especially Coker Arboretum, and he has shown interest in the UNC Herbarium.
J. E. “Bert” O’Connell	Botanist Bert O’Connell was a BGF Board member and generous contributor. He left a bequest for the UNC Herbarium building.
Carmen Hooker Odom	Carmen Hooker Odom, wife of the late Michael Hooker, Chancellor of UNC-Chapel Hill, enjoyed walks with her husband at Mason Farm Biological Reserve. Carmen has continued to support NCBG and Mason Farm.
Lindsay S. and Jeannie Olive	Botany professor Dr. Lindsay Olive and his wife Jeannie gave land, a relic of the original old-growth forest near Highlands, NC, to The Nature Conservancy. TNC transferred the title to the Lindsay S. Olive Nature Preserve to the BGF in stages, beginning in 1973 and concluding in 1988. The BGF transferred ownership and management to the Highlands-Cashiers Land Trust in 2004.
William and Rosalie Olsen	William and Rosalie Olsen deeded a residential lot to the BGF. Sale of the lot provided funds for NCBG’s new entry landscape.
Athena and William Parker	Athena and Bill Parker gave land with life estate to UNC in 1976. It was the Parkers’ fervent hope that the university would not sell the land, but rather protect the forest with massive oaks atop a hill. This acreage is now assigned to NCBG for management and known as the Parker Preserve.
Margaret P. “Peg” Parker	Peg Parker had been a supporter of NCBG over the years. Some of her gifts were anonymous, and others, like those for the Education Center, were acknowledged with namings. Gifts have included those for the Green Gardener Room and a cistern named in honor of the Green Dragons volunteer group that defended the Mason Farm Preserve and now provides trail maintenance on NCBG lands and trails.
Paul Green Foundation	The Paul Green Foundation and members of the Green family made generous gifts for relocation and renovation of the cabin that was once the writer’s retreat of Pulitzer Prize-winning author, Paul Green. They also contributed toward publication of a book by Green’s daughter, Betsy Green Moyer.
Stuart and Linda Paynter	Stuart and Linda Paynter have made generous annual gifts for general support.
Florence and James Peacock	Florence Peacock is and has been a member of the BGF Board. Florence and her husband Jim gave generously for the Education Center, sponsoring the Children’s Classroom that bears their names. Florence also directs gifts through the Fowler Family Foundation.

Eleanor S. Pegg	Eleanor Pegg, when asked to make a gift for the Education Center, gave an 80-acre forested tract on the Haw River near the Hwy 15-501 bridge in Chatham County, NC. The particular tract had long been sought for conservation. Collaboration among NCBG, the BGF, Haw River Assembly, Triangle Land Conservancy, and the NC Clean Water Management Trust resulted in the tract becoming part of a NC State Park with canoe and kayak access to the river, \$1M for the Education Center, and \$100K for a scholarship fund at UNC. The Eleanor Smith Pegg Exhibit Hall is named in honor of the donor.
Cordelia Rucker Penn (Cannon)	Cordelia Cannon (Cordelia Rucker Penn) was a member of the BGF Board. Her daughter Claire Christopher later joined the Board. Cordelia's estate provided a planned gift for NCBG, and friends and family added generous memorial contributions in her name.
Performance Subaru	Performance Subaru has made several sponsorship level gifts for galas and other events at NCBG.
Philip L. Van Every Foundation	The Philip L. Van Every Foundation, at the request of Philip's parents (Puddin Van Every Foil and Martin Foil), made generous contributions to support NCBG's Horticultural Therapy Program.
Judy and James Pick	Judy and James Pick established a permanent Conservation Endowment. They are making gifts to fulfill their pledge and encourage others to join them in giving to this fund for one of NCBG's core areas.
Porter Cowles Pickell	Porter Pickell was a gardener and lover of roses. When a highway threatened her roses, Ken Moore and NCBG staff volunteered to help her relocate her plants. Porter later remembered NCBG in her will with a generous gift.
Peter and Ona Pickens	Peter and Ona Pickens have made generous gifts for general support and to build the Coker Arboretum Endowment.
Nancy and Ed Preston	Nancy sponsored the Evelyn McNeill Sims Native Plant Lecture as a 90th birthday present to her mother. After Mrs. Sims's death at age 104, Nancy and Ed established a permanent endowment to make sure NCBG could continue to offer the free public lecture.
Albert E. and Laurie S. Radford	The Radfords contributed their home and land in Chapel Hill for the UNC Herbarium building project. Laurie Stewart Radford was curator of the UNC Herbarium during WWII. Albert E. Radford succeeded his wife as curator of the herbarium, was a professor of botany, and was coauthor of the <i>Manual of the Flora of the Carolinas</i> (by Radford, Ahles, and Bell).
M. Vikram Rao and Susan Henning	Vikram and Susan have supported the NCBG's general needs and internships, and became patrons of <i>Sculpture in the Garden</i> .
Karla Reed	Karla Reed was a volunteer in the Coker Arboretum. Her will included generous gifts to build the Coker Arboretum Endowment and to provide general support for NCBG.

J. Edwin Reeves Jr.	Ed Reeves, nephew of Mercer Reeves Hubbard and son of John E. Reeves, was the head of the Reeves Foundation at the time of the gift to sponsor and name the Reeves Auditorium.
John E. Reeves	John E. Reeves was the brother of the volunteer who started the Herb Garden, Mercer Reeves Hubbard. Reeves visited NCBG and contributed generously to a permanent endowment for the Herb Garden, which now helps support staffing for the collection.
Reeves Foundation	Reeves Foundation contributed generously and sponsored the main Auditorium in the Education Center at the request of Mercer Reeves Hubbard.
Stephen and Sandra Rich	Stephen Rich is a member of the BGF Board and has served several terms as treasurer. He is also a “Cokernut,” a regular volunteer at Coker Arboretum. Stephen and his wife Sandra have contributed generously over many years.
Page Richardson	Page Richardson and her extended family have been generous contributors to NCBG over the years.
RJ Reynolds Tobacco Co	RJ Reynolds Tobacco Company has been the source of many gifts to NCBG from employees and others in the Winston-Salem area.
David L. Robert	Dave Robert, an advocate and financial supporter of Coker Arboretum, has for several years sponsored an event at his establishment, the Dead Mule Club, to raise funds for student interns at Coker Arboretum and Battle Park.
Wyndham G. Robertson	Wyndham Robertson is a loyal supporter, especially of Coker Arboretum.
Robertson Foundation	The Robertson Foundation has made many gifts to NCBG, especially Coker Arboretum, at the direction of family members.
Bill Ross and Susan Gravely	Bill Ross is a member of the BGF Board and a conservation leader in NC. Bill and his wife Susan Gravely have given generously to NCBG and taken a special interest in Battle Park.
Barbara Roth	Barbara Roth was founding president of New Hope Audubon and a leader in the opposition to the flooding of the New Hope bottomlands (now B. Everett Jordan Lake) and to the construction of “Laurel Hill Parkway” across Mason Farm. Barbara gave generously to NCBG and included a generous gift to build the Mason Farm permanent endowment in her will. After Dr. Roth retired from her work as a chemist at Burroughs-Wellcome Co., she transcribed the journals of Reverend James Pleasant Mason (see Mary Elizabeth Morgan Mason above) and wrote extensively about families of the area.
Carolyn Royster (Mrs. Thomas Royster)	Lynn Royster has provided generous support for general operations, and she has purchased equipment for the Horticultural Therapy team.

Robert and Elizabeth Rugh	Betty Rugh was the appointed representative of the Garden Club of North Carolina to the BGF for many years. She and her husband Bob gave generously and were major contributors to the Education Center, “for the kids.”
Barbara Burch Safford	UNC alumnae Barbara Burch Safford and her sister, Betty Burch Heston, established a permanently endowed internship for the UNC Herbarium in honor of their ancestor, botanist Charles T. Mohr. Barbara and her husband, Charles Safford, have continued to give for the Herbarium building.
Donald and Brenda Schnell	Dr. Don Schnell wrote a book about growing carnivorous plants. He and his wife Brenda have contributed generously for many decades.
Tom K. and Margaret Scott	Tom K. Scott, botanist and former chair of the UNC Department of Botany, served on the BGF Board and was elected an honorary lifetime Board member. Tom and his wife Margaret and their families gave funds to create a lattice area to provide shade and structure for the plant sales area adjacent to the Allen Education Center.
Kathleen and Todd Shapley-Quinn	Kathleen and Todd have provided generous annual gifts for general support.
Evelyn McNeill Sims	Evelyn McNeill Sims was the mother of BGF Board member Nancy Preston, who sponsored a free wildflower lecture in her mother’s honor (and more recently endowed that lecture). Evelyn contributed generously to the Allen Education Center, and the Sims-Preston Breezeway was named in honor of the contributions by Mrs. Sims and her family.
Dixie L. Soo	Dixie Lee Boney Soo, a retired neurology professor at UNC, was a member of NCBG and volunteered at the UNC Herbarium. At her request, her children provided a generous gift through the Soo Foundation to advance planning for a new herbarium building.
Kenneth A. Soo, Jeff and Eileen Soo, Michael Soo, Cathy Nerantzis, and L.Y. and Dixie Soo	The Soo Foundation gave NCBG \$250,000 to help plan and build a new UNC Herbarium building.
Janice Stratton	Janice Stratton, NCBG volunteer, has given generously for general support for many years.
Nancy “Teeny” Stronach	“Teeny” Stronach (Mrs. George T. Stronach) of Wilson, NC, a member of the BGF Board (and elected an honorary lifetime member), was a generous supporter of NCBG. She made a gift for the Education Center to honor Assistant Director Ken Moore. Her estate included a generous bequest as well to provide general support.
Strowd Roses Foundation	Strowd Roses Foundation has made generous gifts to the Carolina Campus Community Garden.

Ulana and Carson Stuart	Ulana, a volunteer, and Carson Stuart have been long-time donors to NCBG; they sponsored the Green Gardener Desk in the Allen Education Center.
Janice C. Swab	Janice C. Swab, professor of botany at Meredith College, has been a long-time supporter of NCBG. Recent generous gifts in memory of her late husband Ed are funding floristic studies through the Edward C. Swab Fund for Floristic Botany for the UNC Herbarium.
David and Terri Swanson	David and Terri Swanson have provided designs and contributed generously over the years for landscape projects. Their company, Swanson Associates, has been an event sponsor and community partner.
Syngenta Crop Protection, LLC, Syngenta Biotechnology	Syngenta Crop Protection has contributed generously to the Conservation Program at the NCBG.
Charles and Lamar Taft	Charles Taft and his late wife Lamar both served on the BGF Board and contributed generously to the Education Center.
Louise W. Talley and Banks C. Talley	Louise Wooten Talley served on the BGF Board. She and her husband, Banks Talley, have been loyal contributors over the years.
The Burch-Safford Foundation, Inc.	UNC alumnae Barbara Burch Safford and her sister, Betty Burch Heston, established a permanently endowed internship for the UNC Herbarium in honor of their ancestor, botanist Charles T. Mohr. Barbara and her husband, Charles Safford, make their contributions through the Burch-Safford Foundation and have continued to give for the future herbarium building.
Alexander F. Thompson III	Sandy Thompson, a BGF Board member, and his wife, Reaves, have given generously to NCBG, especially to Battle Park and the Education Center. Sandy's mother, Helene Willingham Thompson, who shared her love of Battle Park with Sandy, also contributed generously. The Thompson Porch along the classroom wing of the Education Center honors Helene Willingham Thompson and Alexander Thompson III and notes their UNC classes.
The Nature Conservancy (national)	In the early 1970s, The Nature Conservancy (national) lacked a NC chapter, so it transferred two tracts of land to the BGF for management. These were managed and protected by staff and volunteers until there was a strong local land trust (ownership and management responsibility for the Olive Nature Preserve and Pinky Falls Nature Preserve were later transferred from the BGF to the Highlands-Cashiers Land Trust).
Henry Roland Totten and Addie Williams Totten	Botanist H. R. Totten and his wife, Addie, left their home on Laurel Hill Road to NCBG after they died within a month of each other in 1974. Proceeds from the sale of the home paid for 85% of the cost of construction of the Totten Center, a structure that made it possible to house staff and volunteers and to offer classes, programs, and exhibits for the public.

UNC Hospitals Volunteer Association	Hospital volunteers have been generous contributors to “Healing and Hope Through Science,” now Wonder Connection, a program to connect hospitalized children with nature.
UNC Students through their sustainability fund	UNC students, through RESPC and the student-approved sustainability fund, contributed \$210,000 for the geothermal wells that provide heat and cooling for the Allen Education Center.
Gale and E. L. Unterberg	Gale and E. L. Unterberg have made generous gifts for general support for many years, often through the Alben F. Bates & Clara G. Bates Foundation.
Sally Couch Vilas and Harry Gooder	Sally Vilas, former BGF president (daughter of NCBG founder and Botany Department chair, John N. Couch), with her husband Harry Gooder, contributed generously to both the future herbarium building and the Education Center. Sally and her mother, Else Couch, funded the Else Ruprecht Couch Volunteer Room.
Jane N. Wait	Jane Wait and her husband John contributed generously to NCBG for years.
William and Margaret Walker	Bill and Margaret Walker have given generously for general support for many years. Margaret is a former NCBG staff member.
Maude Wells	Widow of botanist and NCSU plant ecologist B. W. “Bert” Wells, Maude contributed to NCBG and left a bequest.
Barbara and Bob Wendell	Barbara Wendell served on the BGF Board and for many years served as NCBG’s “Volunteer Volunteer Coordinator.” She and Bob have been generous contributors and sponsored major appliances for the Allen Education Center.
Fran and Gary Whaley	Fran and Gary Whaley, through the Whaley Family Fund, have made generous contributions for events and general support of NCBG.
Finley White	Finley White made one of the first large gifts to NCBG after the construction of the Totten Center.
Peter and Carolyn White	Peter White was the second director of NCBG. Peter and his wife Carolyn have given generously over the years to many different designations.
Clarence and Jane Whitefield	Clarence Whitefield and his late wife Jane made a generous gift for the Education Center and sponsored the large window in the Growing Classroom. Clarence has continued to make gifts to NCBG and recently documented his plans for an estate gift.
Virginia Wilcox and family	Virginia Wilcox and her sisters gave 6.5 acres to The Nature Conservancy. The Tract was transferred to the BGF (1974), which eventually transferred ownership and management to the Highlands-Cashiers Land Trust (ca. 2000).

Haven and Minna Wiley	Haven Wiley served as Conservation Advisor to the BGF and was the chief architect of the agreement that enlarged the research area and established Mason Farm Biological Reserve. Haven and Minna have contributed generously to NCBG over the years, especially to the permanent endowment for Mason Farm.
J. Blount Williams/Alfred Williams & Co.	This company contributed \$50,000 worth of office furniture for the Allen Education Center.
Robert Wyatt and Ann Stoneburner	Robert and Ann established a permanent endowment in honor of Robert's botany professors C. Ritchie Bell and Albert E. Radford, that will support botanical field work. The endowment also supports a staff member or intern to attend the native plant conference at Cullowhee each year.
Alice Zawadzki	Alice Zawadzki was a leader in the NC Native Plant Society and other NC conservation groups. Alice directed part of the proceeds of her home in Raleigh to benefit NCBG.

GARDEN VOLUNTEERS

Volunteers have been an important part of NCBG's growth and development since its beginning. Early volunteers participated in plant rescues and searches for plants on roadsides and in forests. In 1966 volunteers helped establish the BGF as a non-profit organization that would provide support for NCBG. In 1971, Superintendent J. Kenneth Moore began recruiting volunteers to serve as tour guides and to help with maintenance. The Weekend Volunteers group was established to welcome visitors at the Garden gate. By 1973, volunteers were also hosting student groups, working in the greenhouse and nursery areas, assisting with plant rescues, helping with planting and maintenance of habitat plots, and doing secretarial work. One group was organized to create and establish a permanent herb display garden.

Today's volunteers are involved in many more aspects of NCBG and its mission, working in the display and habitat gardens, in the library, the garden shop and as "Reception Ambassadors." They assist with publicity, art and educational exhibits, and office work. Garden Guides lead informative tours through the Garden for the general public and school groups. In children's programs, there are opportunities for adults and teens to help with special events, family programs, summer camps, and the Children's Wonder Garden. Volunteers support The Wonder Connection, which serves hospitalized children and provides programs for families who stay at Ronald MacDonald House and SECU Family House. Assisting with the Horticultural Therapy Program at NCBG and other locations is another volunteer opportunity. Green Gardeners offer gardening advice to visitors and by telephone. Horticultural volunteers assist with plant propagation, seed processing, and nursery and greenhouse tasks. In 2015, the Greenbriers group was formed to assist staff with programs, exhibits, special events, and research projects.

On the UNC campus, volunteers help to maintain Coker Arboretum, preserve and file botanical specimens at the UNC Herbarium, and assist with the Carolina Campus Community Garden and the Edible Campus project.

Many volunteers work on ecological restoration projects and trail maintenance at Battle Park and the Piedmont Nature Trails. The Green Dragons group does similar work at Mason Farm Biological Reserve and Coker Pinetum. The Wild Blues group used to work at Penny's Bend Nature Preserve in Durham. Other volunteer opportunities include construction projects and the maintenance and repair of tools, equipment, and hardscape features.

Many volunteers serve with more than one group and may be members of other organizations, such as garden clubs, New Hope Audubon, and North Carolina Native Plant Society, which share similar goals and support NCBG in many ways. More details and contact information for volunteer opportunities can be found on the NCBG website.

VOLUNTEERS TIMELINE

1971 J. Kenneth Moore, the first permanent NCBG employee, is hired and begins recruiting volunteers to lead tours, greet weekend visitors, and perform maintenance tasks.

Jean Stewart becomes the first Tour Guide, initiating the creation of a volunteer group to guide and educate visitors. Earlier, Jean went on many plant rescues and searches.

The Weekend Volunteer group is established; members are posted at the Garden gate to welcome visitors.

1972 Tour Guides begin leading tours at NCBG for children and visitors, and *Habitat Hikes* are offered to BGF members.

Plant rescues are conducted with permission of developers and landowners. NCBG staff and Plant Rescue Volunteers pioneer plant rescue techniques, which are eventually adopted by many conservation-oriented gardening groups throughout the Triangle and the state.

1973 Herb Volunteers organize to create a display Herb Garden south of the site later occupied by the Totten Center. The group is led by volunteer Mercer Reeves Hubbard, for whom the relocated Herb Garden is named in 1988.

Tour Guide training prepares Tour Guides, botany graduate students, and staff to host large numbers of school students who visit NCBG for supervised activities.

Plant Propagation Volunteers perform many tasks: plant rescue (increasingly rare over time), nursery bed preparation, seed collection and cleaning, and work in the greenhouse and nursery areas.

Other volunteers now include those who weed, plant and maintain individual habitat plots, and assist with secretarial work.

1974 A "Child's Garden" pilot program at Carrboro Elementary School involves NCBG staff and volunteers meeting with 6th graders to create a cool-season vegetable garden in their schoolyard.

Labor Day Open House at NCBG for two days draws plant buyers and admirers of native plants, and provides a recruiting ground for volunteers.

1975 A Garden shelter, a gatehouse, is constructed from logs of an old tobacco barn. It will protect Weekend Volunteers during inclement weather and serve as a welcome center.

1976 Villa Zala is NCBG's first volunteer in charge of the Totten Center's library.

1976-77 Volunteer Tour Guides assist with a summer Nature Study Program for children: 11-year-olds for 2 weeks in 1976, designed by Mary Howes, with a USA Bicentennial theme; 3 weeks MWF mornings in 1977 for 9- to 10-year-olds, led by Mary Love May.

1977 "*Herba Officinalis*, Information for Volunteers," a project of and for Herb Garden volunteers, begins publication and continues until 1984.

1978 Handmade natural ornaments for the NCBG's Christmas tree and wreaths are created by volunteers, led by volunteer Virginia White, establishing a tradition.

1979 The first NCBG wildflower sale is held. Forty-four native species sell out. The sale was preceded by four months of preparation by staff and volunteers.

Herb volunteers plan an herb cookbook, soliciting recipes from NCBG members, with sales proceeds to benefit NCBG.

1980 Volunteers assist staff with a one-week summer program for 9- to 12-year-olds.

1981 Volunteers become even more important to NCBG programs as state funding of NCBG diminishes. The Weekend Volunteers group disbands, as the fenced part of NCBG is closed on weekends.

1982 NCBG staff and volunteers write scripts on horticultural and botanical subjects for weekly broadcasts on WUNC-FM by NCBG's Dot Wilbur-Brooks.

Horticultural Therapy Volunteers group begins, to help with The Learning Garden, a joint project of NCBG's Horticultural Therapy Program and the Special Populations Program of Chapel Hill Parks and Recreation.

1983 Volunteers help design and plant an award-winning exhibit on plant rescue at the NC State Fair. Kitty Harding replaces Villa Zala as NCBG's volunteer librarian.

1985 The wildflower sale is revived, sponsored by Propagation Volunteers.

The NCBG Herb Volunteers' cookbook, "A Taste for Herbs: Basil to Woodruff," becomes available for sale in the Totten Center or by mail. Recipes contributed by Herb volunteers and NCBG members.

1986 NCBG turns 20. C. Ritchie Bell retires as director. There are now 150 dedicated volunteers.

UNC graduate students in Recreational Therapy and Rehabilitation Counseling participate as volunteers in the development of demonstration horticulture programs for developmentally disabled residents of group homes.

1987 On Saturdays in May, June, August, and September, Master Gardener Volunteers are available at NCBG to help visitors with gardening questions.

1988 The Herb Garden is named to honor its founder, volunteer Mercer Reeves Hubbard, and celebrates its 15th anniversary.

Barbara Emerson takes over from Kitty Harding as NCBG's volunteer librarian.

1990 Volunteers from Spruce Pine, Winston-Salem, Greensboro, and Wilson host outreach events to promote NCBG and recruit members. Carol Woods residents are hosted during a tour of the Garden for promotion and volunteer recruitment purposes.

1993 Volunteer Jim Wilkerson builds 11 picnic tables.

From Anise to Woodruff: 1793–1993; The Identification, Observation, Growing and Culinary Use of Herbs in the Southeastern U.S., authored by the Herb Garden volunteers, is selected as a UNC Bicentennial Observance Celebration publication.

The Green Dragons volunteer group is established to assist in the management, patrolling, and interpretation of Mason Farm Biological Reserve, Coker Pinetum, and other areas, and for special projects.

1994 NCBG joins UNC in a campus-wide Bicentennial Open House. Garden volunteers are posted at Coker Arboretum and Laurel Hill locations.

The Green Dragons volunteer group provides advocacy in hearings to save Mason Farm from a proposed major thoroughfare.

Volunteer Barbara Emerson, NCBG volunteer librarian 3–5 days a week for seven years, receives the Governor’s Award for Outstanding Volunteer Service. She is acknowledged for her vision for the Library, actively building and organizing the collection, redesigning the catalog, coordinating the jobs of two other volunteers, and coordinating with the Library Committee. (Emerson died in 1995.)

1996 Mary Ishaq takes over volunteer librarian responsibilities.

Jean Stewart, the first NCBG volunteer, is celebrated for 25 years of volunteer service. She is an original Plant Propagation volunteer.

1997 Chapel Hill Roots, a new volunteer group, plans and carries out planting projects, including a Three Sisters Garden in the Native American section of the Herb Garden. (Lack of sun doomed this garden, and the volunteer group no longer exists.)

Clients from Learning Services Inc., a private rehabilitation center in Durham, come to NCBG one day each week as volunteers.

1998 Tour Guide and Herbarium volunteer Katherine Bradley Mouzon’s bequest, valued at \$2.7 million, a transformative gift, allows NCBG to begin planning, fundraising, and construction of a new Education Center.

Volunteers from the Tour Guide group help with Nature Explorers summer camp on weekday mornings for 2 weeks, 1998–2001.

Horticultural Therapy staff and volunteers lead a program each Wednesday morning for a group of residents from Wynwood, a residential care facility in Chapel Hill. They work in the Herb Garden, harvesting and planting.

1999 Volunteers revise the Tour Guide Manual to be more specific to NCBG.

2000 Volunteer groups provide input to NCBG staff and members of the Frank Harmon Architects team during the planning of the new Education Center.

2002 Volunteers assist with translation of several Garden brochures and information signs into Spanish.

2003 The Wild Blues volunteer group forms to work at Penny's Bend Nature Preserve on the Eno River. (This group has been inactive since 2005.)

2004 As Director Peter White accepts two national awards on behalf of NCBG, he observes that the awards recognize the efforts of the entire staff and all volunteers.

The Battle Park Volunteer group starts soon after NCBG takes over Battle Park/Forest Theatre management in July.

Volunteers from the Tour Guide group lead a story session for preschoolers, under various names, yearly (except 2008) through 2014.

2006 Tour Guides implement new programs developed by Grant Parkins, NCBG's first full-time natural science educator, to match NC's Core Education Curriculum.

2007 Volunteer Douglas Tilden completes 1000 hours after 2.5 years volunteering in Battle Park, and helping with the heavy lifting involved in sculpture shows.

Volunteer tour guides lead over 800 adults and children on guided tours of the Display Gardens. The total number of active Tour Guides is 31.

2008 Volunteers assist in the return of more than 800 poached Venus flytraps to their natural habitat in The Nature Conservancy's Green Swamp Preserve.

Now retired from NCBG, Dot Wilbur-Brooks takes over as volunteer librarian from Mary Ishaq. Dot had supervised the volunteer librarians during her years on NCBG staff.

2009 In the new Education Center, NCBG volunteers now have a break room with a table, comfortable seating, storage shelves, sink, and refrigerator.

Children's and Family Volunteers assist in new programs for children, using the facilities of the new Education Center.

Volunteer Barbara Wendell takes on the task of Volunteer Coordinator, essentially a full-time job.

High school students volunteer as Counselors-in-Training to help with summer camps for children; they earn service-learning hours credited toward graduation.

2010 Volunteer and Foundation Board Member Muriel Easterling initiates and organizes a long-term exhibit of floral quilts in the Allen Education Center. Quilters from the Durham Orange Quilters Guild make and donate the quilts, each representing a Wildflower of the Year.

The Green Gardener Desk Volunteer group is established and trained.

Editors Group begins to weed the new Allen Education Center landscape, led by NCBG Horticultural Technician Sally Heiney. First volunteers were Muriel Easterling, Marcella Grendler, and Karla Reed.

Carolina Campus Community Garden Volunteers help grow fresh produce for low-wage UNC workers.

2011 The Climate Change Garden is planted, partnering with botanic gardens across the country. Each garden features genetically identical plants of species selected for their biological responsiveness to temperature. Volunteers, "citizen scientists," are recruited to visit the garden throughout the growing season to record dates of events such as first flowering and seed ripening. (Project discontinued late in 2015 due to lack of follow-through at partner gardens, and because the NCBG one is overcrowded.)

Wonder Connection (initially called Healing & Hope Through Science), a program founded in 2006 at Duke Children's hospital, and serving longer-term patients age 4–18 at both Duke and UNC Children's

hospitals, becomes part of NCBG's Education Department. Since 2014, Wonder Connection and its volunteers have served patients only at UNC Children's Hospital and Ronald MacDonald House in Chapel Hill.

2012 Dave Ringenburg is the volunteer architect for the bird blind in the Children's Wonder Garden, built by Dave, staff member Elisha Taylor, and New Hope Audubon Society volunteers.

2013 The Reception Ambassadors volunteer group evolves from the former weekend volunteer group. In April, volunteers begin to cover the Allen Center reception desk for all hours NCBG is open. In January 2016 a part-time receptionist is hired for 6 months, and Reception Ambassadors continue to cover weekday afternoons, holidays, and weekends.

Volunteer Douglas Tilden gives a mobile sculpture workshop for children age 6+ and their adults, "The Art of Balance: Beauty in the Backyard."

2014 The Docent Volunteer group is established to support visitors' information and education during the Bartram exhibit.

Artist-in-Residence Patrick Dougherty's stick sculpture "Homegrown" is built on-site with the help of 100+ volunteers and is featured on CBS *Sunday Morning*. (Removed December 2016)

Volunteer Douglas Tilden coordinates the re-building of the Native American *ati* in the Herb Garden, with help of Curator Wendy Wenck and Herb Garden work-study students.

The Green Dragons Volunteer group builds a boardwalk at the Mason Farm Biological Reserve.

2015 The Docent Volunteers become the Greenbriers Volunteer group and begin gathering information for NCBG's 50th anniversary celebration in 2016.

2016 Volunteer Barbara Wendell "retires" from serving as Volunteer Coordinator (since 2009). Elaine McManus is hired as the first full-time volunteer coordinator.

2017 Garden Guides is the new name for the previous Tour Guide group.

The Volunteer Break Room gets new chairs, storage cabinet, and lockers for volunteers to store valuables while serving at NCBG.

Volunteers Paula LaPoint and Fran Whaley compile information from botanical descriptions to produce standardized entries for *Wildflowers of the Atlantic Southeast*, to be published by Timber Press, with NCBG retiree Laura Cotterman as project coordinator/editor.

2018 Volunteers Jim Brooks and Bill Camp build a retaining wall beside the new greenhouse.

Following is a list of volunteer groups, according to the dates they were initiated—

1971 Tour Guides (renamed Garden Guides, 2017)

Weekend Volunteers (until 1981, but later resumed)

1972 Plant Propagation Volunteers; later evolves into Plant Rescue and Herb Volunteer Groups

1973 Herb Volunteers

Volunteers who weed, assist in Habitat Gardens, and do secretarial work noted

1976 Library Volunteers begin when Totten Center opens

- 1979** Plant Rescue/Propagation Volunteers group organizes (*aka*, Wednesday morning volunteers’')
- 1982** Horticultural Therapy Volunteers (with Learning Garden program)
- 1985** One volunteer at Coker Arboretum; grew to a “full” roster by 2017
- 1993** Green Dragons Volunteers at Mason Farm Biol. Res. and nearby NCBG-managed properties
- 1996-7** Chapel Hill Roots (did not become established as a permanent group)
- 2003** Wild Blues Volunteers at Penny’s Bend Nature Preserve (inactive since 2005)
- 2004** Battle Park/Forest Theatre Volunteers
- 2009** Children’s and Family Volunteers
 - Exhibits Volunteers
 - Garden Shop Volunteers
 - Reception Volunteers
- 2010** Carolina Campus Community Garden Volunteers
 - Editors (Weeding)
 - Green Gardener Desk Volunteers
- 2011** Climate Change Garden Volunteers (this garden closed 2015)
 - Wonder Connection and its volunteers come under the NCBG umbrella
- 2014** Docents (renamed Greenbriers in 2015)
- 2017** Edible Campus Volunteers
 - Current version of Piedmont Nature Trails Volunteers (Nature Trails Green Dragons)

Unknown

“There have always been Herbarium Volunteers,” says Herbarium Assistant Curator Carol Ann McCormick. It’s not a formal group because NCBG can afford only one visitor parking permit, shared among volunteers and visitors who use the collection.

FINE AND DECORATIVE ARTS

Why display art in a botanical garden? The answer was suggested by Rosemary Verey, garden designer and author, who gave the first Jenny Elder Fitch Memorial Lecture (1999). She asserted that gardens need strategically placed objects that cause the visitor to come to a “full stop,” adding to the absorbed visual experiences of being in a garden. Others have suggested that artwork—outdoors and indoors—creates unifying themes that connect nature’s beauty to artists’ interpretations of nature. Undoubtedly, art draws, attracts, and inspires visitors.

NCBG’s first venture into incorporating indoor and outdoor decorative art as a component of the garden experience was in 1976, during the opening of the Totten Center. At that time, an exhibit of arts and crafts

was installed in the Totten Center classroom—a modest, prescient beginning. In 1998, the Totten Center hosted a traveling exhibit of 52 original watercolors by 18th-century artist Mark Catesby. With the opening of the James & Delight Allen Education Center and the DeBerry Gallery, indoor art asserted its place, and has a place, to ally art with botany, horticulture, and the natural world of the Garden.

In 1988, during the Labor Day Open House, the first in what later became the annual *Sculpture in the Garden* show, “Art for Outdoor Spaces,” provided a venue in which artists who specialized in outdoor art could exhibit their work. Today, the juried, 3-month show attracts visitors who, with a guide map, walk through the entire Garden.

Art exhibited in the DeBerry Gallery, and sculptures in the annual *Sculpture in the Garden* show, are available for sale, with a portion of the purchase price reverting to the BGF for support of NCBG.

For many years, volunteers have made ornaments for NCBG’s holiday tree, and in some years wreaths; these are sold in the Garden Shop, another NCBG venue in which to see and purchase objects crafted by skilled artisans. (In 1998, volunteers and staff made natural ornaments for the 1998 Christmas tree on the lawn of the U.S. Capitol, as part of a statewide project.)

Works of art displayed in the Allen Education Center or placed outdoors that have been contributed, purchased, loaned, bequeathed to NCBG, or simply left in the Garden are listed below.

Indoors:

Curly Maple Branch Chandelier. Loaned and first displayed and lighted during the 2013 Moonlight Gala. Located in the Allen Education Center.

Wildflower of the Year Quilts (1982–present), made by Durham Orange Quilters Guild members, displayed in the Eleanor Smith Pegg Exhibit Hall of the Allen Education Center. (Other quilts, purchased or donated, are displayed in second-floor offices and hallway of the Education Center). This project was organized by NCBG volunteer and BGF Board member Muriel Easterling, who made several of the quilts.

Sunflower Quilt by Muriel Easterling: One of the first quilts made for NCBG by Muriel Easterling. Located in B-205 office, Allen Education Center.

Carolina Moonlight Quilt, commissioned by former NCBG Director Peter White, and made by Muriel Easterling for display at the first Carolina Carolina Moonlight Gala; later given to NCBG by Dr. White. Stored in B-205 office, Allen Education Center.

Wildflower of the Year T-shirts from 1985 to the present, designed by Dot Wilbur-Brooks. Current year T-shirts are sold in the Garden Shop. Past years' T-shirts are stored on the second floor of the Allen Education Center and were displayed during the 50th Anniversary Celebration exhibit.

Painting of "Fallen Champion" Carolina Shagbark at Mason Farm. Botanical Garden Foundation Board member Bob Eaves saw the fallen tree and commissioned Barbara Bishko (Quatrano) to make a painting for the person who would become his bride, Beverly Perdue. The painting hung in the Eaves-Perdue home in Chapel Hill and in the Governor's mansion when Perdue was governor. When they left the Governor's mansion, they donated the painting to NCBG. It is now displayed in the Bell Seminar Room.

Watercolors by Lib Lyon: Mercer Reeves Hubbard's sister, Elizabeth "Lib" Reeves Lyon, created several watercolors capturing the energy and enthusiasm of the early Herb Volunteers. In Building A, Allen Education Center.

Wool Carpet of Fraser Magnolia Leaf designed by Martha Enzmann and made by artisans in western North Carolina. Donated by family and friends of and in tribute to Rosalie McNeill Massengale. Hangs above the Reception desk in the Allen Education Center.

Chestnut Oak Table and slab benches made from "found" chestnut oak, **and hand-carved walnut burl bowls**, all designed and made by Tom Sternal, founder of Elkland Handwerke in Ashe County, NC. Located in the Allen Education Center.

Two Whirlygigs by Anders Lunde, of Venus flytrap and Man Digging in Garden. Lunde, a UNC faculty member, was an Herb Garden Volunteer and served on the BGF Board. On 2nd floor, Allen Education Center.

Wildflower Paintings/Illustrations by Dot Wilbur-Brooks. NCBG owns a number of the paintings and illustrations by this former staff member, one of the original employees hired by Dr. C. Ritchie Bell. Dot edited the newsletter, developed the education program, and founded the Certificate Program in Botanical Illustration. Most illustrations bear "DSWB" initials. In the director's office, second floor Allen Education Center, and outside the Bell Seminar Room in Building A, Allen Education Center.

Botanical Prints by Ippy Patterson. Located in the second floor hallway and stairwell of the Allen Education Center.

Six Photos Printed on Canvas, by David Blevins, donated by Peter White. In small conference room on the second floor of the Allen Education Center.

Batik Tablecloths and Napkins, designed and made by Marcella Grendler, used for receptions and other events. Stored in the catering kitchen.

Two Red Cedar benches made and donated by Terry Tripp, UNC carpenter, originally for *Sculpture in the Garden* exhibition. In foyer Building A, Allen Education Center.

Pottery bowl, made by Katherine Nelson. Exhibited during the dedication of the Totten Center. Used for receptions and other events. Located in second floor office, Classroom Wing, of Allen Education Center.

Botanical Illustration Calendars, 2016 and 2017, with artwork from past and present participants of the Botanical Art and Illustration Certificate Program. Sold in Judy and Burke Davis Garden Shop.

Display of panels from Paul Green's Plant Book. Located in the Paul Green Cabin.

Rare Plant Gourd. Randy Allen of Callaway Gardens worked at NCBG at the time when staff were beginning to collect seeds and cuttings and propagate the rarest plants of our state and region. Randy grew the gourd and stained and carved it to illustrate rare and popular wildflowers grown at NCBG. He donated it in 1982, and it has been used as a container for door-prize tickets ever since. In B-205 office.

Outdoors:

"Look Who's Coming to Dinner, metal sculpture by Harold Quidley, commissioned by friends and colleagues of Rob Gardner, NCBG's first curator of carnivorous plants. In the Carnivorous Plant Collections behind the Totten Center.

"Tree of Life," a ceramic mural sculpture by Sarah Craige, purchased in 2010 by Eszter Karvazy and others and donated to the Botanical Garden Foundation. In the Mercer Reeves Hubbard Herb Garden.

"The Story of Rosemary," seven ceramic tiles by Sarah Craige. In the Mercer Reeves Hubbard Herb Garden on Belgian fence.

"Busy Pollinators," a mosaic created during a mosaic workshop for children and families led by Jeanette Brossart. In the Children's Wonder Garden.

"Homegrown," massive stick sculpture designed by artist-in-residence Patrick Dougherty and built with the help of 100 volunteers in 2014. Dismantled in 2016.

"Birdbath," sculpture by Janice Rieves, given in memory of Sydney W. King and in honor of Kathleen King Buck, by Alice King Gray and Henry Gray. At the Totten Center entrance, near the Totten oak.

“At the Center of It All,” Walter Spearman memorial sculpture, created by Joe Miller. In the Mercer Reeves Hubbard Herb Garden.

“Cat-Tail Gate,” by Jim Gallucci. It is the gated entrance to the Totten Center area. Gift of the BGF.

“Endangered Plant Chess Set,” created by Lyle Estill. Donated by Margaret Pollard and Wilbur Bryant. Located near the Totten Center.

“Great Horned Owl,” wood sculpture made and donated by Zen Palkoski. At top of a cedar pole near the Chess Set in the Totten Center area.

“St. Fiacre,” wood sculpture by Anders Lunde. On the front siding to the right of the Totten Center entrance.

“St. Fiacre,” marble sculpture by Becky Gray and Richard Kennedy. Located on ground on the right side of Totten Center entrance.

“Inorganic Evolution,” stacked stone sculpture by Joseph Kenlan. Located near Herb House.

“OBA,” granite sculpture by Joe Kenlan. Near Herb House.

“Spider Gate,” by Jim Gallucci. At entrance to Poison Garden.

“Blackbird Gate,” by Jim Gallucci. At entrance to nursery area.

“Great Blue Herons,” metal sculpture, given in memory of Leah Gillis Campbell by Scott Campbell and Leah’s parents. Located in Piedmont Habitat.

Bottle Tree on Helmet. In Courtyard Gardens near Allen Education Center.

“Inspiration II,” ceramic sculpture by Tinka Jordy. In Mountain Habitat.

“Eye of the Oak,” wood sculpture by Leslie Booker. Located in Children’s Garden [removed in 2018].

“Trumpet Vines,” 3 ceramic tiles by Carry Esser. In back of Totten Center.

“Pitcher Plant,” 5 ceramic tiles by Carry Esser. In back of the Totten Center.

Story Teller’s Chair by Leslie Booker. In Mountain Habitat.

Phyllotaxy Bottle Trees, by Lyle Estill and J.R. Massey. In the Plant Families Garden.

“Trellisity,” sculpture by Pat Day. In the Plant Families Garden.

“Bird Bath,” sculpture by Callie Warner. In the Plant Families Garden.

“POD 1,” and bigger version of POD 1, sculptures by Frank Holder. In the Plant Families Garden.

“Critter,” wood sculpture by Clyde Jones. In the Plant Families Garden.

Sources:

Inventories of objects in NCBG properties, 2016.

Written accounts and commentaries by Charlotte Jones-Roe and Ken Moore.

NCBG Reference Timeline.

ARTIFACTS

It has been said that differentiating between art and artifacts is in the eye of the beholder. For clarification, consistent with the NCBG’s emphasis on conservation, objects described in this section reflect purpose, history, legacy, tradition, and tribute to and remembrance of persons and events that moved forward the growth, development, influence, and conservation message and practices of NCBG.

Memorabilia of/about Henry Roland and Addie Totten

Dr. Totten’s numbered walking sticks: Henry Roland Totten, a student of Professor W. C. Coker and later a professor of botany himself, offered Sunday afternoon wildflower walks for the community. He issued numbered walking sticks, each from a different type of tree, to each participant. By the end of the walk when a participant returned the walking stick, they were to be more familiar with that species. Nine notched, numbered sticks remain from the original collection of more than 150. In B-205 office.

Dr. Totten’s Underwood Champion typewriter: The typewriter on which Dr. Totten prepared labels for herbarium specimens, exams for students in his botany and pharmacognosy classes, and his manuscripts and professional correspondence. Manufactured in the U.S. in the mid-twentieth century, it still works (to the delight of children who saw it on display during NCBG’s 50th anniversary celebration). In B-205 office.

Dr. Totten’s Photo with Herbarium Specimens: This formal photographic portrait of Dr. H. R. Totten was taken by Wallace Patterson in the UNC Department of Botany in old Davie Hall overlooking the Coker Arboretum in 1947. The label on the specimen was most likely typed on his Underwood Typewriter.

Dr. Totten's Awards Mortar and Pestle Set: Presented to Dr. Totten by the UNC Department of Pharmacy in recognition of his years of service to the pharmacy profession. In the era before sulfa drugs, antibiotics, and modern pharmaceutical production, all students of medicine and pharmacy at UNC were required to take Dr. Totten's course in Pharmacognosy to gain detailed botanical knowledge of the healing herbs. Country doctors in the early twentieth century might still grow herbs or order them from bulk suppliers. Students had to be able to identify plants from dried seeds and other parts so as to make sure shipments of herbs were correctly labeled and not hazardous to patients.

Addie Totten's Pitcher: This Depression-ware pitcher features wildflowers, ferns, hummingbirds, and other pollinators. ("To boost sales during the Great Depression, glassware was given with a [major] purchase. Americans pieced together sets of the translucent dining ware, collecting hope. In a time where luxury was scarce, ornate Depression glass afforded an escape into a daydream of living as the upper class might.") Addie Williams Totten was known for her hospitality and horticultural ability. Her goal was to be able to put fresh flowers from her own garden on her table every day of the year. Today Mrs. Totten's pitcher is used for very special occasions. In B-105 office, Allen Education Center.

Totten Furniture: Antique furniture, including a roll-top desk, sideboard, primitive desk, triangular desk, phone table, coat-rack, mirror, map table, and other pieces from the Totten home are in the Colvard Family Conference Room (library annex), Bell Seminar Room, B-205 office, and other locations.

Silver commemorative bowls, platter, and silver flatware: These belonged to the Tottens and are stored on the second floor of the Allen Education Center.

Library of Dr. and Mrs. Totten: Dr. Totten's botany books are in Wilson Library on the UNC campus. Mrs. Totten's books on horticulture, gardening, and popular botany subjects are in the Sarah Fore Gaines Library and in the Colvard Family Conference Room (Allen Education Center) at NCBG.

Portraits of Dr. and Mrs. Totten: Painted by Marion Seiler, and displayed in the Totten Center's (former) classroom, now the main workroom for seed and conservation programs. In the tradition of portraiture, the portrait of H. R. Totten includes a pine branch and cone as well as books by Dr. Totten or his mentors. Addie Williams Totten is shown with yellow roses and yarn, signifying her work in horticulture (she was president of the Garden Club of N.C.) and her mastery of crafts.

Memorabilia of William Lanier Hunt

Rare Book Collection: A bequest to the Botanical Garden Foundation in 1997, the collection of rare books on botany and horticulture includes botanist Daniel Solander's personal copy (with his notations of 3 volumes) written by Dr. Leonardi Plukenetii (*Opera Omnia Botanica in sex Tomos* (1720), *Index*

Linnaeus (1779), and *Phytographie* (1696). Research would reveal more about these books, but the three could not have been taken with Solanger on Cook's HMS Endeavour voyage to the South Pacific (1769–1771). The Hunt Collection was inventoried by Ken Moore (copy in the NCBG Library) and is stored in the Hunt Archive in the Building A of the Education Center

Typewriter: Used by Hunt to type weekly horticulture articles for the *Durham Herald* newspaper, and correspondence. In Hunt Archive, Building A of Allen Education Center.

Dictionary and Dictionary Stand: This dictionary and stand resided in NCBG's library in the Totten Center and is now located in the Bell Seminar Room

Memorabilia of C. Ritchie Bell

The Bell Bell: A traditional brass school bell with a wooden handle was engraved and presented to NCBG to honor C. Ritchie Bell, first director, on the occasion of his retirement in 1986. It was a gift of Linda Lamm of Wilson, NC, a member of the North Carolina Wild Flower Preservation Society and a long-time BGF Board member. The bell has been used to call meetings to order, alert visitors to closing time, and even to signal emergencies. In Bell Seminar Room.

Cider Press: Dr. Bell purchased the press for demonstrations of cider-making during NCBG's Labor Day Open Houses, held during the 1970s and 1980s.

Memorabilia of Alma Holland Beers

Alma Holland Beers, student of and assistant to W. C. Coker, designed the china used by the Carolina Inn for many years. Samples of the china, decorated with a pine motif, are exhibited in a display case in the UNC Herbarium. Beers, the first woman hired by the UNC Botany Department as a research assistant, collected and deposited over 700 botanical specimens in the UNC Herbarium.

Memorabilia of Jim Massey and Bill Dickison

Botanical reference books, journals, papers; stored in boxes in the basement of the Classroom Wing (Building C) of the Allen Education Center.

Other

Furniture and Oriental carpets, stored in the basement of the Classroom Wing (Building C) of Allen Education Center.

Tree Cookie (cross-section log) from the Carolina Shagbark Hickory, a National Champion Tree that grew on Mason Farm Biological Reserve for 245 years (1751–1996). It fell in 1996, during Hurricane

Fran. In the exhibits area of the Allen Education Center. (See also the painting referenced under “Fine and Decorative Arts.”)

Old Farm Implements in the Piedmont Habitat display garden. From the Poythress tobacco farm in Vance County, NC; donated by J. C. Poythress, work-study student and volunteer, who later joined the Conservation staff.

Photo of Jean Stewart, NCBG’s first volunteer. This photo of Jean holding a flat of recently dug foam flower (*Tiarella cordifolia*) was taken by Charlotte Jones-Roe on a plant rescue dig near Bolin Creek in Chapel Hill in spring 1976. The frame was made especially for this enlarged photo for Jean’s memorial service by Jim Brooks, husband of Dot Wilbur-Brooks. In the Else R. Couch Volunteer Room in the James & Delight Allen Education Center.

Jean Stewart Lens Box: Presented by the Stewart family along with many nature guides to NCBG, this box contains some of Jean’s hand lenses. On every hike and scouting trip for a plant rescue, Jean always carried a small waist pack with a hand lens, a pair of clippers, a compass, maps, permission slips, snacks such as trail mix, and small plastic bags in case she or the group picked up trash.

Photo of Mercer Reeves Hubbard in the Herb Garden: Mercer Hubbard was one of NCBG’s earliest and most energetic volunteers. Previously associated with the Country Doctor Museum (Bailey, NC), Mercer organized the Herb Garden Volunteers, hired a horticulturist, and persuaded founding director C. Ritchie Bell to allow the group to establish and later move and expand a collection of herbs as a continuation of the Medicinal Garden originally grown by H. R. Totten in the Coker Arboretum before World War II.

A Map of North Carolina for Nature Lovers, by Mabel Pugh (1937). Commissioned during Mrs. Totten’s time as president of the Garden Club of North Carolina, the map illustrates the wealth of gardens and natural areas in NC. A framed print of the map hangs in the Chapel Hill Garden Club Foyer of Building A, Allen Education Center.

Digital Collection of Photos, stored on SmugMug.

Davis Family Cradle, given by the Davis family. Made by Robert Davis, who built the Paul Green Cabin (now in the Mountain Habitat) between Calvander and Hillsboro, NC. Stored in a closet on second floor of Building B, Allen Education Center.

Six Portraits of the Mason Family: Early portraits by William George Randall of Mary Elizabeth Morgan Mason and daughters Martha and Varina “Mattie and Rena.” Later portraits of the daughters, based on a later ideal of beauty, and a portrait of Reverend James Pleasant Mason by Armand deNavarre,

commissioned to replace the original Randall portrait, which had been vandalized in a UNC dormitory. In the Totten Center's former classroom/now workroom. *More information in Appendices.*

Millstone from Barbee's Mill: The mill, built in 1790 on Morgan Creek, was known over time as Kit Barbee's Mill, Cave's Mill, or King's Mill. It was destroyed by a flood, ca. 1918. A remnant of the millstone from Barbee's Mill was found by Cub Scouts during a hike and was retrieved by and carried to NCBG by Charlie Tohmson (Cub Scout leader) and NCBG staff. At the entrance to the Mercer Reeves Hubbard Herb Garden.

Millstone: Likely the "mill rock" found by Paul Green in 1953 on the farm property of Allan and Flora MacDonald in Cheek's Creek, (then) Anson County. Located near the entrance of the Paul Green Cabin.

William Chambers Coker Poster from a 2003 event at Wilson Library co-hosted by NCBG as part of the three-day celebration of the centennial of the Coker Arboretum and the many contributions of W. C. Coker to the UNC campus (see "Coker Arboretum" in Chapter 3). A feature of the event was the 2003 publication by the Botanical Garden Foundation of Mary Coker Joslin's book, *Essays on William Chambers Coker, Passionate Botanist* (an excellent resource on the history of UNC and NCBG).

Institutional Records: Various locations, including Wilson Library's Special Collections and Archives.

Oral History Interview Tapes: Interviews from current and former NCBG staff and others. In Director's office, Allen Education Center.

Structures

Morgan and Mason Family Cemetery: At the entrance to Mason Farm Biological Reserve, this cemetery memorializes the families who contributed land to UNC, including the Mason Farm Biological Reserve and much of the land comprising NCBG. Stipulated in the land conveyance by the will of Mary Elizabeth (Morgan) Mason (1894), were requirements that the land would never be sold or divided, the cemetery would be maintained by UNC, and portraits of her two daughters would be placed in "a suitable hall of the institution" (see "Six Portraits of the Mason Family").

The Green Shed: Built by C. Ritchie Bell in the 1960s as a tool shed, it became a shelter for NCBG staff starting in 1968, prior to the Totten Center's completion in late 1975. It is near the greenhouse-nursery area and is again used as a tool and storage shed.

James Ward Gazebo: Honoring Jim Ward's 41 years as NCBG staff (1975–2016), the gazebo was reconstructed in 2000 by woodworker Bob Chamberlain as a replacement for a vandalized, smaller

structure that had been exhibited during UNC's Bicentennial Celebration (1994) on the grounds of the Morehead Planetarium. Located near the Information Board.

Paul Green Cabin: See Chapter 3.

Arbor, Coker Arboretum: The current version is a rebuilt arbor (1998) funded by UNC's Class of 1997 senior gift. The original black locust arbor was designed by Dr. W. C. Coker and built in 1911. During the 1998 renovation, a new entry and stone gathering circle were added in memory of members of the class who did not survive to graduate.

Ken Moore Gathering Circle: Adjacent to the Totten Center, the Gathering Circle, dedicated in 2004, honors Ken Moore for 35 years of service and leadership, starting in 1968 as a graduate student until 2003 when he retired as NCBG assistant director. The stone pavement includes an image of Atamasco lily (*Zephyranthes atamasco*), designed by Sandra Brooks-Mathers. The graceful s-shaped wall was designed and crafted by stone mason Dave Swan.

Herb House: A wooden cottage with tool shed, designed by Jon Condoret and constructed in 1983 by Scott McSwain and his friends. Used for meetings, classes, exhibits, parties, and horticultural therapy activities. Located at the back of the Mercer Reeves Hubbard Herb Garden.

Melinda Kellner Brock Terrace: Constructed and dedicated in 2015 as a gift from Eunice Brock, the Battle Park terrace honors Brock's daughter and provides interpretation of the forest and the history of Battle Park. Located about 1/8 of a mile from the OWASA entrance into Battle Park.

Memorial and Tribute Benches: Over 50 benches bearing plaques were inventoried in 2016 on the Garden campus and in Battle Park, Coker Arboretum, the Nature Trails, and the Rocks.

Sisters' Corner: A seating area and pedestrian entrance to Battle Park, dedicated in 2005 to honor the 90th birthday of twin sisters Barbara Stiles and Bernice Wade, whose home garden has been opened to the public since 1975. Located at the Gimghoul entrance to Battle Park.

Sources:

Detailed review, additions and corrections to 2016 draft by Charlotte Jones-Roe and updated in 2018.

Review, additions and corrections to draft by and discussion with Ken Moore, 2017.

Information provided by Chris Liloia, Carol Ann McCormick, and Damon Waitt.

Inventories of objects in the Garden, Coker Arboretum, Battle Park, the UNC Herbarium, and The Rocks, compiled in 2016.

NCBG REFERENCE TIMELINE

This reference timeline was prepared (beginning in December 2015) by the Greenbriers Volunteers for the celebration of NCBG's 50-year history.

YEAR	EVENT
1742	Mark Morgan and his Barbee cousins receive grants of land from Lord Granville and settle in the area along what is now known as Morgan Creek.
1790	Christopher Barbee builds first mill on Morgan Creek. As ownership changed, the mill's name changed from Barbee's Mill to Cave's Mill to King's Mill.
1792	Mark Morgan's son by the same name, his cousin, and several local farmer landowners donate land for the UNC campus and development of the village that became Chapel Hill. Of this land, 107 acres of Morgan (later, Mason) Farm are donated to UNC.
1854	Mary Elizabeth Morgan, Mark Morgan's (Sr.) great-granddaughter, who inherited most of the family land, marries Rev. James Pleasant Mason. The farm becomes known as Mason Farm.
1894	Mary Elizabeth Morgan Mason leaves 800 acres of Mason Farm (and \$1000) to UNC, stipulating that the land is never to be sold or divided, that UNC will maintain the family cemetery, and that portraits of her husband and two daughters, all of whom pre-deceased her, be placed in "a suitable hall of the institution." William George Randall, "North Carolina's Poor Boy Painter," painted the three portraits as well as a portrait of Mary Mason. They were placed in Wilson Library, removed by the Library Committee, and for 50 years unaccounted for. (There is much more about this and how the matter was resolved in a Feb. 3, 1998 news release about an upcoming lecture by Douglass Hunt II, who tells the portraits' mystery story.). The Mason properties today include the 200-acre Finley Golf Course and 365-acre Mason Farm Biological Reserve, much of NCBG, several athletic fields, OWASA's treatment plant, the UNC Wastewater Research Center, the UNC Faculty/Staff Farm, and the Friday Center.
1897	UNC leases land to Mason's tenants and other local farmers.
1902	Dr. William Chambers Coker hired as an assistant professor in the Biology Department.
1903	University President Francis Venable asks Dr. Coker to do something to beautify a 5.5-acre area of boggy, livestock-grazing meadow east of campus. Coker develops an arboretum there and becomes its director.
1908	Dr. Coker becomes chair of the newly formed Botany Department, which moves from Old East to Davie Hall, with space for an herbarium. The UNC Herbarium is founded by Dr. Coker, beginning with the collections of W. W. Ashe and Botany Dept. faculty who pool their research collections and their students' dried plant specimens. (Beginning in 1976, it becomes the main repository for rare plants inventoried by the N.C. Heritage Program.)
1914	Dr. W. C. Coker becomes faculty chairman of the UNC Grounds and Buildings Committee and oversees campus landscaping for nearly four decades. H. R. Totten is appointed botany instructor. Totten and Dr. Coker plants a "physic garden" in Coker Arboretum. Totten teaches, among other courses, "pharmacognosy" (pharmaceutical botany)—knowledge of healing herbs—prior to receiving his Ph.D. in

	<p>Botany (1923). Coker and Totten pursue development of the physic garden with seeds and roots donated by Dr. Stockberger of the USDA's Drug and Poisonous Plant Investigations (a response to a shortage of raw drug plants from Europe during and after WWI).</p> <p>By 1928, what becomes known as Dr. Totten's "drug garden," a teaching and research site which he curates, contains 200 drug plant species and is selected by the USDA as one of the best drug gardens in the U.S. (Pharmacognosy was a required course for UNC students of medicine and of pharmacy; every pharmacist and country doctor had to pass Dr. Totten's rigorous course and be able to identify drug plants from their seeds and dried specimens.) After WWII, drugs derived from plants began to be synthesized in labs; physicians and pharmacy students no longer needed to know about uses and preparation of medical plants. The "drug garden" fell into a state of neglect. However, UNC continued to support the need for a collection of medical plants. In 1952, when NCBG was established, plans included a drug garden for pharmacy students and drug plant research. (See 1973 entry.)</p>
1917	UNC first-year student Paul Green's one-act play "Surrender to the Enemy" is performed in Battle Park on the site that becomes the Forest Theatre.
1919	The first outdoor drama performed in the Forest Theatre by the Carolina Playmakers is "Taming of the Shrew."
1927	Dr. Coker proposes to UNC President Chase that "a collection of all the trees and shrubs of North Carolina" be established on university lands to the south of campus, for the purpose of teaching, research, and public education. The shrub collection is established in the 1930s–40s, but development slows during World War II. The collection is moved to the Mason Farm property in 1939, having outgrown its location, and is moved again to make room for the UNC golf course.
1930	Alma Holland Beers, first female research assistant hired by the UNC Botany Department, works with Dr. Coker and begins teaching undergraduate and graduate students (until 1940), including her favorite course, "Structure, Growth and Classification of Ferns." She teaches William J. Koch, who becomes a distinguished faculty member in the Botany Dept. Beers deposits over 700 botanical specimens in the UNC Herbarium. She also designs china used by the Carolina Inn for many years (a sample is displayed at UNC Herbarium).
1934	"Trees of the Southeastern States including Virginia, North Carolina, South Carolina, Tennessee, Georgia, and northern Florida," by Dr. William Chambers Coker and Dr. Henry Roland Totten, is published by the UNC Press. (Reprinted at least three times and revised once; since 2012 available as a UNC Press Enduring Edition in paperback format).
1935	The Soil Conservation Service uses Mason Farm land as a USDA Tree Nursery to test plant performance of native and exotic species for erosion control. Many of the species later become pests. Program continues until 1953.
1937	Laurie Stewart receives her Masters in Botany under Dr. Coker, and in June she becomes curator of the UNC Herbarium. She later marries Albert Radford (who becomes curator of UNC Herbarium after receiving PhD in 1948). Laurie Stewart Radford oversees the Herbarium during WWII (1941–45).
1943	Author Betty Smith writes "A Tree Grows in Brooklyn." Smith comes to Chapel Hill at the invitation of Professors Paul Green and Frederick Koch to write plays, funded by the Federal Theater Project. (Green, Koch, and Smith all associated with the Forest Theatre).
1945	Dr. Coker retires as Kenan Research Professor of Botany Emeritus.

1952	At the request of Dr. John Couch, UNC faculty mycologist and chair of the Botany Dept., UNC Trustees approve creation of a botanical garden, setting aside a 72-acre tract of the Mason Farm woodlands for its development. (Additional lands, the Coker Pinetum and land around what becomes the Totten Center, come as a gift from W. C. Coker, followed by a bequest from the estate of Dr. Coker.)
1954	<p>Dr. Coker and his wife, Louise Venable Coker, deed the section of NCBG known as the Coker Pinetum to UNC. As detailed in the deed, the Cokers donate approximately 25.47 acres to be used “only for a Botanical Garden and Park area. Specifically, the Cokers stipulated [that] “there shall be no athletic fields established or maintained in this area although there may be recreational walks and a cross-country track leading through this area.” Violation of the restrictions would revert the property to the Board of Directors of Coker College.</p> <p>Hurricane Hazel causes widespread damage to woodlands in Chapel Hill, including the lands for the future Botanical Garden.</p>
1961	<p>Department of Botany presents to the UNC president: “The North Carolina Botanical Garden: A Review of the History and Status, and Prospectus for a Public Botanical Garden and Arboretum Operated As a Unit of the Department of Botany.”</p> <p>William Lanier Hunt donates 103 acres of the Morgan Creek gorge to protect steep Catawba rhododendron bluffs and to begin a collection of southeastern U.S. woody plants. The tract becomes the William Lanier Hunt Arboretum.</p> <p>William Lanier Hunt and others (including members of the North Carolina Wild Flower Preservation Society) lead efforts to form the Botanical Garden Foundation.</p> <p>Dr. C. Ritchie Bell, faculty member in the Department of Botany, is appointed NCBG’s first director.</p> <p>Eight acres of steep rhododendron bluffs above Morgan Creek and contiguous with the Hunt Arboretum are donated by Edward L. and Nancy Gray (Gray Bluff Garden).</p>
1963	UNC Herbarium moves from Davie Hall to Coker Hall. Harry Ahles becomes curator and Albert Radford becomes director.
1965	<p>UNC Trustees add 96 additional acres to Mason Farm, for what is now Mason Farm Biological Reserve. The land is dedicated for biological research, teaching, and conservation. NCBG begins to manage approximately 80 acres in the northern part of, primarily for botanical research. A pond (“Botany Pond” or “Muskrat Pond”) is created.</p> <p>For the first time, UNC work-study students are assigned to NCBG. Supervised by David Dumond, graduate student of C. Ritchie Bell, they begin construction of first nature trail.</p>
1966	<p>William Lanier Hunt leads the establishment and chartering of the Botanical Garden Foundation, a non-profit organization that provides support to the Botanical Garden. Hunt is elected president during the first BGF meeting (1967).</p> <p>On April 10, Ritchie Bell’s birthday, NCBG opens the first nature trail, built by work-study students. It is NCBG’s first public feature.</p> <p>The Botanical Garden Foundation is incorporated. (A copy of the NC Dept. of State Certificate of Incorporation is in a folder, “NCBG Garden History, Copies of Original Documents,” in box of Sandra Brooks-Mather’s files in the Communication’s office).</p>

1968	<p><i>Manual of the Vascular Flora of the Carolinas</i> by A. E. Radford, H. E. Ahles, and C. Ritchie Bell is published by UNC Press; documents and provides identification to 4673 unique taxa.</p> <p><i>Wild Flowers of North Carolina</i> by W.S. Justice and C. Ritchie Bell, co-sponsored by the Garden Club of North Carolina and NCBG, is published by UNC Press.</p> <p>Ken Moore, as a graduate student, is asked by Ritchie Bell to supervise work-study students, with his salary paid through the BGF.</p> <p><i>Garden Trails</i> newsletter begins publication (fall), continuing through 1977.</p>
1969	<p>From <i>Laurel Hill to Siler's Bog: The Walking Adventures of a Naturalist</i>, by John Terres, is published and earns the John Burroughs Medal for Distinguished Nature Writing in 1971. (In 1985, Algonquin Books of Chapel Hill publishes a new edition with an updated introduction by C. Ritchie Bell).</p> <p>Visitors to NCBG are encouraged to record bird species, numbers, and dates seen in the Garden area; information is submitted to the Chapel Hill Bird Club for bird census records.</p> <p>NCBG requests readers of <i>Garden Trails</i> (distributed to BGF members, 1968–1977) to submit yearly records of blooming dates of plants in their area as part of a long-range systematic observation program of plants of the southeastern U.S., started by Dr. Helmut Leith of the UNC Botany Dept.</p> <p>The Camellia Project, under the direction of Dr. Clifford Parks (UNC Botany Dept.), begins research to cold-test plantings grown outside when compared with plantings grown in the greenhouse. First plots are on the south side of Morgan Creek, just downstream from Arboretum Drive.</p> <p>The BGF receives its first gift of land to be preserved as natural habitat: 15 acres on Chesser's Island in the Okefenokee Swamp, GA, donated by Dr. and Mrs. Francis Harper.</p>
1970	<p>Azalea Hill, sponsored by the Men's Garden Club of Chapel Hill and designed by William Lanier Hunt, NCBG's first specific planting project, nears completion. Supervised by Ken Moore and with the help of work-study students, native azaleas (plus hemlocks and possibly other shrubs and trees) are planted along the new trail at an opening in the forest created by a fallen oak. (Many of the plants eventually died.)</p> <p>NCBG now comprises 329 acres including hardwood forests, mature pine stands, fern-covered slopes, and open cultivated fields.</p> <p>NCBG exhibits "Planting with Native Plants," with plants from mountain, piedmont and coastal plain regions, at the NC State Fair, the first of many exhibits using large collections of native trees, shrubs, and wildflowers in containers.</p> <p>NCBG sponsors two non-technical courses, <i>Winter Botany</i> and <i>Spring Wild Flowers</i>, offered on Saturday mornings to the public through the Extension Division of UNC.</p> <p>The first Earth Day is celebrated (April 22).</p> <p>Dr. Jim Massey becomes curator of UNC Herbarium (serving until his retirement in 2000).</p> <p>Winter is particularly interesting for birding: Red Crossbill (18), a northern bird, is sighted for the first time in the Chapel Hill area. Christmas bird census totals 60 species.</p>

1971	<p>A separate allocation from the NC State Legislature, responsive to direct mailings from NCBG supporters, provides state funds for some operations—the first direct state support since NCBG was authorized in 1952.</p> <p>UNC Trustees set aside 195 acres of Mason Farm Biological Reserve for botanical use in response to a petition submitted by Dr. Haven Wiley, Zoology faculty, to UNC’s chancellor to formally designate the southern end of the reserve for teaching and research. A Bird Behavior Station is established.</p> <p>J. Kenneth Moore is appointed NCBG superintendent, the first permanent NCBG employee. He begins recruiting volunteers as tour guides, and for weekends and maintenance.</p> <p><i>Local Plants and Their Environments</i> is offered, with funding from the Sarah Graham Kenan Foundation, and taught by Ken Moore and Anne Benson (Harris) in Burlington, Roxboro, Oxford, and Fayetteville, and by Julie Moore in Wilmington and Wilson.</p> <p><i>Plant Propagation</i> and <i>Fall Wildflowers</i> courses are offered.</p> <p>Jean Stewart becomes the first Tour Guide, initiating the creation of a named volunteer group to guide and educate NCBG visitors. Earlier, Jean Stewart went on many plant rescues and searches for common and uncommon plants along forest trails and roadsides.</p> <p>Weekend Volunteer group is established and posted at the Garden gate to welcome visitors.</p> <p>Battle Park, not yet a part of NCBG, is added to the National Registry of Historic Places.</p> <p>NCBG’s exhibit at the NC State Fair wins a grand premium ribbon and a cash award.</p> <p>The first Labor Day Open House is held.</p>
1972	<p>Tour Guides, among NCBG’s earliest volunteer groups, begin leading tours of the Garden for children and visitors, and <i>Habitat Hikes</i> are offered to BGF members.</p> <p>Long-range plans for NCBG are being developed for a headquarters on Laurel Hill Road, where the greenhouses are located. The plan includes classrooms, offices, public meeting places, a potting bench, a repair shop, public bathrooms, and a complex of greenhouses.</p> <p>There are now 2 NCBG staff (Superintendent Ken Moore and Educational Assistant Anne Benson) and 5 work-study students. Anne Benson is developing environmental materials and programs for primary and secondary schools in NC.</p> <p><i>Local Plants and Their Environments</i>, first offered in 4 cities in 1971, is offered in eleven Mountain and Piedmont cities.</p> <p>Courses offered at NCBG now include <i>Fall Wildflowers</i>, <i>Plant Propagation</i> (offered twice as a result of demand), <i>Winter Botany</i>, <i>Spring Wildflowers</i>, <i>Birds of the Carolinas</i>, and <i>Wildflower Photography</i>.</p> <p>Plant rescues are conducted with permission of developers and landowners. Plant Rescue volunteers and staff pioneer plant rescue techniques, eventually adopted by many conservation-oriented gardening groups throughout the Triangle and the state.</p>
1973	<p>The Herb Garden (a descendent of Dr.Totten’s “drug garden”) is established by Herb Volunteers, led by Mercer Reeves Hubbard for whom the Herb Garden is later named (1988). (Moved to its current location in the main display gardens entrance).</p> <p>Tour Guide training prepares tour guides, botany graduate students and Garden staff to host</p>

large numbers of students who visit the Garden for supervised activities. Over 900 students in addition to classes from first grade to college groups from Chapel Hill and surrounding areas spend class time in the Garden. Garden staff conduct environmental training courses for teachers in Chapel Hill, Brevard, Wilmington, and Carteret County.

Volunteers, in addition to Tour Guides and Weekend Volunteers, now include volunteers who prepare nursery beds, rescue plants, weed, plant and maintain individual habitat plots, assist with secretarial work, and work in the greenhouse and nursery areas.

Courses being offered are *Winter Botany*, *Plants and How They Work*, *Bonsai*, *Plant Propagation*, and *Spring Wildflowers*. (Courses are sponsored by the UNC Extension Division, and held in the Botany Department and NCBG greenhouses).

Dot Wilbur-Brooks is hired as public programs coordinator.

Volume I of the *NCBG Newsletter* is launched.

1974

Marks the deaths, within one month of each other, of Dr. Totten and his wife Addie, organizer of the Chapel Hill Garden Club, past president of the Garden Club of North Carolina, leader of the North Carolina Wild Flower Preservation Society, and past regional director of an 11-state Southern Garden Council. The proceeds of the Totten's estate are bequeathed for the purpose of constructing a much-needed building to house staff and functions, providing NCBG with its first classrooms, offices, and workrooms.

The UNC Herbarium is designated as a national Resource Center by a National Advisory Committee for Systematic Resources in Botany.

Friends of the Herbarium is organized by Curator Dr. Jim Massey to support and promote herbarium operations and services as a scientific and educational resource.

The Mason Farm Biological Reserve hosts community gardeners in the rich field across from Morgan Creek, adjacent to the dike. Through the efforts of C. Ritchie Bell and Frank Parker, and the Chapel Hill Men's Garden Club, seven 25'x 50' plots are first made available to students and townspeople, managed by Nancy Hillmer (eventually growing to a total of 250 plots). A second site is UNC's Horace Williams property in Carrboro. Neither site is irrigated. In 1978 a prolonged drought causes a decrease in gardener registrations, as does the condition of roads leading to the sites. In 1983, the Mason Farm Committee requests that Mason Farm plots be phased out owing to interference with biological research, litter, fires (plot burning), etc. 1988 is the last growing season; plot-holders are welcomed to transfer their activities to UNC's Horace Williams property in Carrboro.

A "Child's Garden" pilot program is offered at Carrboro Elementary School. Garden staff and volunteers meet twice a week with a group of 6th graders to transform a patch of school yard clay into a cool-season vegetable garden.

NCBG is assisting the Garden Club of North Carolina and the Landscape Unit of the Division of Highways with the Operation Wildflowers (roadside) project that will plant native wildflowers along the state's highways. Staff helped choose the most appropriate wildflowers and are involved in cultivation methods best suited to the chosen plants.

Three additional staff and a full-time secretary, Kathy Fort (office is in Coker Hall), are hired: Rob Gardner, Charlotte Jones[-Roe], Alan Johnson. Five state-funded positions are authorized (John Foley hired briefly before another opportunity took him to NY).

Trail shelters, garden signs, bridges, plant flats and other needs are funded by the Junior

	<p>Service League of Chapel Hill. Industrial Arts students in the Chapel Hill/Carrboro school system will construct many of these improvements.</p> <p>Labor Day Open House at the Garden for two days draws plant buyers and admirers of native plants, and provides a recruiting ground for volunteers.</p> <p>Volunteers sell herbs, conduct herb workshops, and raise funds for the herb garden and endowment.</p> <p>Used styrofoam cups are solicited to be used for potting seedlings and rooted cuttings as a cost-saving measure.</p>
1975	<p>James Ward and Harry Phillips are hired as curators.</p> <p>Late in the year, NCBG staff move into the Totten Center from the “Green Shed” (a tool shed that also served as “office” for staff).</p> <p>BGF membership totals 200 members.</p> <p>The fenced area of the Garden opens on weekends.</p> <p>Courses/programs offered are: <i>Plants in Winter, Plant Propagation, Nature Photography, Spring Wildflowers, House Plants, Natural Dyes, Plants in Winter, Birds of the Carolinas, Mountain Plants in Winter, Smoky Mountain Spring Wildflower Camp, Smoky Mountain Wildflower Trail Ride, Mountain Nature Study Workshop</i> for Camp staff, <i>Mountain Ecology Workshop, Fern Workshops, Gardening with Native Plants</i> with emphasis on creating a bog habitat for your yard, <i>Pruning Workshop</i>, and <i>Dried Plant Workshop</i>.</p> <p>A gatehouse/shelter is constructed with logs from of an old tobacco barn donated by the Valco Corp.; it protects Weekend Volunteers during inclement weather and serves as their welcome center. Mary Edith Bell (C. Ritchie Bell’s mother) provides strong leadership for the Weekend Volunteers.</p>
1976	<p>Dedication of the Totten Center, NCBG’s first permanent building, 10 years after the first trail is opened to the public. The keynote speaker is Dr. William Steere, president emeritus and senior scientist, New York Botanical Garden. Staff whose offices are in the Totten Center: C. Ritchie Bell, Director; Ken Moore, Superintendent; Kathryn Fort, Administrative Secretary; Dot Wilbur [Brooks], Activities Coordinator; Alan Johnson, Nursery Supervisor; and Curators Rob Gardner, Charlotte Jones[-Roe], Harry Phillips, and Jim Ward.</p> <p>The first art exhibit is installed in the Totten Center: <i>An Exhibit of Art and Crafts</i>.</p> <p>Athena and Bill Parker donate their 127-acre property to UNC, retaining life estate of 5 acres on a historic home site. The Parker Property is a critical piece of the southeastern Orange County nature preserve puzzle: it abuts Mason Farm Biological Reserve to the east, Laurel Hill Nature Preserve to the north, and three undeveloped private properties to the south and southeast, all of which connect to the vast New Hope Game Lands.</p> <p>“Thirteen Colonies Trail; Useful Native Plants of Colonial America,” a U.S. bicentennial project of the NCBG, is made possible by cooperation of the North Carolina Association of Nurserymen and the Landscape Contractors Association of North Carolina who furnished plant materials, and members of the Arnold Air Society and the UNC Angel Flight who organized much of the work and volunteered time and effort to install the plantings.</p>
1970s	<p>Habitat Display Gardens are established over time: Mountain, Coastal Plain, Carnivorous</p>

	<p>Plants, Aquatic Plants, Southeastern Fern Collection, Sandhills, and Plant Families Garden.</p> <p>Plant Rescue Volunteers travel around the state collecting plants from areas where plant habitats are about to be destroyed during construction projects.</p> <p>“Conservation through Propagation” becomes a theme.</p> <p>NCBG becomes known nationally for a commitment to conservation principles.</p>
1977	<p>NCBG offers a 3-week course for Elderhostel at UNC: <i>Native Plants and Their Ecology</i>.</p> <p><i>Herba Officinalis, Information for Volunteers</i>, a project of and for Herb Garden Volunteers, begins publication and continues until 1984.</p>
1978	<p>UNC receives a Title I HEW grant that sparks the beginning of the Horticultural Therapy Program, joining 13 U.S. botanical gardens offering training and consultation to human services professionals in the use of horticulture as a therapeutic and/or recreational medium. The program is established, coordinated, and led by Judy Carrier who, with Bibby Moore, work in many kinds of facilities to enable residents to grow plants for food and beauty.</p> <p>Handmade natural ornaments for NCBG’s Christmas tree and wreaths are created by volunteers, led by volunteer Virginia White, establishing a NCBG tradition.</p> <p>NCBG sign is purchased by the Ridgewood Garden Club of Chapel Hill and installed at the entrance to the parking lot off Old Mason Farm Rd.; to be landscaped with native plants.</p> <p>T-Shirt Silkscreening Day is held during the Open House. Bring your own T-shirt that is silkscreened by Charlotte Jones[-Roe], Ned Leager, and other staff with either a Jack-in-the-Pulpit or Venus flytrap design (cost: \$1). Designs by Chapel Hill High School student Richard Shrader. Becomes an Open House tradition.</p> <p>A week-long celebration of the sun is held at the Garden.</p> <p>Streetlights are installed along Laurel Hill Rd.; funds donated by Ridgewood Garden Club.</p> <p>A van provides the Horticultural Therapy Program with outreach to rural and urban communities. It is equipped with gardening supplies, a reference library, a fold-down potting bench, and space for plants. The van also becomes a training center for volunteers and staff of social service agencies and health care facilities.</p> <p>A National Science Foundation grant is awarded to NCBG to support research activity.</p> <p>A 1500-sq.-ft. field shelter (“The Barn”) is constructed in the fenced research area of Mason Farm Biological Reserve.</p>
1979	<p>The first NCBG wildflower sale is held. Forty-four native species sell out. The sale was preceded by four months of preparation by volunteers and staff.</p> <p>Herb volunteers plan an Herb cookbook, soliciting recipes from NCBG members, with sales proceeds to benefit the NCBG.</p> <p>C. Ritchie Bell drafts legislation that sets up the 1979 NC Plant Conservation Program and gives legal protection to the state’s rarest plant species.</p> <p>Pinky Falls and the Olive Tract Natural Area, BGF nature preserves near Highlands, NC, are recognized on the North Carolina Registry of Natural Areas.</p>

1980	<p>The first England Garden Tour for BGF members is led by Ken Moore.</p> <p>With Comprehensive Employment and Training Act (CETA) funding, NCBG is participating in helping young adults, 16–19 years old, working to earn a GED, learn skills in grounds maintenance, machine and tool use, landscaping, trail clearing and maintenance, weeding, mowing, transplanting seedlings, and identification of native plants; these individuals will also assist with new projects, such as those in the Herb Garden. The training program continues through 1981.</p> <p>12,000 plants are purchased during the annual wildflower sale, and 60 new NCBG (BGF) members are recruited. They receive a 10% discount on their plant purchases. Membership stands at 1,100 members.</p> <p>NCBG offers <i>Ecology: Our Leafy Friends</i>, a week-long course during the Elderhostel Program held at UNC. It continues as an offering in 1981, with another ecology course.</p> <p>Saturday morning walks through the Garden begin, conducted by Garden Curators.</p> <p>Weekend Volunteers host 2000 visitors during the spring.</p> <p>Cardinal flowers turn blue, according to reports from gardeners who purchased cardinal flower plants. This was not a UNC/NC State joke; rather, great blue lobelia and cardinal flower look-alike seedlings had been mixed during relocation to the Nursery.</p> <p>The Henry Roland Totten botany lecture series begins, held at the Totten Center and offered to the public. Dr. John N. Couch gives first lecture. (The series is discontinued in 1984.)</p>
1981	<p>In his 1981 annual report, NCBG Director C. Ritchie Bell asks for understanding as lack of critical basic state fiscal support (economic cutbacks in government and private grants) strain the NCBG budget for academic and public service activities. During 1981, support is received from the Chapel Hill Men's Garden Club, the Chapel Hill Garden Club, the Ridgewood Garden Club, and the BGF. NCBG's volunteers become even more important to continuation, improvement, and expansion of NCBG programs.</p> <p>The BGF is awarded \$33,460 from Institute of Museum and Library Services, to support public service and educational programs that would otherwise have been eliminated.</p> <p>NCBG comes under the direct administration of UNC's Dean of the College of Arts and Sciences. In the future, NCBG will be governed by an Administrative Board.</p> <p>9,400 plants are sold during the Spring Herb Sale. The "wildflower sale" moves to the Fall, with the theme "Fall is for Planting."</p> <p>Coker Arboretum distributes tree and shrub seedlings, free to the general public.</p> <p>The fenced portion of the Garden closes on weekends.</p> <p>NCBG's Horticultural Therapy Program contracts with Chapel Hill's Parks and Recreation Dept. to build and program a Learning Garden on the grounds of Umstead Park (later moved to Chapel Hill Community Center), engaging UNC Hospital's child psychologist, special education classes in the CH/Carrboro school district, and elders in retirement communities in therapeutic gardening activities. CNN carries a story about the Learning Garden, and National Geographic includes the Learning Garden in an article. The Learning Garden program is eventually terminated due to lack of NCBG/Parks maintenance. The program is moved subsequently to the NCBG campus. (As of 2016, the Learning Garden is located on the grounds of the Community Center with a CH Parks and Recreation staff</p>

	<p>member assigned to plan and supervise planting, maintenance and teaching activities).</p> <p>The Weekend Volunteer group is discontinued (later reinstated). Garden visitors are requested to sign Visitor Registration sheets.</p>
1982	<p>Wildflower of the Year program begins, co-sponsored by the Garden Club of North Carolina, to actively promote a showy southeastern native plant. The inaugural plant is the cardinal flower. Flower seeds are available on request, but the seed supply runs out, leading to continuation of Cardinal flower as 1983 Wildflower of the Year (again in 2001).</p> <p>A delegation of distinguished botanists from Harvard University and the People's Republic of China, followed by visits from botanists from South Africa and England, visit NCBG to collect plant material and observe operations; staff provide tours.</p> <p>The Garden, Coker Arboretum, and Mason Farm Biological Reserve become a single administrative unit under Dean Samuel Williamson Jr., Dean of Arts and Sciences. Dr. C. Ritchie Bell is named director of the unit. When Dean Williamson becomes provost and vice-chancellor for academic affairs in 1984, the unit moves with him.</p> <p>As of 1982, NCBG manages five natural areas: Gordon Butler Nature Preserve (5.5 acres), Pinky Falls Preserve (6.5 acres), Olive Tract Preserve (4 acres), Penny's Bend Nature Preserve (86 acres), and Stillhouse Bottom Nature Preserve (7 acres). These tracts exist to protect rare species and outstanding examples of natural areas. Three areas (Gordon Butler, Pinky Falls, and the Olive Tract) are state-registered Natural Areas.</p> <p>In the Herb Garden, the Poison Plants section (researched by volunteer Villa Zala) gets its first plant: poison sumac.</p> <p>The Learning Garden, a 1982 joint project of NCBG's Horticultural Therapy Program and the Special Populations Program of Chapel Hill Parks and Recreation, is given the Award of Excellence by the North Carolina Recreation and Parks Society.</p> <p>Daily sales of propagated wildflowers and herbs, early April into October, replace the annual wildflower and herb sale.</p> <p>NCBG's Dot Wilbur-Brooks broadcasts a show on horticultural and botanical subjects (with NCBG mentioned as sponsor), aired twice every Monday on WUNC-FM for 13 years. Scripts are written by Dot and volunteer Virginia White.</p> <p>NCBG and Rob Gardner host a meeting of concerned carnivorous plant specialists, co-sponsored by the U.S. Fish and Wildlife Service and the NC Plant Conservation Program, to discuss protection and conservation of the endangered green pitcher plant.</p> <p>NCBG has a weekly column in 48 newspapers in North Carolina and southern Virginia.</p> <p>The NCBG completes the contract with the Plant Protection Program of the NC Dept. of Agriculture to develop a nursery for legally protected plants, to conduct rescues of listed species when needed, and to coordinate propagation research among research investigators and nursery growers.</p> <p>The newly formed local branch of the Sierra Club begins to hold monthly meetings in Totten Center.</p>
1983	<p>NCBG wins the 1983 Gulf Oil Conservation award of \$500 for conservation leadership.</p> <p>15,000 plants are sold at the Spring Plant Sale.</p>

	<p>The NCBG lower loop trail is completed, including the installation of a bridge close to the Laurel Hill Road extension.</p> <p>Volunteers help design and plant the award-winning Plant Rescue exhibit at the N.C. State Fair.</p> <p>Vol. I of the <i>Friends of the UNC Herbarium Newsletter</i> is published in the fall.</p> <p>Background planting of the Medicinal Garden (Herb Garden) begins. A list of woody species needed is published in the NCBG newsletter with a request to BGF members to contribute those that are grown in their gardens.</p> <p>The Gordon Butler Nature Preserve, a BGF nature preserve near Hope Mills, NC, is recognized on the North Carolina Registry of Natural Heritage Areas.</p> <p>The Herb House, a wooden cottage with tool shed, is designed by local landscape architect Jon Condoret and built by Scott McSwain and his friends at the back of the Herb Garden. Beverly Connor McSwain is curator of the herb collection.</p>
1984	<p>UNC Trustees act on a proposal of R. Haven Wiley and others to create a unified “Mason Farm Biological Reserve” of 367 acres, the home of bobcat populations, unique old-growth forest, ancient forest soils, state record trees, and more than 200 bird species. At the time, it is the site of one of the longest-running, most detailed studies of breeding birds in the eastern U.S.</p> <p>NCBG is one of eight founding participating institutions of the Center for Plant Conservation and is one of 36 gardens holding the National Collection of Endangered Species. (As of 2016, NCBG is one of 39 gardens holding the Collection.)</p> <p>The 1984 Labor Day Open House draws a record crowd of 3000.</p> <p>A new NCBG sign on the US 54/15-501 bypass, a gift from the Ridgewood Garden Club, is installed, soon to be landscaped with native plants.</p> <p>NCBG solicits program ideas and feedback from newsletter recipients—BGF members—whose requests for programs, courses, how-to’s for gardeners new to North Carolina, and field trips will be used to plan forthcoming public education outreach and programs.</p> <p>The Herb Garden celebrates its 10th anniversary and the opening of the Herb House.</p> <p>The Medicinal Garden Group is working on placement of medicinal trees and shrubs in the Herb Garden.</p> <p>A Long-range Plan for NCBG is prepared by staff.</p> <p>Renovation of the Coastal Plain habitat begins, a two-year project.</p>
1985	<p><i>Growing and Propagating Wild Flowers</i> by Curator Harry Phillips and other staff, with illustrations by Dot Wilbur-Brooks, is published by UNC Press. The first hardcover edition sells out, followed quickly by a second printing.</p> <p>By UNC Trustee action, the large Mason Farm area south of Morgan Creek, not previously set aside for NCBG use, is included in the Mason Farm Biological Reserve.</p> <p>The wildflower sale is revived and held for 3 hours, sponsored by Propagation Volunteers.</p> <p>The C. Ritchie Bell Conservation Internship is established with a gift from Ritchie Bell and</p>

	<p>Anne Lindsey.</p> <p>BGF membership dues increase by \$5 per membership category.</p> <p>Garden hours extend until 8 pm on Thursdays and Sundays during the summer months.</p> <p>The NCBG Herb Volunteers' cookbook, "A Taste for Herbs: Basil to Woodruff," becomes available for sale in the Totten Center or by mail. Recipes are contributed by Herb Volunteers and NCBG members (and tested on staff). Proceeds support Herb Garden projects such as the medicinal and Native American gardens.</p> <p>The Botanical Garden Foundation, with the help of the UNC Development Office, holds a phonathon to solicit new members. Of 5000 listed, about half are contacted and 442 (18%) pledge a total of \$17,146.</p> <p>An IBM PCXT arrives to modernize plant record keeping, bookkeeping, and word processing.</p> <p>A seed cleaning machine is purchased with funding from the Institute of Museum Services.</p> <p>NCBG's Intern Program is begun with funding from the Conservation Project program of the Institute of Museum and Library Services; it will be funded in future years by the BGF.</p> <p>A major article, "The North Carolina Botanical Garden," by Charlotte A. Jones-Roe appears in the <i>Bulletin of the American Association of Botanical Gardens and Arboreta</i> (Vol.19, No. 4, October 1985).</p>
1986	<p>C. Ritchie Bell retires as NCBG director and is celebrated during a dinner honoring his leadership, which turned 72 acres into one of the most active gardens in the southeastern U.S. "Under Dr. Bell's guidance, the Garden has become a place where an interest in flora can develop into a passion." At this time, there are 12 permanent staff, 15 seasonal workers, 150 dedicated volunteers, and 8 major plant collections, and it is administering 600 acres for UNC.</p> <p>Dr. Peter S. White, plant ecologist and conservation botanist, becomes director.</p> <p>Curator Harry Phillips leaves NCBG to attend graduate school; the State of North Carolina withdraws support for this vacant curator position due to budget cuts.</p> <p>The Administrative Board adopts NCBG's long range plan, the signal to begin more specific planning and fundraising for parts of the plan assigned highest priority.</p> <p>A cooperative use agreement is reached with the NC Wildlife Resources Commission and U.S. Army Corps of Engineers that adds several thousand acres of Jordan Lake's natural woodlands contiguous to the Mason Farm Reserve, increasing the research potential of NCBG.</p> <p>The Coastal Plain boardwalk is completed</p> <p><i>Index Seminum</i> and <i>Index Spororum</i> list all species for which NCBG has seeds and spores.</p> <p><i>Mason Farm Biological Reserve Notes</i>, Vol. 1, no. 1, is sent to permit-holders and others. (Planned as an annual publication, but does not continue.)</p>
1987	<p>Once again, the annual wildflower sale is discontinued, replaced by daily plant sales.</p> <p>The 16th annual Labor Day Open House is held.</p>

Growing with Gardening by Bibby Moore, NCBG horticultural therapist, is published and distributed by NCBG as a training manual that is being used in 16 statewide workshops to train staff to develop horticulture programs for group home residents. Arrangements are being made to publish a second, nationally distributed edition through UNC Press.

The Sandhills Habitat Garden doubles in size. A special memorial dedication is made to Kathryn Lutie McCoy Grady, the daughter of Donald and Kathryn C. McCoy, in whose honor 22 truckloads (416 tons) of sandy soil from the sandhills region doubles the area for display of unique sandhills flora. A second sandridge will be contoured, and vegetating the habitat will continue over the next several years. Support for the habitat's expansion is provided by a friend of Ms. Grady's father.

A half-scale sweat lodge is constructed in the Herb Garden. (An "Ati" is built in its place later by Eagle Scouts and John Blackfeather Jeffries, elder of Occaneechi Band of the Saponi Nation. This rebuilt by volunteer Douglas Tilden in 2014, then removed 2018.)

1988 NCBG's Administrative Board approves NCBG Director's report setting forth the NCBG mission, goals, and objectives that also includes proposed development projects, creating a comprehensive master plan that will chart the future course of NCBG. The report updates the 1984 Long-range Plan.

The BGF approves funding for a joint project with UNC Office of Facilities Planning and Design to conduct a survey of all University-owned Garden lands.

BGF Vice President Anders Lunde initiates an effort to catalog the history of the Foundation and the NCBG, working with C. Ritchie Bell and William Lanier Hunt. Lunde arranges for archival storage of BGF and NCBG papers in UNC Libraries.

The Labor Day Open House features "Art for Outdoor Spaces," an exhibit of works by 22 local and regional artists. The exhibit is planned, organized and curated by Kathy Buck. Many sculptures will remain in garden spaces surrounding the Totten Center during September. This was the first *Sculpture in the Garden* show.

Lady Bird Johnson visits and tours NCBG to help launch the first annual fundraising campaign, "Celebrating Wildflowers," and is presented with the first *Flora Caroliniana* Award during a campaign gala at Farrington. (The award was presented in subsequent years to John K. Terres, William Lanier Hunt, C. Ritchie Bell, and Tom Earnhardt). During Johnson's visit, she said: "I admire your North Carolina wildflowers, but I want North Carolina to look like North Carolina and Texas to look like Texas."

The Herb Garden is named to honor its founder, Mercer Reeves Hubbard as it celebrates its 15th anniversary.

The BGF approves the transfer of BGF records to Wilson Library of the UNC Libraries.

A native coral honeysuckle, *Lonicera sempervirens*, is rescued from destruction in Emerald Isle by Patricia Wheeler and Charles Wheeler, president of the BGF, who plant the rescued clump in their Raleigh garden. It is special, blooming all the way into December. Cuttings are shared with NCBG staff who share plants with Niche Gardens. The plant, a naturally occurring mutant, is named by NCBG and Niche Gardens, *Lonicera sempervirens* 'Major Wheeler,' to honor Charles Wheeler. (This story can be found on www.ibiblio.org/carrborocitizen/flora/2010/11/botanical-surprises-on-the-beach-dunes/ . The story was written by Ken Moore in his "Flora" column in *The Carrboro Citizen*).

1988– 2010	<p>During this period, with partial funding from the Conservation Project Program of the Institute of Museum and Library Services, five comprehensive reports are prepared on natural areas in Chapel Hill that are managed by NCBG.</p> <p>Conservation Project: the William Lanier Hunt Arboretum and Gray Bluff Garden. Written during October 1988 and January 1989 by Peter S. White, Richard T. Busing, and Julia O. Larke. (NCBG, 1991)</p> <p>Conservation Project: the Mason Farm Biological Reserve, final report. Written during January 1991-June 1992 by Peter S. White, Richard T. Busing and Julia O. Larke. (NCBG, 1992)</p> <p>Conservation Project: The Nature Trail Area, Coker Pinetum, and Stillhouse Bottom Nature Preserve, final report. Written during December 1991–May 1993 by Carol Ann McCormick and Peter S. White. (NCBG, 1993)</p> <p>Conservation Project: Laurel Hill Nature Preserve and “Billy Hunt’s Garden” with an update on the rare species and exotic species of the Hunt Arboretum, Gray Bluff Garden, and the Mason Farm Biological Reserve, final report. Written during November 1999-December 2000 by Brenda Wichmann, Alla L. Wally, and Peter S. White. (NCBG, 2000)</p> <p>Conservation Project: Battle Park. Written by Lisa Gienke, Stephen Keith, David Vandermast, Peter S. White, Elinor Benami, and Alan Weakley. (NCBG, 2010)</p>
1989	<p><i>Growing with Gardening: A Twelve-Month Guide for Therapy, Recreation and Education</i>, written by Bibby Moore, coordinator of NCBG’s Horticultural Therapy Program, is published by UNC Press. The guide helps to establish the Horticultural Therapy Program as a model and is considered to be “the best horticultural therapy text ever written.”</p> <p>NCBG sends a 6-foot Davie Poplar sapling to the National Zoo in celebration of the Zoo’s centennial anniversary.</p> <p>The first annual BGF fundraising campaign total is \$36,734.17.</p> <p>The Labor Day Open House features the NCBG’s new Master Plan.</p> <p>NCBG receives the NC Nature Conservancy’s 1989 Public Service Award.</p> <p>The NC Rural Economic Development Center awards NCBG a grant to develop production methods for herbs as an alternative crop for small and medium-sized farms. The project will be carried out in cooperation with NCSU, NC AT&T University, and selected farmers.</p> <p>The second annual outdoor sculpture exhibition is held.</p> <p>The NC Department of Transportation constructs a sound wall from Manning Dr. to Mason Farm Rd. to protect the Garden from increased traffic noise from expansion of US 54/15-501. Custom design of this wall is by Tom Hunter, ASLA.</p> <p>NCBG is developing a conservation plan for Coker Arboretum as part of the Master Plan.</p> <p>The last details of NCBG’s 1989 Master Plan are being finalized in preparation for approval by the Chancellor and the UNC Board of Trustees.</p>
1990	<p>NCBG’s comprehensive Master Plan (an update of the 1984 Long-range Plan) is approved by UNC Trustees.</p>

	<p>The Hunt Arboretum's vegetation and plant diversity will be surveyed over the next 14 months.</p> <p>The conservation plan for Coker Arboretum is completed as part of the Master Plan.</p> <p>The Poison Garden in the Mercer Reeves Hubbard Herb Garden is being renovated.</p> <p>Eighty Orange County seniors' views about the value of horticultural activities to their quality of life are studied in collaboration with the Program on Aging of the UNC School of Medicine.</p> <p>NCBG volunteers from Spruce Pine, Winston-Salem, Greensboro, and Wilson host outreach events to promote NCBG and recruit members, and Carol Woods residents are hosted during a tour of the Garden for promotion and volunteer recruitment purposes.</p> <p>Forty-two research projects have been conducted at Mason Farm Biological Reserve.</p> <p>The <i>NCBG Newsletter</i> transitions to the use of recycled paper.</p> <p>Dr. J. Kartesz, NCBG Visiting Research Associate and Director of the Biota of North America Program (BONAP) of the NCBG, with funding from The Nature Conservancy, the Reynolds Atlas Project, the Fish and Wildlife Service and the Soil Conservation Service, establishes a data center for vascular plants of North America, north of Mexico. The project is titled Floristic Atlas Project.</p> <p>Penny's Bend Natural Area, north of Durham, a BGF nature preserve owned by the U.S. Army Corps of Engineers, is recognized on the NC Registry of Natural Heritage Areas.</p>
1991	<p>The Paul Green Cabin is moved from its location on Greenwood Rd. in Chapel Hill to its current location in the Garden and renovated. The cabin was built by Robert Davis as a basket-weaving and casket-building workshop on Davis family property, northwest of Chapel Hill on old Highway 86 between Calvander and Hillsborough. (In 1939, Davis's widow offered the structure to writer Paul Green, who moved it to woods near his home property, where it served as his writing studio and retreat until 1965. The new owner of Green's Greenwood Rd. property, Dr. Maurice Newton, donates the cabin to the BGF.</p> <p>Owners of eight parcels of land bordering Morgan Creek sign easements to the BGF, helping to protect the Hunt Arboretum and Gray Bluff Garden: Tom Barnett, Geoffrey Coe, and others.</p> <p>John Terres given the <i>Flora Caroliniana</i> Award.</p> <p>Totten Center art exhibit schedule includes for the first time an exhibit of works created by NCBG staff.</p> <p>A 15-month study of the botany, ecology, and future potential of the Hunt Arboretum is completed.</p> <p>NCBG's Horticultural Therapy Program will train staff of retirement communities, nursing homes, and day care centers across NC. It is expected that over 60 facilities will benefit from trained staffs' application of skills and knowledge with planted gardens and involvement of residents.</p>
1992	<p>The Paul Green Cabin is officially presented to UNC by the BGF. It is formally dedicated in a ceremony with music, readings, and tributes to Paul Green.</p>

NCBG opens for full days, 8 am–5 pm, on weekends.

Botanical Garden Foundation, Inc. membership benefits are increased.

“Plants in Danger,” a 1993 pocket calendar featuring 12 drawings of endangered or threatened plants by artist Ippy Patterson and text by Rob Sutter (NC Plant Conservation Program), is offered for sale at the NCBG gift shop. Price: \$13.75

The Totten Center gets a new roof, new carpets, and an interior paint job.

Conservation Project: The Mason Farm Biological Reserve, final report in 5 parts, is prepared. Within the report, a section addresses the future usefulness of Mason Farm for biological research and teaching if a highway (the Laurel Hill Parkway) were to bisect the area, as proposed in the “1983 Thoroughfare Plan.” Recommendations included leadership intervention by the Department of Biology, the College of Arts and Sciences, the UNC Chancellor, and the UNC Trustees to take action both with the towns of Chapel Hill and Carrboro and the NC Dept. of Transportation, and to designate boundaries for the Mason Farm Biological Reserve under the jurisdiction of the Administrative Board of the NCBG. (The Town of Chapel Hill requested that the NC DOT remove the road from the Thoroughfare Plan; the DOT requested that the town propose an alternative traffic plan. Garden Volunteers who called themselves the Green Dragons [after a plant that grew in the proposed right-of-way], organized by then-Director of Conservation Charlotte Jones-Roe, joined members of Audubon in lobbying against the Laurel Hill Parkway. They attended every UNC and public hearing for 15 years. UNC would not remove the highway from the map until DOT did, which finally happened.)

A grant from the Institute of Museum and Library Services Conservation Project Program is received for botanical surveys of the Piedmont Nature Trails, Stillhouse Bottom, and Coker Pinetum.

Two sculptures of St. Fiacre, the patron saint of gardeners, are given to the BGF. One was designed by Becky Gray and cast by her husband, Richard Kennedy, from Texas green marble and North Carolina olivine; the second is a relief image constructed of wood, created by Anders Lunde, that was exhibited in the 1990 *Sculpture in the Garden* show. (The Gray/Kennedy sculpture is installed at the foot of the Totten Center’s right-side entrance planting wall. The Lunde sculpture is mounted on the siding on the right of the Totten Center entrance.)

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| 1993 | <p>Mack Fitch of Fitch Lumber Company, Carrboro, provides lumber for 11 wooden picnic tables, which are built and installed in a wooded area by volunteer Jim Wilkerson. Lady Slipper Club of Raleigh contributed funds to support the project. Two of the tables are wheelchair-accessible, designed by Charlotte Jones-Roe.</p> <p>While installing a replacement sidewalk in front of the Totten Center, Dot Wilbur-Brooks, other NCBG staff, and the men installing the sidewalk press leaves of trees, ferns, and other herbaceous plants into the still-soft cement sidewalk, a Garden tradition continued at the entrance to the Allen Education Center.</p> <p>The 10th year of Wildflower of the Year is celebrated with reproductions of a special Wildflower of the Year bouquet design by Dot Wilbur-Brooks. Her poster wins a blue ribbon at the 1993 national meeting of AABGA.</p> <p><i>Solidago rugosa</i> “Fireworks” is introduced to the public at NCBG and Niche Gardens (see Chapter 3 for details).</p> |
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NCBG welcomes two eight week-old kittens, Lily (*aka* Rosemary) and Mullein. Lily departs. Mullein is the resident Garden cat for 20 years.

From *Anise to Woodruff: 1793-1993; The Identification, Observation, Growing and Culinary Use of Herbs in the Southeastern U.S.* is published on the occasion of the UNC Bicentennial Observance, celebrated from October 1993–May 1994. It is authored by Herb Volunteers, and selected as an official Bicentennial publication by the UNC Bicentennial Observance Policy Committee. The book includes the recipe for Lemon/Thyme cookies that were served during the 1988 visit of Lady Bird Johnson, and a recipe for roast possum, (not served to Ms. Johnson)—a favorite dish of long-ago UNC students.

NCBG participates in the Bicentennial Celebration Davie Poplar Project, the production of 2½-foot seedlings grown from seeds collected by NCBG and UNC Grounds staffs from beneath the Davie Poplar and nearby Davie Jr. (started from a Davie Poplar cutting). The seedlings were cared for by NCBG for two years, resulting in 500 seedlings. Davie Poplar III was celebrated on University Day with 106 trees that were presented by Dean Smith to a sixth-grade essay winner from each of the 100 counties, several municipalities, and the Cherokee Reservation to plant at home on the students' school grounds. Forty-five poplars were presented to various UNC officials, alumni, and others (including descendants of William Davie). A poplar was presented to the Capitol Foundation for planting on the grounds of a state government building.

A barrier-free access boardwalk and entrance deck to the Coastal Plain habitat are constructed.

The Totten Center phone system gets a new line for a fax machine and modem.

The Carnivorous Plants Collection is moved from the Mason Farm Biological Reserve research area to the nursery area of the Garden.

The Green Dragons volunteer group is established to assist in the management, patrolling, and interpretation of the Mason Farm Biological Reserve, Coker Pinetum, and other areas, and for special projects. (See 1992 entry.)

1994 Dr. Barbara Roth, a retired chemist and founder of the New Hope Audubon Society, is writing a history of the Mason and Morgan family as it relates to the lands of NCBG and the Mason Farm Biological Reserve. She and Charlotte Jones-Roe host a visit by two Mason relatives (great-great grandnieces of James Pleasant Mason) to see the land once cultivated by their ancestors. They discuss plans for celebrating the 100th anniversary of the generous gift of their family to UNC.

The 100th anniversary of the gift of Mason Farm to the University is celebrated.

NCBG receives the 1994 Appearance Award from the Chapel Hill Community Appearance Commission for excellence in preservation of the Paul Green Cabin.

The Paul Green Foundation and the NCBG begin celebration of Paul Green's 100th birthday, "Word and Song in the Paul Green Cabin," as part of UNC's Bicentennial Celebration. The setting is the Paul Green Cabin: an afternoon event of music and readings, followed by an evening concert in Hill Hall featuring two of Paul Green's grandchildren, renowned musicians Frederick Moyer and Nancy Green.

On the same day as the celebration of Paul Green's 100th birthday, NCBG joins UNC in a campus-wide Bicentennial Celebration Open House, "Celebrate Wildflowers and 200 Years of UNC." Staff and volunteers are posted at Coker Arboretum and at NCBG Display

Gardens, where visitors enjoy a variety of activities including a treasure hunt at the Arboretum, and children's workshops, gardening how-to's, herb gardening, and other helpful tips at NCBG. The 1994 Wildflower of the Year T-shirt is unveiled. Lunch is available in a food catering tent.

Five acres of land in Stillhouse Bottom, the first gift to the Botanical Garden Foundation's Natural Areas Endowment, are given by Jim and Mary Eder. An additional gift of 5 acres adjacent to the Eder's gift and the BGF's acreage on Wren Creek, is made by Kevin and Vicki Huggins. Stillhouse Bottom is recognized as the best remaining old-growth forest of its type in Orange County. (The most noteworthy part of the forest had already been conveyed to BGF by Duke Power.)

The Totten Center opens from 9 am–4 pm, Saturdays, and 1 pm–4 pm, Sundays.

Three old, inefficient greenhouses are removed. (A new propagation greenhouse is installed in 1995.)

Dr. Lawrence Mellichamp of UNC-Charlotte and Curator Rob Gardner continue to work on a project to hybridize pitcher plants with the goal of producing superior forms and reducing collection pressures (and theft) in the wild.

The British Broadcasting Company sends a film crew to NCBG to film carnivorous plants for a David Attenborough series, "The Secret Life of Plants," to be released in 1995. Staff play a pivotal role in coordinating the series segment. (The BBC film crew is especially interested in filming Venus flytraps capturing ants).

A year-long study of the 367-acre Mason Farm Biological Reserve, funded by the Institute of Museum and Library Services, is completed. The extensive inventory and documentation of the plants, wildlife, and past research add 816 new accessions to NCBG's plant records. Of these, 598 taxa are native to the site.

The outdoor lighting system is completely redesigned to improve lighting and safety in the staff parking lot and path to the main visitor parking lot along Fordham Blvd., increasing the nighttime usability of the Totten Center.

The Green Dragons volunteer group, led by then-Director of Conservation Charlotte Jones-Roe, continues to patrol more remote nature trails and farm roads and trails of Mason Farm, the Hackberry Warbler Area, and Coker Pinetum. The volunteers' activities keep staff informed about needed assistance. Green Dragons also continue to provide advocacy.

Volunteer Barbara Emerson, NCBG's librarian 3–5 days a week for 7 years, receives the Governor's Award for Outstanding Volunteer Service. She is acknowledged for her vision, actively building and organizing the collection, redesigning the catalog, coordinating the jobs of two other volunteers, and coordinating with the Library Committee. (Emerson dies in 1995.)

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| 1995 | <p>A two-year, \$112,500 General Operating Support Grant is awarded to NCBG by the Institute of Museum and Library Services.</p> <p>NCBG's first website is created by graduate students in the UNC School of Information and Library Science.</p> <p>The Spider Gate sculpture by Jim Gallucci, exhibited during the 1994 <i>Sculpture in the Garden</i> show, is donated by the Chapel Hill Garden Club and becomes a permanent part of the Herb Garden, serving as entry to the Poison Plants Garden.</p> |
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The Garden's gazebo with bench seating is installed near the Information Board. A replica of an early shelter for the Old Well on campus, it previously served as part of UNC's Bicentennial Celebration exhibit on the grounds of Morehead Planetarium,.

New gardens are being developed behind the Totten Center, including the Carnivorous Plant Collection, previously housed in a greenhouse off-limits to visitors.

State-of-the-art computer technology is purchased with a gift of \$15,000 from Anne Branscomb through the Branscomb Family Foundation together with gifts of computer equipment from UNC and other sources that enable creation of CD-ROMs and important research databases. Among the CD-ROMs is the acclaimed Floristic Synthesis from the Biota of North America Program (BONAP).

Garden staff acquire cellular phones for increased safety when working alone in distant parts of NCBG properties and when leading field trips.

A handcrafted, century-old cradle is given to NCBG for display in the Paul Green Cabin by the Davis family/descendents of the cabin's builder, Robert Davis. (Not now on display.)

Two rare 'Shooting Star' mountain laurels (*Kalmia latifolia*) are given to NCBG by Marjorie and Hollis Rogers; installed in front of the Totten Center, they do not survive.

A windstorm downs large trees including in the Habitat Display Gardens, Nature Trails, and Mason Farm Biological Reserve.

The NCBG serves as a principal consultant for developing a rare plant exhibit at the North Carolina Zoo.

Dot Wilbur-Brooks writes a monthly gardening column, distributed to press sources by the Carolina News Services from 1995 to 1997.

1996

The new Garden Commons, designed by Tom Hunter, is dedicated and installed at the back of the Totten Center as the site for special outdoor events. In 1997, it is awarded the Jean and Pearson Stewart Appearance Award from the Town of Chapel Hill. In and around this Garden Commons, new and expanded plant collections are established: Aquatic Plants, Horticultural Therapy beds, Carnivorous Plants, the Plant Families Garden, and the circular Native perennial Border, including Rare Plants. Planting of displays and collections and a new irrigation system are completed.

In September, Hurricane Fran topples many large trees, especially on the Nature Trails, in Coker Arboretum, and at Mason Farm Biological Reserve, including the Champion Southern Shagbark Hickory, recognized as the largest of its kind. The old-growth forest in Stillhouse Bottom is devastated. The Nature Trails and Mason Farm Biological Reserve are closed. Felled trees are left to decompose. The Nature Trails and other pathways are cleared of debris with help from the UNC Grounds Dept. staff, Wellspring Grocery, the UNC Hospitals Radiation Therapy staff, and the North Carolina Zoological Park in Asheboro. NCBG's main collections area is open to visitors. The *Sculpture in the Garden* show opens as planned on Sept. 30.

Highland Pond, also called Salamander Pond, an important vernal pool atop Edwards Mountain in Governors Club, is donated to the BGF by William Lanier Hunt and the Governor's Club. The pond on a 3-acre site will be maintained in its natural condition as an important breeding site for salamanders and amphibians.

The UNC Senior Class of 1997 selects design and reconstruction of the wisteria arbor in

Coker Arboretum as the focus of their class gift.

NCBG is ranked as one of “America’s Best Public Gardens” by *Garden Design* magazine. In the category of Native Plants, NCBG is one of four gardens considered by the panel of experts to be the best in the country.

Retired Botany Professor and Herbarium Director Albert Radford and his wife, Laurie Stewart Radford, a botanist and former Herbarium curator (who writes an Herbarium history in 1998) give their home and land in Chapel Hill to the BGF, a major contribution toward the NCBG Master Plan’s proposed future Research Center and Herbarium.

The Herb Society of America chooses NCBG and Greensboro Arboretum as sites for the National Rosemary Collection.

Baptisia “Purple Smoke” is introduced to the public by NCBG (see Chapter 3). It is being followed with great interest in the horticultural world and is featured in magazines such as *Garden Design*, *Organic Gardening*, and *American Nurseryman*.

The International Dendrology Society with members from England, Argentina, New Zealand, France, Canada, Australia, the Netherlands, and the U.S., visit NCBG, the UNC campus, and the Coker Arboretum.

William Lanier Hunt’s 90th birthday is celebrated at the Carolina Inn. He dies in October, the day after receiving NCBG’s *Flora Caroliniana* Award.

Carnivorous plant experts and enthusiasts from around the world convene at the Totten Center for the Southeastern Carnivorous Plant Conference.

During the visit to UNC of Garrison Keillor and his Prairie Home Companion Company to celebrate WUNC-FM’s 20th anniversary, he describes Coker Arboretum on the radio show: “This is forest country down here ... beautiful trees all around and not far from Carmichael Auditorium here on the campus of UNC is an incredible 5-acre arboretum, right in the middle of campus with loblolly pines, northern catalpas, pond cypress, and water hickories, sweetgum trees and the magnolias, of course. It’s a lush forest here ... these are woodland people here, a little more modest than the rest of us.”

Mason Farm’s 101st birthday is celebrated, having started with a gift of 800 acres of land by bequest of Mary Elizabeth Morgan Mason. Her gift is the source of approximately $\frac{3}{4}$ of the 600 acres managed by NCBG and includes Mason Farm Biological Reserve and the Nature Trails. The event also honors naturalist John K. Terres, who made Mason Farm famous.

Jean Stewart, the first NCBG volunteer, is celebrated for 25 years of volunteer service. She is an original Plant Rescue and Plant Propagation volunteer, and a go-to helper for Ken Moore in the early years of NCBG.

NCBG’s Administrative Board approves founding of a publication series, with the first volume, a monograph, to be jointly published by the Chapel Hill Historical Society: *Chapel Hill and Elisha Mitchell, the Botanist* by Rogers McVaugh, Michael R. McVaugh, and Mary Ayers.

1997	Sally Jessee Brown, president of Marin Development, donates 26 acres outright and 12 acres in conservation easements to the BGF as buffers to the Mason Farm Biological Reserve. This area is the Laurel Hill Nature Reserve.
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A bequest of William Lanier Hunt’s library of many rare books on botany and horticulture

is made to the BGF. The books are moved to Wilson Library for safekeeping and inventory by Ken Moore. (2017: the collection was stored in Building A, Allen Education Center.)

The deed to the Highland Pond lot, 3 acres atop Edwards Mountain in Governors Club, is presented to the BGF and the area becomes the newest nature preserve, an important breeding site for salamanders and other amphibians. (See 1996, above.)

NCBG restricts distribution of seeds to a 12-state region of the southeastern U.S., a conservation measure to reduce the potential spread of a native plant that might become invasive elsewhere and to reduce outbreeding depression potential. Restriction of seed distribution is an important conservation issue, and NCBG may be the first in the nation to take this position.

NCBG, through UNC, receives significant expansion of its budget from the legislature.

Charlotte Jones-Roe is appointed to lead NCBG's Development Program.

The Jenny Fitch Lecture fund is established by R. B. Fitch and friends and family members of the late Jenny Elder Fitch, to provide an annual free public lecture about native plant horticulture.

Chapel Hill Roots, a new volunteer group, plans and carries out planting projects, including attempts to establish a Three Sisters Garden in the Native American section of the Herb Garden.

Green Dragons continue to meet, not only to clear trails but to advocate for NCBG lands.

NCBG's *Sculpture in the Garden* show is awarded a support grant from the Orange County Arts Commission with funds from the Grassroots Arts Program of the NC Arts Council.

Douglass Hunt (nephew of William Lanier Hunt), advisor to the UNC chancellor, provides a fascinating true story, "Unraveling the Mystery of the Ladies of Mason Farm," during an afternoon lecture in the Totten Center classroom. He describes archival sleuthing to unravel a mystery of missing, found, and doubled portraits. The portraits are displayed in the Totten Center classroom (now workroom). (See Appendices.)

1998

Dr. Johnny Randall is hired to lead NCBG's Conservation Department, a newly redefined position that has oversight of Mason Farm Biological Reserve, Coker Pinetum, Nature Preserves, and the rare plant conservation program, including NCBG's participation in the Center for Plant Conservation and cooperation with the NC Plant Conservation Program.

Plans develop for a herbarium/research/library building (Phase I) at the NCBG campus. Phase II will be a visitor center. Both buildings, emphasizing sustainability, will be located on the southeast side of Laurel Hill Rd., near the existing visitor parking lot. (This did not happen according to plan: Phase II was completed in 2009, and in 2017, planning begins anew for Phase I). The State Legislature provides \$350,000 for the architectural design of a new building (Phase I), the UNC Herbarium and Botanical Library.

C. Ritchie Bell, retired NCBG director and his wife, Dr. Anne H. Lindsey, donate a rental property valued at \$100,000, to be sold on behalf of the Herbarium building project.

Volunteer Tour Guide and Herbarium Volunteer Katherine Bradley Mouzon's bequest valued at \$2.7 million allows NCBG to begin planning, fundraising, and construction of the new Visitor Education Center.

Dedication is held of the replaced Coker Arboretum black locust arbor and new entry,

funded by UNC's 1997 Senior Class gift in honor of 5 students who died in a fraternity fire in 1996, and 3 classmates who died before graduation. The original arbor was created by Dr. Coker in 1911, with black locust logs from the N.C. mountains. The new arbor is raised by 12 inches, and the invasive Chinese wisteria that previously covered the arbor is eradicated and replaced with two forms of native wisteria: *Wisteria frutescens* and the cultivar *W. frutescens* 'Amethyst Falls.' Additional native vines will be added to the arbor: netleaf clematis, Carolina jessamine, coral honeysuckle, pipevine, and cross-vine. A new stonework Gathering Circle is created, featuring a mosaic of a tulip poplar leaf.

The 90th birthday of the UNC Herbarium is celebrated.

The 25th anniversary of the Mercer Reeves Hubbard Herb Garden is celebrated. The project to redesign and replant the Knot Garden is completed.

Garden staff take over responsibility for maintenance of The Rocks in Chapel Hill, a memorial to Louise Venable Coker beside her home at 609 North Street.

NCBG Director Peter White's book, *Wildflowers of the Smokies*, wins first prize in the Natural History Book category of the 1998 Excellence in Interpretation competition, presented by the National Park Service, U.S. Dept of the Interior.

NCBG is the first botanical garden in North America to establish an exotic plant policy.

NCBG participates in a statewide project to make natural ornaments for the 1998 Christmas tree on the lawn of the U.S. Capitol. Led by staff, "The Capitol Christmas Tree Workshop" at NCBG generates ornaments for the tree.

A traveling exhibit of 52 original watercolors by 18th-century artist Mark Catesby is celebrated at the Totten Center with a lecture, "Mark Catesby: The Colonial Audubon," by Robin Harland, retired from the British National Trust. The event is co-sponsored by The Royal Oak Foundation.

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| 1999 | <p>The Plant Families Garden is renovated and renamed the Garden of Flowering Plant Families.</p> <p>NCBG loses 6.5% of its state appropriation as a result of UNC's 1998/99 budgetary shortfall.</p> <p>UNC Trustees approve architectural plans for the Herbarium and Botanical Library, a component of the Master Plan, to be sited next to the Garden's visitor parking lot.</p> <p>NCBG Education Specialist Nancy Easterling and videographer Anne Lindsey of Laurel Hill Press collaborate to produce "Fire and the Longleaf," receiving two national awards: a Silver Telly and a Videographer Award of Excellence. The film is the first in NCBG's <i>Take A Closer Look</i> natural history video series.</p> <p>NCBG is spotlighted by Wellspring Grocery, predecessor of Whole Foods, with an exhibit of photos and publications; 8 donation boxes encourage shoppers to support NCBG.</p> <p>The First Jenny Fitch Memorial Lecture is given, in UNC's Memorial Hall, by Rosemary Verey, English writer and gardener. 425 people attend. The lecture is followed by book signing and refreshments served by Chapel Hill Garden Club members in Coker Arboretum.</p> <p>Laurel Hill Associates, through a gift to UNC, donates 1.14 acres adjacent to the William Lanier Hunt Arboretum. The site in its natural forested state will be managed by NCBG. (Note: It is now considered part of the Hunt Arboretum.)</p> |
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NCBG Director Peter White delivers the keynote address at the meeting of the Native Plant Conservation Initiative held at the Lady Bird Johnson Wildflower Center in Austin, Texas, where Lady Bird Johnson was presented with the Initiative's first Plant Conservation Award by Secretary of the Interior Bruce Babbitt. Anne Lindsey and Nancy Easterling also represent NCBG at the meeting.

Garden Tour Guides begin development of a replacement manual for use by Tour Guides.

The Town of Chapel Hill gives NCBG an Appearance Award for the Ceremonial Entryway, Stone Gathering Circle, and reconstructed Arbor in Coker Arboretum (see 1998).

The Mercer Reeves Hubbard Herb Garden is named one of the top six U.S. herb gardens by *Herb Companion* magazine.

A Guide to the Old Farm Trail, written by Charlotte Jones-Roe, designed by Sandra Brooks-Mathers, and dedicated to John K. Terres, is published by the NCBG and will be available for purchase at the Totten Center. (A second edition is published in 2009, revised by Charlotte Jones-Roe, and edited and designed by Laura Cotterman, titled: *Mason Farm Biological Reserve; A Guide to the Old Farm Trail*. It acknowledges the contributions of John Blackfeather Jeffries, Stephen Hall, Michael Kunz, Johnny Randall, Barbara Roth, John Terres, Peter White, Haven Wiley, and staff of the NCBG, the North Carolina Natural Heritage Program and UNC Laboratories of Archeology.)

NCBG organizes the North Carolina Chapter of the Southeast Exotic Pest Plant Council.

C. Ritchie Bell is presented with the NCBG's *Flora Caroliniana* Award. Previous recipients: Lady Bird Johnson, 1988; John Terres, 1991; William Lanier Hunt, 1996.

2000

At the request of the NC Wildlife Resources Commission, NCBG becomes caretaker of a large quantity of Venus flytraps that were seized from a poacher near Wilmington. After nurturing, they are returned to the wild in 2002.

The UNC Herbarium in Coker Hall becomes a department within NCBG, staffed by Carol Ann McCormick, assistant curator.

The Evelyn McNeill Sims Native Plant Lecture series is funded for 10 years by a gift from Nancy and Ed Preston in honor of Nancy's mother, Evelyn McNeill Sims. The first lecture, "The Future of North Carolina's Wildflowers in a Changing Landscape," is given by Cecil Frost, director of the NC Plant Conservation Program, who identifies issues that leave the state's wildflowers hanging in the balance. (To celebrate Mrs. Sims's 100 birthday, the Prestons provided a gift for NCBG sponsorship of additional native plant lectures; in 2016, they permanently endowed the annual Sims lecture.)

NCBG's new entry road sign, designed by Sandra Brooks-Mathers and carved from a downed red cedar log, is installed.

Frank Harmon Architects is selected by the UNC Board of Trustees to design the planned NCBG Education Center.

The Cattail Gate created by sculptor Jim Gallucci and commissioned by the the BGF is installed as the entry gate to the Garden. The design is inspired by Gallucci's "Cattail Garden Gate" exhibited in the 1996 *Sculpture in the Garden* show.

In the area in front of Totten Center, three major projects are completed: the Ken Moore Gathering Circle, the Chess Set Trellis, and the Tuliptree Root Bridge. The Chess Set Trellis will house the Endangered Plant Chess set, donated by Margaret Pollard and Wilbur

Bryant, created by Lyle Estill. (An earlier version of the chess set was exhibited during the *Sculpture in the Garden* show.)

The Mason Farm Biological Reserve entrance renovations, funded by the Finley Golf Course as part of a redevelopment project, are completed and include a low rock wall along the entrance perimeter, improved signage at the entrance and parking lot, and a key-activated gate. Additional signage and entrance landscaping are scheduled.

Seventy-five pine trees are lost to an outbreak of the southern pine beetle in the woods around the visitors' parking lot. The trees yield 2000 board feet of lumber saved for future building projects.

A Peace Pole, donated by UNC Herbarium Curator Jim Massey, is installed in the shade garden near the Paul Green cabin. (It was taken down during preparation for a *Sculpture in the Garden* show, and as of 2016, was stored in a Totten Center workroom.)

Wendy Wenck, nursery and greenhouse manager, begins writing a monthly gardening column for the local Chapel Hill newspaper.

20.3 inches of snow blankets the Triangle area and closes the Garden for 6 days.

A grant from the Institute of Museum and Library Services is received to survey the Hunt Arboretum and adjacent Laurel Hill Nature Preserve. During the Hunt Arboretum survey, assessments will include horticultural introductions by Hunt, Hurricane Fran effects, and exotic species invasions.

Security becomes a concern in the visitor parking lot. Vandals destroy the gazebo and there are several car break-ins. Thanks to an anonymous gift, the gazebo is reconstructed, by woodworker Bob Chamberlain. A stolen sign and stolen bench will be replaced. (In 2016, the rebuilt gazebo was dedicated to Jim Ward to honor his 41 years as NCBG staff).

Garden staff, joined by members of the Frank Harmon Architects team, begin a series of field trips to botanical gardens and sustainably designed facilities. Their input, plus that of volunteer groups, contributes to planning discussions for the visitor education center.

2001	<p>NCBG Certificate Programs in Native Plant Studies and Botanical Illustration are officially initiated, to be administered by Dot Wilbur-Brooks.</p> <p>Stillhouse Bottom Nature Preserve and Laurel Hill Nature Preserve are officially approved as dedicated nature preserves by the North Carolina Natural Heritage Advisory Committee and the North Carolina Council of State.</p> <p>"Plants and the Cherokee" is 2nd in the <i>Take a Closer Look</i> video series by NCBG's Nancy Easterling and Dr. Anne Lindsey, in partnership with the Museum of the Cherokee Indian.</p> <p>NCBG joins Seeds of Success as part of the Millennium Seed Bank project.</p> <p>NCBG receives a National Natural Resource Conservation Award for Leadership in Native Plant Conservation, from the U.S. Department of Interior's Bureau of Land Management and the U.S. Department of Agriculture's Forest Service.</p>
2002	<p>The first annual <i>Magic in the Garden</i> event is held, organized to draw children and families to the Garden; a new NCBG tradition is established.</p> <p><i>Baptisia</i> "Carolina Moonlight," a new hybrid wild indigo selected at NCBG by Curator of Native Plants Rob Gardner (he earlier selected and introduced <i>Baptisia</i> "Purple Smoke"), is</p>

	<p>released in collaboration with Niche Gardens, Plant Delights Nursery, and Shady Oak Nursery.</p> <p>UNC Herbarium receives 30 boxes of between 5000 and 10,000 plant specimens from the southeastern U.S., dating from the 1850s–1990s from Dartmouth College, which is downsizing its herbarium collection.</p> <p>Dr. Alan S. Weakley becomes curator of the UNC Herbarium.</p> <p>Ken Moore, NCBG Assistant Director, receives the 2002 UNC Chancellor’s Award, recognized as NCBG’s ambassador in the areas of Outstanding State Government Service and Public Service during the past 31 years. (Ken retires in 2003.)</p> <p>The driest one-year period (July 2001–June 2002) in 108 years.</p> <p>An historic early winter ice storm wreaks havoc in Coker Arboretum, downs trees on the Nature Trails near Laurel Hill Rd. and at Mason Farm. The Totten Center is without electricity for 6 days. The Members’ Holiday Party takes place by candlelight.</p> <p>A new irrigation system is installed in Coker Arboretum to minimize damage to root systems of established plants.</p> <p>Volunteers help translate several NCBG brochures and information signs into Spanish.</p> <p>“Look Who’s Coming to Dinner,” by sculptor Harold Quidley, is commissioned by friends and Garden colleagues of Rob Gardner to swirl over the <i>Sarracenia</i> plants that Rob bred and cultivated for more than 27 years.</p>
2003	<p>Funded by the Institute of Museum and Library Services, a survey is begun of NCBG’s 700 acres of managed land to inventory, map, and document archaeological and botanical features of prehistoric and historic sites that date back to the earliest settlement of the Morgan Creek valley. The survey will continue into the next year and, when completed, will provide documentation of living and cultural treasures in the NCBG’s care.</p> <p>The UNC-Chapel Hill Task Force on Landscape Heritage and Plant Diversity is established to create guidelines for protecting historic and heritage trees, groups of trees, and other landscape features that have been designated as historically or botanically significant, and will identify areas to protect and recommend how to create historic landscapes of the future. NCBG is represented by Peter White, Ken Moore, and Johnny Randall.</p> <p>The Coker Arboretum Centennial is celebrated with three days of lectures, music, programs, and festivities. Contributions build the Coker Arboretum Endowment.</p> <p><i>Essays on William Chambers Coker, Passionate Botanist</i>, written by Dr. Mary Coker Joslin, is published by the UNC-Chapel Hill Library and the Botanical Garden Foundation.</p> <p>Hurricane Isabel strikes, causing limb-fall in the Display Gardens, Nature Trails, and Coker Arboretum.</p> <p>Assistant Director Ken Moore retires.</p>
2004	<p>NCBG takes over management of Battle Park (93 acres) and the Forest Theatre. Stephen Keith becomes the first curator of Battle Park and Forest Theatre.</p> <p>The NCBG receives two awards: The Program Excellence Award from the American Association of Botanical Gardens and Arboreta, the North Carolina Sustainability Award from Sustainable North Carolina. An Award of Excellence is presented to Director Peter</p>

White from National Garden Clubs, Inc. In acknowledgement, Peter White observes that the awards recognize the entire NCBG staff, who with volunteers, define and carry out the elements of the Conservation Garden and native wildflower conservation in the southeastern U.S.

A Haven in the Heart of Chapel Hill: Artists Celebrate the Coker Arboretum, with text by Daniel Stern and illustrations contributed by local artists, is published by the Botanical Garden Foundation to commemorate the 2003 centennial of the Coker Arboretum.

Mason Farm Biological Reserve receives a grant from the Wildlife Habitat Incentives Program that will help to usher in a new crop of native plants and animals.

The 20th anniversary of Mason Farm Biological Reserve is celebrated.

The Ken Moore Gathering Circle, adjacent to the Totten Center, honors J. Kenneth Moore for 32 years of service, inspiration, leadership, and nurturing.

2005

The Sisters' Corner seating area, a new pedestrian entrance into Battle Park, is dedicated, honoring the 90th birthday of Gimghoul Rd. residents Bernice Wade and her sister Barbara Stiles, whose home garden has been open to the public for 30 years.

The Chapel Hill Town Council votes to close Laurel Hill Road to through-traffic where it bisects NCBG property.

Margo MacIntyre joins NCBG staff as assistant curator of Coker Arboretum.

Eleanor Smith Pegg offers to donate an 82-acre tract of land in Chatham County on the Haw River, to be sold with proceeds to benefit the future visitor education center. To save the mature forest and protect the site for a state park, NCBG staff and BGF work with other local conservation groups, including Triangle Land Conservancy, the Haw River Assembly, NC State Parks, and the NC Clean Water Management Trust Fund, to ensure that the land will be protected. Ms. Pegg also designates that an adjacent tract be given as a bequest to UNC, to be sold with proceeds to fund a scholarship named for Eleanor and her husband, the late Carl Pegg. The tracts are combined and cooperative efforts resulted in protection of the land for a new state park, raising \$1 million for the Pegg Exhibit Hall, Allen Education Center, and \$100,000 for a scholarship in the School of Arts and Sciences at UNC.

NCBG partners with the NC Plant Conservation program to re-create the mountains, piedmont, and coastal plain of North Carolina at the State Fair. Visitors to the exhibit, housed within the "Our Land, Our Legacy" tent, listen to a mountain stream, view a piedmont prairie, and explore plants, including Venus flytraps and various pitcher plants.

Paul Green's Plant Book: An Alphabet of Flowers and Folklore, co-edited by Ken Moore and Betsy Green Moyer with writings of her late father Paul Green, is published by the BGF, the fifth book published by the Foundation. A portion of proceeds from book sales are used to support NCBG's education program.

The renovated and improved trail system in Battle Park is celebrated at the Forest Theatre, one year after NCBG took over management of the 93 acre natural area.

The first 8 graduates of the Botanical Illustration Certificate Program celebrate completion of their course of study in a reception and exhibit of their work in the Totten Center.

The second edition of *Wild Flowers of North Carolina*, co-authored by C. Ritchie Bell, Anne Lindsey, and the late William Justice, is published by the UNC Press.

	<p>The first Members' Preview Plant Sale is established; it becomes an annual event.</p> <p>Mike Kunz joins the NCBG staff as conservation ecologist.</p>
2006	<p>Grant Parkins joins the NCBG staff as the first full-time natural science educator. (In 2016, he resigns to take a position with the UNC Institute for the Environment.)</p> <p>NCBG receives \$1million from sale of a consolidation of the Pegg tracts (see 2005 entry).</p> <p>NCBG enters into a cooperative agreement with the Royal Botanic Gardens-Kew and other partners to collect and store the seeds of approximately 250 plant species native to the southeastern U.S. as part of the Millennium Seed Bank, an international program partnership in 17 countries with the goal of saving the genetic diversity of plants.</p>
2007	<p>During prescribed burning training at The Nature Conservancy's Long Valley Farm in Spring Lake, NC, a report is received that 500 pitcher plants had been recovered from poachers in the Green Swamp area. A car trunk is searched and found full of purple pitcher plants (<i>Sarracenia purpurea</i>). Meanwhile, three men had emerged from the swamp toting bags of purple pitcher plants. Four men were apprehended and ticketed. Johnny Randall and Mike Kunz, in the swamp for burning training, come to the rescue of the pinched purple pitcher plants. The plants are brought to NCBG, trimmed and planted in raised beds filled with a peat and sand soil mix, and cared for until they establish a sufficient root system for successful re-introduction at a secure site in the Green Swamp.</p> <p>At the request of the BGF and Morgan Creek Valley Alliance, the town of Chapel Hill establishes the 92-acre Morgan Creek Preserve, running from Frank Porter Graham Elementary School to Merritt Pasture.</p> <p>November 7 marks the first of 486 construction days for NCBG's Education Center. Geothermal wells are dug in May.</p> <p>Twenty years of the annual <i>Sculpture in the Garden</i> exhibitions are celebrated with 77 pieces by 44 artists, a 20-year record. Founding curator, artist Kathy Buck, her successor curator Stephen Keith, and former assistant director Ken Moore, share stories and honor artists who participated in early shows. Tribute is paid to sculptors from early shows who have died. A special memorial with some of those artists' pieces is placed on the Paul Green Cabin lawn.</p> <p>Volunteer Douglas Tilden completes a record 1000 hours, after only 2½ years of volunteering in Battle Park, and helping with heavy lifting, sculpture placement, and installation involved in <i>Sculpture in the Garden</i> shows.</p> <p>Whole Foods in Chapel Hill donates 5% of sales on May 8 and proceeds from donation boxes throughout the month of May to NCBG to benefit construction of the Education Center, with \$5,105 contributed by Whole Foods shoppers.</p> <p>NCBG is awarded "Green Department of the Year" by the UNC Office of Waste Reduction and Recycling.</p> <p>NCBG is among 12 public gardens from across the country to design and construct a display garden in the U.S. Botanic Garden in Washington D.C. in the summer exhibition titled "Celebrating America's Public Gardens: A Sense of Place." NCBG's exhibit garden is a NC Coastal Plain habitat garden, designed by Andrew Bell, who coordinated its planning and installation. Three distinct habitats are shown: a Longleaf Pine Savanna, a Pocosin, and a Grass-sedge Bog featuring several species of carnivorous plants native to those habitats.</p>

	<p>Volunteer Tour Guides lead over 800 adults and children on guided tours of the Display Gardens. The total number of active Tour Guides is 31.</p> <p>C. Ritchie Bell is honored by UNC on University Day, when he is presented with the Distinguished Alumnus Award.</p>
2008	<p>A black gum, <i>Nyssa sylvatica</i>, is planted in Coker Arboretum in memory of Eve Carson, slain UNC study body president, in a dedication ceremony led by the North Carolina Fellows Program. Eve Carson listed “the Arboretum on a Fall day” as one of four things she loved most on the Carolina campus.</p> <p>UNC Herbarium (part of NCBG since 2000) celebrates its 100th anniversary. The Herbarium consists of 815,000 vascular plant specimens, 1,500 lichen specimens, and specimens of algae, fungi and plant fossils.</p> <p>NCBG is established as a regional facilitating center for the Earth Partnership for Schools program, enabling the NCBG to hold institutes.</p> <p>Construction of the three buildings comprising NCBG’s new “visitor education center” continues on schedule. Atlantic white cedar siding, milled from trees felled by Hurricane Isabel in the Great Dismal Swamp, is being installed.</p> <p>The 2008 <i>Sculpture in the Garden</i> show is suspended owing to construction activities.</p> <p>A new water feature is constructed in Coker Arboretum with support from Tom Kenan.</p> <p>Margo MacIntyre is selected to be Coker Arboretum curator. (Margo first worked as a volunteer while in high school. After college, she worked at the Mt. Cuba Center in Delaware, and Hurley Garden in Salisbury, NC. Returned to NCBG as assistant curator of Coker Arboretum in 2005.)</p> <p>Matt Gocke joins NCBG staff as greenhouse and nursery manager.</p> <p>Rescue of more than 800 poached Venus flytraps is made by NCBG staff member Andy Walker, at the request of The Nature Conservancy, which owns and manages the Green Swamp preserve near Wilmington, NC. The plants are brought back to NCBG and nursed back to health. NCBG and Nature Conservancy staff and volunteers will return the Venus flytraps and purple pitcher plants to their natural habitat in the Green Swamp Preserve.</p> <p>Mason Farm Biological Reserve joins 132 other NC Birding Trail sites in the Piedmont.</p> <p>NCBG is honored with the Preservation Award from the Preservation Society of Chapel Hill, and the Dorothy E. Hansell Publication Award from the American Public Gardens Association.</p>
2009	<p>The [current James & Delight Allen] Education Center is dedicated and opened to the public on University Day, Oct. 12. The Center was built entirely with private funds donated by nearly 600 private donors. Governor Beverly Perdue and UNC Chancellor Holden Thorp are among speakers at the ceremony. Also in attendance are founding Director C. Ritchie Bell and his family, architect Frank Harmon and his staff, New Atlantic Construction supervisors, NCBG staff and students, NCBG members, and others.</p> <p>Amanda Mixon joins the staff as assistant curator of Coker Arboretum.</p> <p>The new DeBerry Family Overlook and entry to Coker Arboretum is dedicated.</p> <p>The Public Programs Department is re-named the Education Department, with Nancy</p>

	<p>Easterling appointed as NCBG's full-time director of education. Sally Haskett replaces Nancy Easterling as coordinator of the Horticultural Therapy Program.</p> <p>The Garden Shop opens in the Education Center, replacing the Totten Center gift area.</p> <p>Elisha Taylor, coordinator of Children's and Family Education, offers <i>Bluets</i> for the first time, a class for 4- to 5-year-olds. It is soon followed by other children's programs: nature clubs, homeschool classes, <i>Nature Explorers Summer camp</i>, <i>Sweet Peas</i>, <i>Blazing Stars</i>, <i>Sundrops</i>, <i>Habitat Heroes</i>, <i>Young Botanists</i>, <i>Junior Naturalists</i>, and <i>Young Explorers</i>, all assisted by volunteers and interns.</p> <p>The first Earth Partnership for Schools Summer Institute, a program developed by the University of Wisconsin in 1991, is offered at NCBG in partnership with the City of Durham Storm Water Services.</p> <p>A Garden Birthday Party program is offered by the Education Department as another draw to the Garden for children and families.</p> <p>NCBG is honored with the Bird Lore Conservation Education Award from the Audubon Society of North Carolina.</p>
2010	<p>The Carolina Campus Community Garden is planted. In its first year, the garden distributes 3500 pounds of fresh fruits and vegetables free-of-charge to UNC housekeepers during weekly distributions.</p> <p>The Education Center earns the highest award for green buildings, a LEED Platinum certification. It is the fourth Platinum building in NC, and the first state-owned building and first public museum and outreach center to earn LEED Platinum status.</p> <p>A long-term exhibit of floral quilts, in the Pegg Exhibit Hall, is a gift of the Durham Orange Quilters Guild, initiated and organized by volunteer and BGF Board member Muriel Easterling. Each quilt represents a Wildflower of the Year. As of 2016, 34 quilts are exhibited, including 2 River Oats quilts (1994).</p> <p>Design and installation of new landscapes surrounding the Education Center and entrances are begun by Curator Amanda Mixon and will continue through next year and beyond.</p> <p>The NCBG <i>Newsletter</i> moves from a bimonthly to a quarterly publication (cost-saving).</p> <p>The Coker Arboretum's grit gravel paths are improved with Soiltec, which binds the gravel together to enable it to withstand heavy rainfall.</p> <p>Battle Park's existing trail is becoming a loop with the addition of a new trail project that will wind around and connect the existing trail that stops at "Lover's Stone Seat" to the trail leading to Prospect Point near Gimghoul Castle.</p> <p>The Green Gardener Volunteer group is established and completing a 5-week training program. The volunteers will staff the Green Gardener Desk in the Allen Education Center during posted "Plant Clinic hours" to answer horticultural questions from the public.</p>
2011	<p>"Healing and Hope Through Science" (later re-named Wonder Connection), a horticultural therapy program with a science curriculum serving hospitalized children and their families at Duke and UNC Children's Hospitals, is hosted by NCBG, with one-year support from the Oak Foundation. Katie Stoudemire, who led the pilot program for 5 years through the Sarah P. Duke Garden, joins NCBG Education Department staff to expand and further develop the</p>

program. (In November 2015, WRAL features the program during the nightly news.)

The first phase, “Play and Learn,” of the Children’s Wonder Garden, a model place-based education program serving infants through highschoolers, their parents, and teachers, is being developed. It is designed by the Natural Learning Initiative of NC State University, with consultation from NCBG staff.

“Around the Garden,” an on-line blog of informal writing and photos from NCBG is available by subscription. Later discontinued.

The Climate Change Garden is planted, partnering with botanic gardens across the country. Each garden will feature genetically identical plants of common, widespread species selected for their biological responsiveness to temperature. Citizen scientist volunteers are sought to visit throughout the growing season to record dates of events such as first flowering and seed ripening. (In 2015, the country-wide program is discontinued, owing to uneven program implementation by partner gardens, and data management problems.)

The perimeter deer fence is completed.

A bear is spotted walking through the visitor parking lot and entering the Cattail Gate. It is later sighted in the Kings Mill/Morgan Creek neighborhood (pawprint found near Meeting-of-the-Waters Creek).

The NCBG is awarded the APPLES Community Award for its work with student interns and volunteers.

The BGF purchases a 5.6-acre parcel to add to Stillhouse Bottom Nature Preserve, which occupies the heart of the greater Morgan Creek Bluffs Natural Area, recognized as a site of state significance (an undisturbed, steep, north-facing ravine in Orange County). It is dedicated as the Joslin Slope, in recognition of the many contributions by and advocacy of the late Bill Joslin and his family.

2012

The Wildflower of the Year Program celebrates its 30th anniversary.

A Piedmont Habitat Garden is developed on what was formerly part of Laurel Hill Rd.

The Visiting Naturalist Outreach Program (originally the Visiting Plant Program) begins, to be led seasonally by a trained UNC APPLES intern overseen by Grant Parkins.

Flora of Virginia by Alan S. Weakley, J. Christopher Ludwig, and John F. Townsend, with 1400 pen-and-ink plant illustrations, is published by the Foundation of the Flora of Virginia and the Botanical Research Institute. It succeeds Virginia’s first flora, “*Flora Virginica*,” written in Latin, published in the Netherlands in 1762.

Flora of the Southern and Mid-Atlantic States by Alan S. Weakley is updated and published together with a digitalized version with software for ease in updating and searching. www.herbarium.unc.edu/flora.htm

The first annual Carolina Moonlight Gala is hosted by the BGF for 250 attendees.

The daily plant sale is moved to the new Tom and Margaret Scott and Family shade structure outside the Garden Shop; sales are extended into the winter.

NCBG’s Horticultural Therapy Program partners with the UNC Center for Excellence in Community Mental Health to create a community garden, The Farm at Penny Lane, in Chatham County.

	<p>The new name of one of NCBG's Certificate Programs is Certificate in Botanical Art and Illustration; the program has two watercolor tracks, as well as courses in drawing, botany, and fundamental art instruction such as composition and color theory.</p> <p>The Parker property, donated to the University in 1976 by Bill and Athena Parker, is approved by the UNC Chancellor to be managed by NCBG; it is renamed the Parker Preserve. Future plans include an official trail leading to Mason Farm.</p> <p>In the Herb Garden, a ceramic mural sculpture, "Tree of Life," by local artist Sarah Craige is installed. The sculpture was donated in 2010 by Eszter Karvazy and installed with the support of Eszter and others.</p> <p>Electrical infrastructure improvements are made at Forest Theatre, prior to the spring reservation season.</p> <p>NCBG celebrates the 50th anniversary of the publication of Rachel Carson's <i>Silent Spring</i>.</p> <p>UNC Herbarium receives a National Science Foundation grant to catalog its mycological collection of 17,000 macrofungi.</p> <p>The New Hope Audubon Society contributes building materials for a bird blind in the Children's Wonder Garden; it is designed by volunteer architect David Ringenburg and constructed by Ringenburg and Society volunteers. The blind and a bird garden are Elisha Taylor's final project for her NC Environmental Education Certification.</p>
2013	<p>Mosaic artist Jeanette Brossart leads a Youth and Family mosaic workshop, resulting in a mosaic, "Busy Pollinators," installed in the Children's Wonder Garden.</p> <p>NCBG's Summer Camp expands its offerings to include week-long sessions, including <i>Nature Illustration</i> taught by Bob Palmatier. Classes such as <i>Nature Painting</i> and <i>Nature Journaling</i> (taught by Annie Nashold) are offered during the school year.</p> <p>Aldo Leopold, father of wildlife management and the U.S. wilderness system, is celebrated with special programs including a Leopold bench-building workshop.</p> <p>Garden tours for Spanish-speaking visitors are offered, enabled by three UNC students whose major or minor is Spanish.</p> <p>The UNC Herbarium receives a National Science Foundation grant to catalog its collection of more than 30,000 algae, and the phycological collections of 6 other herbaria.</p>
2014	<p>Dr. Peter White retires as NCBG part-time director after 28 years. He continues as faculty in UNC's Biology Department.</p> <p>NCBG welcomes "Following in the Bartrams' Footsteps," a major juried exhibit of 44 original contemporary botanical illustrations from the American Society of Botanical Artists. The exhibit serves as the nucleus for a series of events that honor and celebrate the contributions of John Bartram and his son William, who explored much of colonial North America, recording, collecting, and later propagating native plants and trees, and helping to introduce these plants to Europe.</p> <p>The Docent volunteer group is established to support visitor information and education during the Bartram exhibit. It later becomes the Greenbriers volunteer group.</p> <p>NCBG, in cooperation with New England Wild Flower Society and Mid-Atlantic Seed Bank, begins Seeds of Success East, a two-year, \$3.5 million project to collect and</p>

	<p>distribute seeds for use in restoration projects in response to Hurricane Sandy.</p> <p>Artist-in-Residence Patrick Dougherty's stick sculpture, "Homegrown," is built and installed with the help of 100 volunteers, and is featured on CBS Sunday Morning.</p> <p>Green Dragon Volunteers build a boardwalk through Siler's Bog in Mason Farm Biological Reserve with the help of a \$15,000 grant from the U.S. Fish and Wildlife Service.</p> <p>The Education Center is named in honor of James and Delight Allen, in recognition of their commitment of \$8 million for the unrestricted endowment fund (and the UNC Chancellor's decision to forgive outstanding debt).</p> <p>Celebration of the 30th birthday of the 367 acres designated as the Mason Farm Biological Reserve.</p> <p>The Herbarium receives a National Science Foundation grant to catalog its collection of about 500,000 plant specimens from the southeastern U.S.</p>
2015	<p>Jonathan Howes, past president of the BGF, with leadership service to the state, UNC, and the town of Chapel Hill, becomes interim director of NCBG, prior to the start-date of Director Dr. Damon Waitt. (Howes died later in 2015.)</p> <p>Dr. Damon Waitt, former senior director and botanist at the Lady Bird Johnson Wildflower Center in Austin, Texas, becomes NCBG's first full-time director.</p> <p>The Education Department reaches a milestone: since 2006, the number of children served has tripled.</p> <p>Coker Arboretum is awarded 2nd place among the 50 most beautiful U.S. college arboreta.</p> <p>The Greenbriers volunteer group, formerly the Docent volunteer group, is established.</p> <p>"Among Our Trees," spotlighting trees of the southeastern U.S., is celebrated with exhibits, lectures, workshops, walks, and ceremonial planting of a blight-resistant American chestnut seedling in the Coker Arboretum (subsequently died).</p> <p>"Saving Our Pollinators" highlights the importance of pollinators with workshops, exhibits, lectures, field trips, and tours.</p> <p>The Melinda Kellner Brock Terrace, constructed with a gift from Eunice Brock to honor her daughter, is completed and dedicated in Battle Park.</p> <p>Plans are underway to replace the NCBG <i>Newsletter</i> with a magazine, to be published twice a year covering a variety of conservation gardening topics.</p> <p>A 2016 Botanical Illustration Calendar with artwork from past and current participants of the Botanical Art and Illustration Certificate program is published. All copies sell out!</p> <p><i>Flora of the Southern and Mid-Atlantic States</i> becomes available as the FloraQuest app.</p> <p>NCBG honors twin sisters Bernice Wade and Barbara Stiles by attending a 100th birthday celebration, a tribute for the many years they've opened their Gimghoul neighborhood garden to the public.</p>
2016	<p>NCBG celebrates the 50th anniversary of trail-opening to the public, and the establishment and chartering of the Botanical Garden Foundation.</p> <p>The 2016 Wildflower of the Year is northern rattlesnake-master (<i>Eryngium yuccifolium</i> var.</p>

yuccifolium). As usual, a new quilt is made and T-shirts are sold in the Garden Shop. Carolina Brewery, a local business, crafts a special beer called Rattlesnake Master.

“Winter Spectacle,” a celebration of winter’s beauty, is installed in the Allen Education Center with an art exhibit, displays, informational posters, and haikus honoring the season.

NCBG’s Wonder Connection program, which brings the natural world to pediatric patients, wins a Core77 Design for Social Impact Award for the WonderSphere, invented by NCBG’s Katie Stoudemire. WonderSphere engages immune-compromised children in interactions with natural materials without risk of infection, utilizing a gloved chamber.

Dead Mule Fundraiser raises funds for Coker Arboretum and Battle Park interns at an event hosted by David Roberts at his Franklin Street establishment.

From mid-August through December, “Saving Our Birds” features 45 programs that include lectures, classes and workshops, bird walks, hikes, and field trips, a photography contest, art and educational exhibits, family and children’s events, and professional workshops for teachers, landscape designers, and landscapers and nursery growers and retailers.

A new NCBG publication, *Conservation Gardener*, a magazine issued twice yearly (Fall/Winter, Spring/Summer), is sent to members, who also receive monthly e-newsletters.

NCBG introduces new branding and a new logo based on flowering dogwood (*Cornus florida*), North Carolina’s state flower.

In December, “Homegrown,” a stick sculpture created in October 2014 by artist-in-residence Patrick Dougherty and built with the help of 100 volunteers, is deconstructed.

A new modern greenhouse is installed, thanks to gifts by volunteers Marcella and Paul Grendler and Cindy and Tom Cook.

Jim Ward retires after 41 years of service (1975–2016) to NCBG, honored by a festive party and dedication of the the James Ward Gazebo near the Display Gardens entry.

Tom Earnhardt, past president of the BGF, is honored with the *Flora Caroliniana* award.

Sources:

NCBG, Coker Arboretum, and Herbarium websites and links.

NCBG brochures and guides, past and present.

NCBG Newsletters, 1973–2015.

NCBG Garden Trails, 1968–1977.

NCBG Annual Reports, 1986/87–2002/03.

NCBG Master Plan, 1992 (edition for the public).

NCBG Conservation Project Reports, 1998–2000: Hunt Aboretum and Gray Bluff Garden, Mason Farm Biological Reserve, Nature Trail Area, Coker Pinetum and Stillhouse Bottom Natural Area, Laurel Hill Nature Preserve, “Billy Hunt’s Garden,” and Battle Park.

Extensive written reviews of the Reference Timeline by Ken Moore and Charlotte Jones-Roe.

Extensive interviews with Charlotte Jones-Roe.

Reference Timeline written/e-mailed reviews by Dot Wilbur-Brooks, Margo MacIntyre, Carol Ann McCormick, and Johnny Randall.

Oral History interviews with Dot Wilbur-Brooks, Charlotte Jones-Roe, Jim Ward, Damon Waitt, and Ken Moore.

Anders Lunde's "Notes For a History of the Botanical Garden Foundation, 1966–1988," written during 1987 and 1988.

News clippings, Carolina News Service releases, NCBG brochures and fundraising pamphlets, and land holding and land-management maps.

Complete review of Sandra Brooks-Mathers' NCBG office files, dates.

"The North Carolina Botanical Garden: A Review of the History and Status, and Prospectus for a Public Botanical Garden and Arboretum Operated as a Unit of the Department of Botany," University of North Carolina at Chapel Hill, 1961.

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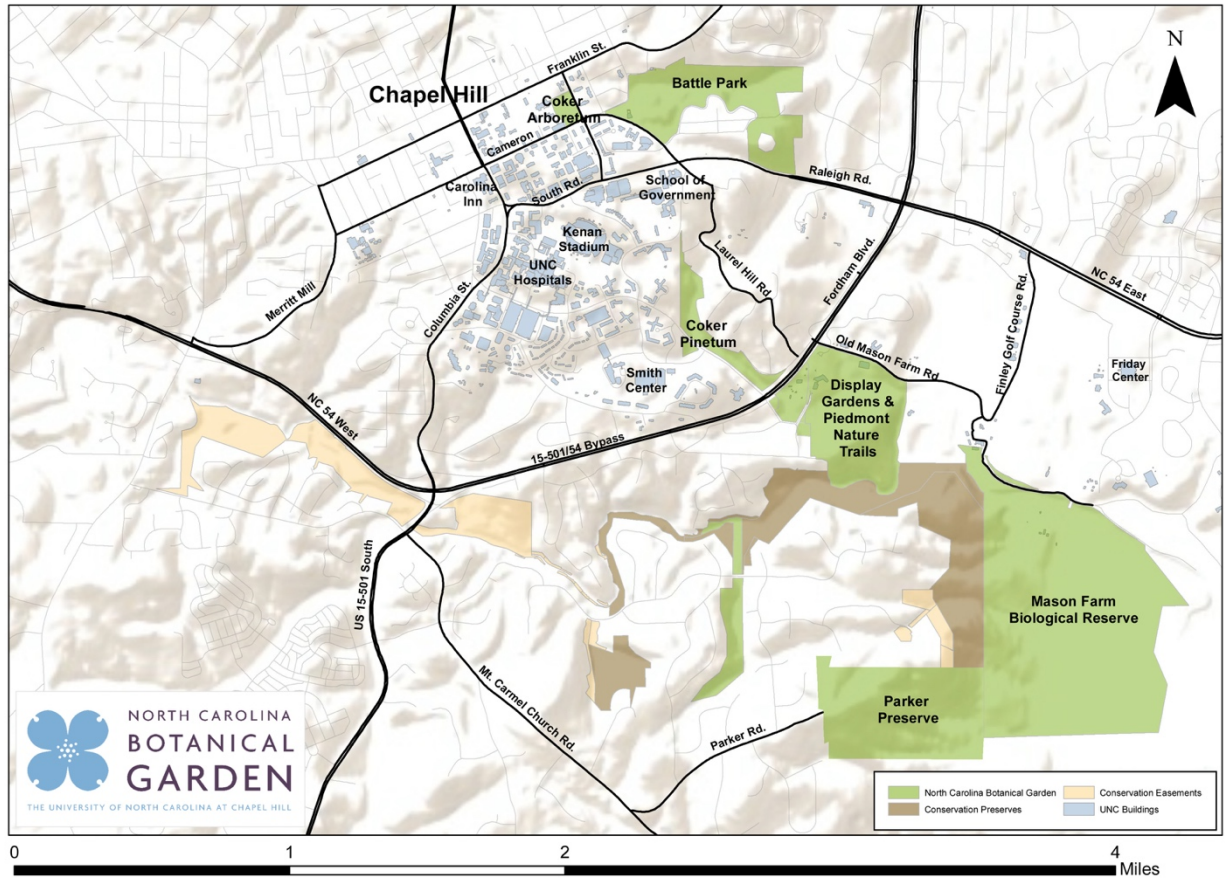
Diantha Pinner. "A Communications Assessment with Recommendations for the North Carolina Botanical Garden" (Chapel Hill, NC: Masters Thesis University of North Carolina, 1990).

Peter White. *The Davie Poplar Tree*. NCBG, 1993.

Notes: This Timeline's primary compiler was Greenbrier member Lynn Knauff, working with other Greenbriers Volunteer Group members and current and former NCBG staff, who unearthed documents, interpreted nuance, described contexts, added events and dates, and reviewed Timeline drafts. The assistance of Wilson Library's Special Collections librarians was invaluable.

MAPS

NC Botanical Garden Lands (Chapel Hill and Vicinity)



Display Gardens

Allen Education Center

- A** Auditorium
- B** Visitor Information & Exhibits
 - Garden Shop
 - Plant Sale
 - Library
- C** Classrooms

Gardens

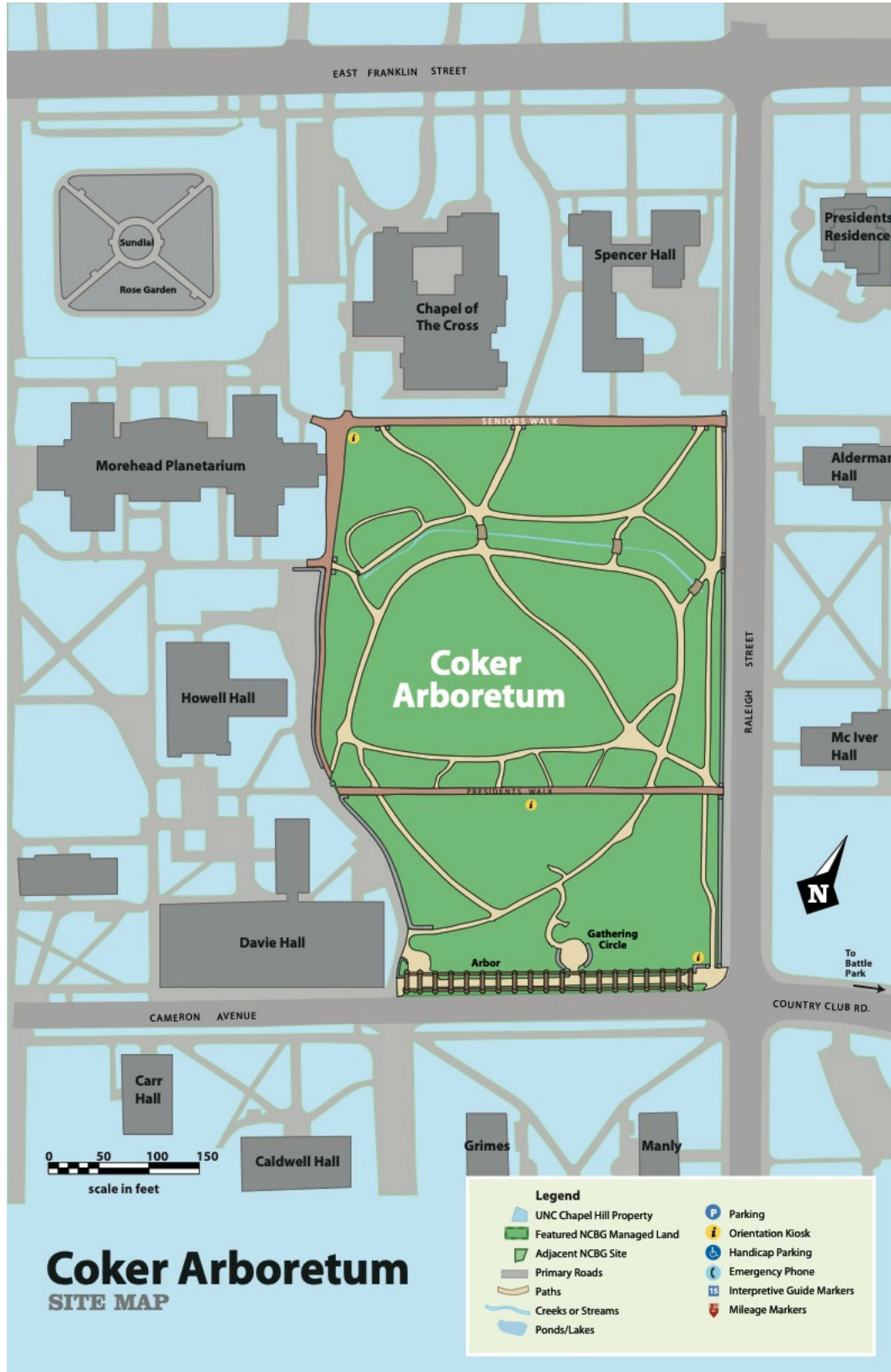
- 1** Entrance Garden
- 2** Children's Wonder Garden
- 3** Courtyard Gardens
- 4** Piedmont Habitat
- 5** Sandhills Habitat
- 6** Coastal Plain Habitat
- 7** Mountain Habitat
- 8** Perennial Circle
- 9** Water Gardens
- 10** Carnivorous Plant Collection
- 11** Plant Family Garden
- 12** Totten Oak Garden
- 13** Herb Garden
- 14** Poisonous Plants Garden
- 15** Native American Garden

Landmarks

- A** Bird Blind
- B** Cattail Gate
- C** Turtle Pond
- D** Salamander Pool
- E** Storytellers' Chair
- F** Paul Green Cabin
- G** Rare Plant Chess Set
- H** Gathering Circle
- I** Herb House
- J** Rose Arbor
- K** Gazebo







Coker Arboretum

SITE MAP

