The North Carolina Arboretum: GROWING THE OLD NORTH STATE
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The North Carolina Arboretum occupies an extraordinary nexus: located within a celebrated ecological region, sited among natural resource federal agencies, part of an innovative urban environment and affiliated with one of America’s most respected higher education entities, the University of North Carolina System.

This beautiful and effective setting, physically and organizationally, supports mission pillars of education, design and economic development.

Now, after just three decades, the Arboretum is Western North Carolina’s most significant state-supported tourism attraction and, perhaps more importantly, a strategic resource in advancing UNC System goals and place-based economic vitality.

The following pages detail our efforts to advance education, economic development and more. We are excited to see their outcomes serving an even greater number of North Carolinians for years to come!
MISSION
The North Carolina Arboretum advances our state’s future by creatively connecting people, plants and places through education, design and economic development.

VISION
Redefine the Arboretum concept as central to education and place-based economic development.

STRATEGIES
Guided by Higher Expectations, the UNC System’s strategic plan for 2017-2022, The North Carolina Arboretum focuses on four strategies:

• **Expand the Arboretum’s experiential K-12 STEM education programs into every county of North Carolina.**
  • A recent grant of $1 million from the North Carolina GlaxoSmithKline Foundation has empowered this strategy as a contribution toward the attainment goal set by the myFutureNC Commission.

• **Accelerate the growth of Western North Carolina’s natural products sector.**
  • A health and wellness initiative, this strategy entails business relationships in North Carolina, the United States, South Korea, Fiji, Australia and elsewhere.

• **Broaden exceptional learning experiences through exhibits and programs.**
  • Resident and hosted on-site traveling exhibits, two national traveling exhibits and robust adult education programming featuring two certification programs serve thousands annually across the nation.

• **Intensify efforts as a creative and sustainable institution.**
  • Almost $3 million in recent funding is expanding parking, improving handicapped access, adding state-of-the-art lighting, improving irrigation, creating a new stormwater education facility and supporting other changes to expand our revenue, offerings and impact.
K-12 STEM Education

The Arboretum’s Youth Education program prepares North Carolina’s K-12 students to succeed in the UNC System and other higher education institutions, especially in the fields of science, technology, engineering and math (STEM). Classes and field experiences also incorporate arts and the humanities within a landscape context.

The Arboretum hosts thousands of school children annually for curriculum-based programs at its Asheville location. To fulfill the Arboretum’s mission to serve the entire state, Arboretum educators have also developed three innovative programs to engage teachers, students and other partners throughout North Carolina:

- Project OWL (teacher certification).
- Project EXPLORE (teacher coaching).
- ecoEXPLORE (out-of-school citizen-science).

Most recent annual K-12 results:

- 26,959 students served
- 143 schools engaged
- 216 curriculum-based programs offered
These three programs have already benefited hundreds of teachers and thousands of students in North Carolina – from Cherokee and Swain counties in the west to Guilford and Wake in the center of the state.

**Serving 100 North Carolina Counties by 2023**

Thanks in large part to a $1 million grant from the North Carolina GlaxoSmithKline Foundation, the Arboretum is gearing up to expand these programs to all 100 North Carolina counties in the next five years. Emphasizing a “train-the-trainer” approach, Arboretum educators will engage thousands of instructors and tens of thousands of students, with a particular emphasis on underserved audiences. The Arboretum will align this work with myFutureNC to support progress across the entire education continuum.

29 STEAM CAMPS

65+ ACADEMIC, AGENCY AND NON-PROFIT PARTNERS, INCLUDING:
Big Brothers Big Sisters, N.C. State Parks, N.C. Museum of Natural Sciences, The Science House at N.C. State University and UNC-Greensboro

ecOEXPLORE OBSERVATION LOCATIONS

70
Post-Secondary Credentials and Lifelong Learning

The North Carolina Arboretum’s Adult Education program works with nearly 100 subject experts to provide more than 180 formal classes and special events for more than 5,000 working professionals and other adults every year.

Professional Continuing Education Programs:
- Landscape Architecture continuing education classes certified by the North Carolina Board of Landscape Architects.
- Course credit opportunities for pre-service, in-service and non-formal educators in the State of North Carolina’s Environmental Education certification program.
  - Project OWL is a new Criteria I workshop developed and offered by Arboretum staff, with 85 instructors already trained statewide.

Certificate Programs:
- Blue Ridge Naturalist Certificate Program
  - A 240-hour program serving nearly 150 students; each student must conduct a self-directed, community-centered project prior to graduation.
- Blue Ridge Eco-Gardener Certificate Program
  - A 120-hour program serving 50 students by addressing the fundamentals of sustainable gardening and landscape design.
Internships
The North Carolina Arboretum has provided dozens of students and recent graduates with hands-on, work-based learning opportunities in landscape architecture, finance, communications, horticulture and more, in turn helping them secure full-time employment, including:

- **30** Student Internships
- **6×** Job-Training Placements through Goodwill and Other Partners
- **4♭** State of North Carolina Energy Office Interns
- **5🔍** Germplasm Repository Interns

“I am extremely grateful for the internship opportunity that The North Carolina Arboretum gave me. Through my experience, I was selected for an international fellowship with the Royal Horticultural Society and the Garden Club of America.”

*John Nix, North Carolina State University, ’19*
As an affiliate of the University of North Carolina System, one of the state’s most important economic drivers, The North Carolina Arboretum occupies an important role in the local, regional and national economy. Every major Arboretum program targets an economic sector, either existing or emerging, and makes strategic contributions to North Carolina’s workforce and overall economy.

**Natural Product Development**

Western North Carolina’s tremendous botanical diversity provides a wealth of potential health treatments, culinary creations and other natural products. The North Carolina Arboretum has played – and continues to play – a leading role in expanding the region’s growing natural product industry.

**Bent Creek Institute, Inc.** – The North Carolina Arboretum established Bent Creek Institute (BCI) as an independent 501(c)(3) non-profit corporation to develop natural products for the marketplace. To date, BCI has assisted more than 80 companies and has tested, developed or is developing a number of validated natural products, including:

- **Ahiflower**, a plant-based source of omega-3 fatty acids introduced to the market by Nature’s Crops International.
- **Yogi Teas and Traditional Medicinals**, two leading providers of wellness teas in the United States.
- **Herbal Ingenuity**, a leading U.S. company supplying a wide variety of high quality natural ingredients for supplement and food products.
- **Respigard**, a product offered by Nature’s Nurse that targets respiratory infections, promotes wound healing and addresses other immune-related health conditions.
U.S. Botanical Safety Laboratory – The North Carolina Arboretum and Bent Creek Institute partnered with other UNC and community college entities to establish the U.S. Botanical Safety Laboratory (USBSL) to offer routine botanical identity, purity (microbial, heavy metals, pesticides) and compositional testing services to global herbal ingredient supply chain stakeholders. To date, the lab has worked with numerous companies to help test or develop more than 60 products from around the world. USBSL has chosen to relocate its laboratory to the Arboretum’s research facility in Asheville to help provide additional support and resources for its growing client base.

The Arboretum Collection Skin Care Line – In 2018, The North Carolina Arboretum collaborated with Mountains to Sea Skincare to create an all-natural skin care line that highlights the landscape and natural heritage of the Southern Appalachian region while working with local farmers and distillers to provide naturally-sourced products that support small-scale agriculture. Featuring three unique fragrances, The Arboretum Collection is sold at more than 20 retailers throughout North and South Carolina, as well as through Mountains to Sea’s online retail store.
Case Study: Establishing Asheville as “Climate City USA”

In an effort to protect the biodiversity of the region and contribute to Asheville’s growing climate workforce, The North Carolina Arboretum has played a leadership role in catalyzing the growth of Asheville’s “climate economy.”

The North Carolina Arboretum worked with NOAA’s National Climatic Data Center to build strategies to leverage this national asset and help increase business investments and economic benefits for Asheville and North Carolina. As a result, the Arboretum founded and led the non-profit Centers for Environmental and Climatic Interaction to organize regional, state and UNC collaboration behind these efforts. Among its numerous achievements was the placement of a federal NOAA program in Asheville to collect and analyze weather data to inform business sectors in product and service development, as well as risk management relative to impacts on supply chains and markets. Salaries and related expenditures for this work are now worth about $8 million in direct federal funding per year to Asheville’s economy.
Growing the Landscape Industry

North Carolina’s landscape industry – which ranges from landscape architects and contractors, to plant industry growers and wholesalers, to garden centers and retailers – has a total economic impact of more than $8 billion per year. The Arboretum is currently involved in a variety of endeavors to support this important sector, keying on Frederick Law Olmsted as an authentic source of inspiration.

Frederick Law Olmsted, the father of American landscape architecture, designed more than 500 projects in the late 1800s, including more than 40 academic institutions and dozens of park and greenway systems, including Central Park. Olmsted was commissioned by George Vanderbilt to design the 125,000-acre Biltmore Estate in Asheville. Olmsted also originated the idea of creating the world’s finest research arboretum in the Asheville area. This concept served as the impetus for The North Carolina Arboretum. Because of this legacy and Olmsted’s foundational importance to the practice of landscape architecture, The North Carolina Arboretum honors and promotes the legacy of Frederick Law Olmsted by:

• Collaborating with national leaders in the landscape industry to determine ways to maintain and advance Olmsted’s balanced considerations of ecological, economic, social and aesthetic issues.
• Providing landscape industry professionals with continuing education opportunities through adult education programs.
• Commissioning the first and only standing sculpture of Frederick Law Olmsted, by internationally-known sculpture artist Zenos Frudakis.
Creative Economy

North Carolina’s vibrant arts and craft industry generates more than 330,000 jobs and $13 billion in wages, salaries and benefits. The North Carolina Arboretum actively supports the state’s creative economy through its permanent art collection, outdoor living landscapes, including its Quilt and Heritage Gardens, gift shop and professional development opportunities.

• The Arboretum’s permanent art collection features more than 60 artists and 100 accessions with a total value in excess of $750,000.
• The Arboretum’s biannual symposium, Growing Color: Natural Dyes from Plants, brings together farmers, textile professionals and others to address the growing demand for natural dyes in the textile, cosmetic and food industries.

Active support for creative talent:

MORE THAN
200
ARTISTS ARE SELLING THEIR WORK IN THE GIFT SHOP

47
MUSICIANS OR GROUPS ENTERTAINED DURING THE WINTER LIGHTS HOLIDAY LIGHT SHOW

18
TEACHING ARTISTS LEAD

48
DIFFERENT ADULT EDUCATION CLASSES ANNUALLY
The North Carolina Arboretum attracts more than 500,000 visitors annually, in turn providing tremendous support to the region’s strong tourism economy, which has a nearly $3 billion impact on Buncombe County every year and supports more than 26,700 jobs. During the holiday season, the Arboretum hosts its annual Winter Lights holiday show event to provide energy efficiency education and family engagement, generate revenue growth and tourism during the winter months, and create job opportunities for local workers during the holiday season.

**Winter Lights Economic Impact**

- 156,000 tickets sold over five years
- 50 states, Washington, D.C., and seven foreign countries
- 60 temporary workers employed during the holiday season
- 55 North Carolina businesses involved in design and production

To extend the Arboretum’s mission, expand school curriculum offerings and generate additional revenue, the Arboretum has developed two national traveling exhibits, *Wicked Plants: The Exhibit* and *Making Scents: The Art and Passion of Fragrance*, that travel to science museums and natural history venues across the country. To capitalize on Asheville’s creative workforce, the Arboretum employed more than 250 individuals and companies to develop these two exhibits.
The North Carolina Arboretum by the Numbers

While The North Carolina Arboretum serves the entire state, its Asheville campus remains a popular location for more than 500,000 locals, visitors, groups and businesses every year:

- **434 TOTAL ACRES** (424 acres by special use permit from the U.S. Forest Service)
- **65 ACRES OF GARDENS AND CULTIVATED AREAS**
- **10+ MILES OF TRAILS**
- **6-7 ROTATING SCIENCE AND ART EXHIBITS EVERY YEAR**
- **15+ PLANT SHOWS AND FAMILY EVENTS EVERY YEAR**
- **30+ WEDDINGS HOSTED PER YEAR**
- **65 FACILITY RENTALS PER YEAR**
Organizational Growth

Growing Public-Private Partnerships
Since 2008, The North Carolina Arboretum has engaged in a long-term effort to leverage its state support with philanthropic gifts and earned revenue to expand capacity and impact. Those efforts are succeeding and now include hundreds of private and public partners, 15,000+ annual donors, 500,000 annual visitors and $6.75 million in annual revenues.

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<th>Fiscal Year 2018</th>
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<td>Parking fees/revenue</td>
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<td>Society revenue</td>
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<td># of volunteers*</td>
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The Arboretum is supported in part by The North Carolina Arboretum Society, a 501(c)(3) non-profit organization, established in 1990 to raise philanthropic and volunteer support for Arboretum projects and programs. The Society is instrumental in delivering educational services and in generating private donations and mission-related earned revenues. The Society has received more than $29 million since its founding in 1990.

* - Arboretum volunteers donated 32,165 hours in 2018; using Independent Sector’s estimate of the value of volunteer time in North Carolina in 2017 ($23.41 per hour), these volunteers provided $752,983 of in-kind support.
Looking forward, The North Carolina Arboretum will focus on four key tactics to support education and economic development in North Carolina:

• Expand the Arboretum’s three signature K-12 STEM education programs to serve children in every North Carolina county.
• Increase course offerings that support post-secondary degrees and high-quality post-secondary credentials.
• Complete and begin implementation of a new master plan, including additional classrooms and special event spaces.
• Expand economic development initiatives related to health and wellness, natural products, the landscape industry and tourism.

The board and staff of The North Carolina Arboretum look forward to working with the Arboretum’s public and private partners and supporters to realize these and other growth opportunities.
Established in 1986 by the North Carolina General Assembly, The North Carolina Arboretum is an affiliate institution of the University of North Carolina System. The Arboretum is governed by a 19-member board of directors appointed by the UNC Board of Governors, the UNC System President, the Governor, the Speaker of the North Carolina House of Representatives, and the President Pro-Tempore of the North Carolina Senate.

The UNC President, the Chair of The North Carolina Arboretum Society Board of Directors and the Arboretum Executive Director (non-voting) hold ex-officio seats, as well. The Arboretum’s Executive Director, George Briggs, reports to the UNC System President and the Arboretum board. The organization is guided by and supports the UNC System’s strategic plan and is led internally by a four-person strategy council.
The North Carolina Arboretum is located on the Blue Ridge Parkway and within the Bent Creek Experimental Forest of the Pisgah National Forest.