PLANT COLLECTIONS POLICY

OF

THE ATLANTA BOTANICAL GARDEN, INC.

Approved by the Collections
Committee on October 12, 2020

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MISSION STATEMENT

The mission of The Atlanta Botanical Garden, Inc. (the "Garden") is "to develop and maintain plant collections for the purpose of display, education, conservation, research and enjoyment."

INTENT OF PLANT COLLECTIONS POLICY

This plant collections policy (this "Policy") memorializes the development and management of the plant collections of the Garden which include living plants, seed collections, DNA samples, herbarium vouchers and tissue samples. Consistent with the Garden's mission, the Garden will use its plant collections for display, education, conservation, research and enjoyment.

COLLECTIONS COMMITTEE

The Collections Committee is responsible for defining the development, growth and maintenance of the Garden's plant collections which it does consistent with this Policy. In accordance with the Garden's Bylaws, the Chair of the Board of Trustees is to appoint a Collections Committee to consist of: (1) one or more Trustees of the Garden appointed by the Chair, one of which is to serve as chair of the committee and (2) subject to the approval of the Chair of the Board of Trustees, (a) the Vice President of Horticulture and Collections, (b) the Horticulture Manager of the Garden's Gainesville location, (c) the Plant Documentation Manager, (d) the Vice President of Conservation and Research and (e) other individuals who are not Trustees. The Collections Committee may invite other staff members and other individuals to participate in meetings or otherwise provide assistance on an as-needed basis.

The Collections Committee will meet at least annually at the request of the chair of the committee or the Vice President of Horticulture and Collections to, among other things, review and, if appropriate, revise this Policy. Only a majority of the members of the Collections Committee can approve revisions to this Policy. The Collections Committee will provide a copy of any revised Policy to the Garden's Chief Executive Officer. The Vice President of Horticulture and Collections, the Vice President of Conservation and Research and the Horticulture Manager of the Garden's Gainesville location are responsible for the implementation of this Policy.

SCOPE OF COLLECTIONS

The Garden's plant collections will emphasize plant families that the Garden can represent well given its facilities, and in the case of plants to be grown or displayed outdoors, those that are environmentally suited to the climate of the southeastern United States. As a general matter, the Garden will avoid collections that are duplicative of significant plant collections of other major botanical gardens.

The living plant collections of the Garden can be categorized by purpose into three broad, but nonexclusive, categories: (1) display collections, (2) taxonomic collections and (3) collections for conservation and research.

1. Collections on Display

Much of the Garden's live plant collections are displayed through installations to be experienced by visitors to the Garden and to support the elements of the Garden's mission focused on display, education and enjoyment of the collections. These displays are located both on the outside grounds of the Garden and in the Garden's conservatories.

A. Outdoor Displays

The following displays at the Garden include both native and nonnative plants with emphasis placed on cultivated plant families suited for growing in the southeastern United States. Unless noted otherwise, these displays are located at the Garden's site in Atlanta.

Cacti and Succulent Terraces of the Skyline Garden

This display highlights the Garden's collection of hardy cacti and succulents with heavy emphasis on those found in the Sonoran and Chihuahuan deserts. Plants in this collection include those in the genera *Opuntia, Yucca, Agave, Sedum, Cylindropuntia, Aloe* and *Echinocereus*.

Conifer Garden

While plants in this collection are located throughout the Garden's indoor and outdoor spaces, the main concentration of the outdoor plants in this collection are found southeast of the front entrance to the Dorothy Chapman Fuqua Conservatory. Tropical conifers from around the world are displayed in both the Dorothy Chapman Fuqua Conservatory and the Fuqua Orchid Center. A general description of the scope of the conifer collection is provided below in the section of this Policy describing the Garden's taxonomic collections.

Conservation Garden

This garden highlights current projects and plant species in conservation and potentially endangered species. It offers visitors, students and visiting scientists a window into the rich biodiversity and plant communities of the wetlands of the southeastern United States through a designed garden with ornamental standards. Plants include *Sarracenia* species and cultivars, native wetland orchids and active carnivorous plants such as *Dionaea*, *Drosera* and *Pinguicula*, all accompanied by a diverse selection of companion plants like wetland herbs, pollinator plants, native shrubs, grasses and perennials. This garden also includes plants native to southeastern prairie habitat.

Japanese Garden

This display garden generally focuses on shrubs, trees and perennials of Asian origin and includes the areas adjacent to the stucco walls that surround the walled garden. The display inside these walls combines several styles of traditional Japanese gardens, such as hill-and-pond, courtyard and tea gardens, and is accessible through a prominent moon

gate. By design, plants in this display are primarily grown for foliage effect but do include spring-blooming perennials and deciduous trees providing fall color. Specimens in this display include Japanese maples (*Acer palmatum*), several varieties of dwarf conifers and weeping Japanese persimmons (*Diospyros kaki*).

Rose Garden

This installation features species and cultivars of landscape and old roses best suited for growing in the Atlanta area. In addition to overall beauty, inclusion of plants in this display garden is dependent on the following criteria: (1) disease resistance, (2) vigor, (3) flower form, (4) quickness of repeat bloom and (5) fragrance.

B. Displays Under Glass

The Dorothy Chapman Fuqua Conservatory and the Fuqua Orchid Center house the Garden's displays of its plant collections under glass. These collections emphasize plants that suitably represent the designated biogeographic ranges or basic temperature parameters within each of the display houses, with, in the case of the Conservatory, special attention being given to plants from regions with high degrees of endemism.

The Fuqua Conservatory is comprised of five areas: (1) the Front Lobby, (2) the Tropical Rotunda, (3) the Orangerie, (4) the Desert House and (5) the Special Exhibits space.

Front Lobby

The Front Lobby is at the entrance to the Fuqua Conservatory and is utilized primarily for rotating displays with a backdrop of permanent potted plants from the Garden's collection.

Tropical Rotunda

The Tropical Rotunda is at the heart of the Fuqua Conservatory. This model rainforest is home to a diverse plant collection, including rare and endangered plants from Central America's lowland forests, central Africa, southern Mexico, southeast Asia and other biogeographical regions. Focus is placed on palms, ferns, tropical conifers, tropical vines, epiphytes, tropical Araceae, Bromeliaceae, Melastomataceae and Zingiberaceae. Plants displayed include the most notable representative genera and species taking into account the temperature, space, economic and cultural constraints of the display space.

Orangerie

The displays of plants in the Orangerie focus on species of medicinal, cultural and economic importance. Displayed plants include medicinals, stimulants, poisons, economically important plants (sources of food, oils, fibers, dyes and chemicals), spices, condiments, as well as fruits and nuts.

Desert House

The focus of the Desert House is spiny forests of southwestern Madagascar and southern Africa. Plants in the Desert House include geophytes, orchids, cycads, *Sansevieria*, Aloaceae, Euphorbiaceae, Apocynaceae (including *Pachypodium* and *Adenium*) and Didiereaceae.

Special Exhibits

This area, positioned between the Desert House and the Orangerie, showcases themed rotating displays of plants from the Garden's tropical collections.

The Fuqua Orchid Center consists of the Tropical High Elevation House and the Orchid Display House. The Tropical High Elevation House depicts a naturalistic representation of three tropical montane habitats: (1) the South American Andes, (2) the Venezuelan tepuis and (3) the island of Borneo. Though numerous genera of orchids are displayed throughout the Tropical High Elevation House, emphasis is placed on the orchid genera of *Odontoglossum, Phragmipedium* and *Dendrobium*. Focus is also placed on displays of orchids in the subtribe Pleurothallidinae, including *Dracula*, *Masdevallia*, *Pleurothallis*, *Scaphosepalum* and *Lepanthes*. Species and cultivars of *Heliamphora*, *Nepenthes* and epiphytic Ericaceae are emphasized as companion plants. The Orchid Display House is divided into two areas: (1) the Orchid Atrium which features temporary seasonal displays highlighting orchid species and hybrids in bloom and (2) a much larger area with permanently installed tropical epiphytic, lithophytic and terrestrial orchids in a naturalistic setting.

2. Taxonomic Collections

Portions of the Garden's plant collections focus on specialty taxonomic groups, usually groups of plants belonging to a specific order, family or genus. The purpose of these collections is to showcase plant diversity, educate visitors about plant taxonomy and support conservation by holding ex-situ collections of taxonomic groups. These taxonomic groups include carnivorous plants, palms, conifers, orchids, gesneriads, *Magnolia*, *Acer*, *Hydrangea* and *Hamamelis*. New acquisitions to these groups are to keep the Garden's collections current, increase diversity in the collections and provide greater opportunities for teaching, engaging with visitors, research and conservation.

A. Plant Collections Network Collections

As a long-term collaboration of the American Public Garden Association and the Agricultural Research Service of the United States Department of Agriculture, the Plant Collections Network (PCN) is a coordinated effort of germplasm preservation and collections management strategies. The Garden currently holds PCN Nationally Accredited Collections of *Stanhopea* species, *Gongora* species and *Sarracenia* species. In collaboration with other botanical institutions, the Garden is a multistate host for the PCN nationally recognized *Acer* collection and *Magnolia* collection. The Garden is committed to supporting the PCN program through continued collections growth and the application for additional accredited collections.

B. Permanent Taxonomic Collections

The Garden maintains the following taxonomic collections of hardy outdoor plants:

- ***Acer*** - species of Asian maples suitable for understory planting.
- ***Begonia*** - species native to Asia that are highly ornamental, potentially hardy and not already represented in the Garden's collection.
- ***Camellias*** - hardy species and cultivars of ornamental merit suitable for growing in the Atlanta area.
- **Carnivorous Plants** - hardy *Sarracenia*, *Dionaea*, *Drosera* and *Pinguicula*.
- **Conifers** - a collection of dwarf and unusual conifers, including a wide range of genera and species intended to illustrate the taxonomic diversity within the cone-bearing plants and conifers under evaluation for hardiness and landscape potential. This collection includes *Cryptomeria japonica* cultivars and *Chamaecyparis obtusa* cultivars for landscape evaluation.
- ***Hamamelis*** - cultivars of ornamental merit and *Hamamelis* cultivars on their own rootstock (i.e. not grafted).
- ***Hydrangea*** - cultivars of *Hydrangea quercifolia*, *H. macrophylla*, *H. paniculata*, *H. serrata* and *H. arborescens*, as well as close Asian relatives.
- ***Magnolia*** - hybrids focusing on new and late blooming cultivars and Asian evergreen magnolias of ornamental merit.
- **Orchidaceae** – hardy species native to southeastern United States and cultivars of hardy Asian hybrids of high display value.
- **Palms** - genera and species under evaluation for hardiness including *Trachycarpus*, *Butia*, *Sabal* and *Rhapidophyllum*.
- ***Rhododendron*** - hardy deciduous species native to southeastern United States as well as cultivars of high display value.
- ***Trillium*** - species found naturally occurring in Georgia.

The Garden maintains the following taxonomic collections in its greenhouses and display conservatories:

- **Ant Plants** - this collection focuses on the unique morphology and taxonomic diversity within epiphytic myrmecophytes that range through southeast Asia, islands of the Indo—Pacific region and Australia. Special emphasis is to be placed on *Hydnophytum, Myrmecodia, Anthorrhiza, Squammelaria*, *Myrmephytum*, *Lecanopteris* and *Dischidia*.

- ***Begonia*** – a collection of species native throughout their natural range that conform to the Garden's temperature, space, economic and cultural constraints and that are highly ornamental.

- **Bromeliads** - a collection that includes representatives of the most notable genera and species conforming to the temperature, space, economic and cultural constraints of the Garden's growing conditions. Special emphasis is to be placed on species of *Guzmania, Neoregelia* and *Vriesea*.

- **Carnivorous Plants** – this taxonomic collection focuses on plants that exhibit carnivory from throughout the world that are suitable to the Garden's growing conditions. Genera of primary focus include *Nepenthes*, *Heliamphora*, *Darlingtonia*, *Pinguicula*, *Drosera*, *Dionaea* and *Utricularia*.

- **Cycads** – a collection focused on species of the genera *Zamia*, *Ceratozamia*, *Bowenia* and *Stangeria* of high ornamental value.

- **Neotropical Blueberries** – a collection focusing on *Ceratostema*, *Disterigma*, *Anthopteris*, *Macleania*, *Cavendishia*, *Psammisia*, *Thibaudia*, *Satyria* and *Sphyrospermum* species.

- **Orchidaceae** - The permanent collection of orchids consists mostly of species because of their unique value to educators and scientists. While artificially created hybrids may be used in temporary displays, they are not to enter the permanent collection. Priority is to be given to plants of documented wild source. The breadth of the overall collection is to reflect the wide taxonomic diversity of the *Orchidaceae*. Within the collection, several core groups with strong teaching, research or display value have be chosen for more intensive development:

    - **Orchids pollinated by Euglossine bees**: includes the Garden's PCN Nationally Accredited Collections of *Stanhopea* and *Gongora* species. This collection also provides educators with examples of intricate plant-pollinator coevolution.

    - ***Paphiopedilum*** **species**: an exceptionally showy group that serve to highlight the threat to orchids from over collection for commerce.

    - ***Phalaenopsis*** **species**: a collection serving as a genetic reservoir for modern hybrids.

    - **Orchids of Madagascar**: a collection representative of a highly endemic flora threatened by habitat loss.

    - **Orchids from tropical montane regions**: this collection includes *Dendrobium*, *Odontoglossum*, *Phragmipedium*, *Masdevallia*, *Dracula* and *Pleurothallis*.

    - **Pleurothallidinae**: though this subtribe represents approximately 20% of all orchid species worldwide, it is underrepresented in botanical garden collections.

- **Tropical Conifers**: This collection focuses on tropical island species, including taxa from New Caledonia, Madagascar and New Guinea. Plants in this collection must maintain a size suitable for the Garden's display houses and backup houses.

- **Tropical Palms** – Emphasis is placed on palms of high conservation and economic importance native to Madagascar, Hawaii, the Islands of Borneo and New Guinea, the rest of Indonesia, Seychelles and other islands of the Southern Hemisphere with concentration on New Caledonia.

- **Tropical *Rhododendrons*** – Plants from the section Vireya found throughout their range in southeast Asia with a focus on species suitable to the Garden's growing conditions.

C. Collections Under Development

While the Garden may already have a significant number of plants in these collections, they are considered to be under development because the scope of a given collection is not yet cohesive or comprehensive enough to be considered a representative taxonomic collection. The consideration of the merit of each of these collections is ongoing and it is possible that a collection will be discontinued, or a new development collection will be created, in each case, based on recommendations from the Vice President of Horticulture and Collections, or for collections based at the Garden's Gainesville location, the Manager of Horticulture of the Gainesville Garden, and in each case, appropriate staff.

- **Amaryllidaceae** - species suitable for tropical conservatories.

- ***Amorphophallus*** - species and cultivars suitable for growing in the southeastern United States and in tropical conservatories.

- ***Arisaema*** - species and cultivars suitable for growing in the southeastern United States and in tropical conservatories.

- **Aroids** – species of Asian or African origin.

- ***Baptisia*** - species and cultivars suitable for growing in the southeastern United States.

- ***Carex*** - non-invasive species and cultivars suitable for growing in the southeastern United States and in tropical conservatories.

- ***Epimedium*** – hardy cultivars having high display value such as those with large or colorful flowers.

- **Ferns** – species native to the southeastern United States and to Asia, including both hardy and tropical collections from the Garden's International Plant Exploration Program.

- **Iridaceae** – species, cultivars and lesser-known members of this family suitable for growing in the southeastern United States.

- ***Osmanthus*** - species and cultivars.

- **Piperaceae** - ornamental species that are suitable for tropical conservatories.

- ***Podophyllum*** - species and cultivars.

- ***Rhododendrons*** - species, as well as Aromi and Weston hybrids at the Garden's Gainesville location and hybrids included in the Sommerville series at the Garden's Atlanta location.

- ***Salvia*** - species and cultivars suitable for growing in the southeastern United States.

- **Summer Bulbs** – this collection focuses on *Crinum* species and hybrids, hardy elephant ears, *Crocosmia* cultivars, *Hemerocallis*, *Hymenocallis* and full sun lilies at the Garden's Atlanta location, and on *Anemone*, *Eucomis*, *Hedychium*, *Hemerocallis*, *Zephyranthes* and woodland lilies at the Garden's Gainesville location.

- ***Tricyrtis*** - species and cultivars suitable for growing in the southeastern United States

- ***Viburnum*** - species and cultivars suitable for growing in the southeastern United States.

3. Conservation and Research Collections

The Garden's conservation efforts are led by the Southeastern Center for Conservation (the "SECC") whose staff works to advance the science of conservation through research collaborations and native species recovery programs. The Garden's plant conservation collections and fieldwork focus on conservation of under-represented imperiled plant groups and the restoration and management of their habitats.

Conservation collections following internationally accepted best practices serve as safeguarding measures to reduce the risk of extinction. Conservation collections focus on genetic diversity, differentiated maternal lines, and deep collections from single species and differ from display or horticultural collections which have few genetically unique individuals and are selected on vigor, beauty, fragrance, cultivation ease and other aesthetic characteristics.[1]

The Garden strives to conform its conservation collections to the standards of a conservation collection established by the Center for Plant Conservation (the "CPC"). These standards identify a conservation collection as "[a]n ex situ (offsite) collection of seeds, plant tissues, or whole plants that supports species survival".[2] According to the CPC, a conservation collection should have accurate records of provenance, differentiated maternal lines, and diverse

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[1] Definition of "Conservation Collection." CPC Rare Plant Academy. Accessed July 30, 2020. https://academy.saveplants.org/glossary/conservation-collection.

[2] Ibid.

genetic representation of a species' wild populations. Additionally, a conservation collection should have depth (containing seeds, tissues or whole plants of at least 50 unrelated mother plants) and breadth (consisting of accessions from multiple populations across the range of the species).[3] The Garden's conservation collections will focus on genetic, phenotypic, and geographic depth, with at least five populations representing the range of variation in distribution, ecology and population size.[4]

Members of the Conservation staff will conduct viability and germination trials to determine the viability, and ensure the health, of collected specimens to be included in the Garden's conservation collections. Protocols will be developed and made publicly available for species without current cultivation protocols. Periodic testing of long-term viability of seed banked material will occur in accordance with protocols used by the Millennium Seed Bank Partnership.

The Garden's conservation collections also focus on "metacollections" which are combined holdings of rare or imperiled species held as common resources by separate institutions and cared for collaboratively for conservation and research purposes.[5] Based on the foundations guiding all conservation collections, these collections leverage the collective power of multiple institutions to build a stronger and more comprehensive metacollection.

The conservation collections of the Garden focus on species native to the southeastern United States that are classified by the International Union for Conservation of Nature Red Listed of Threatened Species™ as Critically Endangered, Endangered, Vulnerable or Near Threatened, or have NatureServe conservation global status ranks of G1 or G2 or state status ranks of S1 or S2. For this purpose, the southeastern United States region is considered to include Virginia, Kentucky, North Carolina, South Carolina, Tennessee, Georgia, Alabama, Mississippi, Louisiana, Oklahoma, Texas, Florida, Puerto Rico and the U.S. Virgin Islands. Caribbean orchids and carnivorous plants are also included in these collections. Key foci include orchids, carnivorous plants, wetland species, mountain species and coastal species.

These conservation collections are intended to:

- Create and maintain genetically diverse ex-situ collections of the highest conservation value possible within the resources available.

- Develop and implement best practices in plant conservation for botanical garden collections.

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3 Ibid.

4 Falk, Donald A., and Kent E. Holsinger. *Genetics and Conservation of Rare Plants*. New York, New York: Oxford University Press, 1991.

5 M. Patrick Griffith, Emily Beckman, Taylor Callicrate, John Clark, Teodoro Clase, Susan Deans, Michael Dosmann, Jeremie Fant, Xavier Gratacos, Kayri Havens, Sean Hoban, Matt Lobdell, Francisco Jiménez-Rodriguez, Andrea Kramer, Robert Lacy, Tracy Magellan, Joyce Maschinski, Alan W. Meerow, Abby Meyer, Vanessa Sanchez, Emma Spence, Pedro Toribio, Seana Walsh, Murphy Westwood, Jordan Wood. 2019. TOWARD THE METACOLLECTION: Safeguarding plant diversity and coordinating conservation collections. Botanic Gardens Conservation International- US (San Marino, USA).

- In collaboration with local and international partners, increase knowledge and collections of southeastern United States plant diversity through exploration and inventory of targeted geographic areas.

- Provide long term planning and continuity for the conservation collections.

- Further develop and exchange ex-situ conservation collections and plant diversity data with institutions located and/or working in the southeastern United States.

- Identify and fill living plant conservation collections' gaps in ex-situ, inter-situ and in-situ settings.

- Discover, via collaborations and partnerships, new ways to effectively preserve plant germplasm over the long term or in perpetuity.

The SECC is committed to implementing the best practices in collecting and maintaining genetically diverse conservation collections. Preservation of genetic diversity and the evolutionary continuum from populations to species is fundamental to conservation collections. Many imperiled species occur in small populations, where the existing genetic diversity may be limited, and therefore maximizing diversity and sampling is crucial. The Garden's methodologies follow widely recognized best practices, including those set forth in Part 3, Genetic Guidelines for Acquiring, Maintaining, and Using a Conservation Collection of the CPC Best Plant Conservation Practices to Support Species Survival in the Wild[6] and the Millennium Seed Bank Project Protocols.[7]

The conservation collections are the responsibility of the Garden's Chief Executive Officer, the Vice President of Conservation and Research, the Conservation and Research Manager, the Conservation Horticulture Coordinator, the Conservation Coordinator and the Research Coordinator. The implementation of this Policy as it relates to the conservation collections is the responsibility of the Vice President of Conservation and Research.

A. Conservation Seed Bank

The Garden's Conservation Seed Bank focuses on the collection and preservation of germplasm of targeted imperiled native plant species from the southeastern United States, the Caribbean, Ecuador and the Garden's living collections. The goal of this collection is to serve as a regional repository of germplasm for species survival in the wild, benefitting researchers, conservation horticulturists, land managers and restoration efforts. The Conservation Seed Bank aims to capture the most genetic diversity of species by representing at least 50 unrelated mother plants from each population and consist of accessions from multiple populations across the range of the species. Only maternally-tracked germplasm are to be included in this collection.

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6 Center for Plant Conservation. 2019. CPC Best Plant Conservation Practices to Support Species Survival in the Wild. Center for Plant Conservation, Escondido, CA.

7 The Millennium Seed Bank Partnership. February 2015, updated November 2019. Seed Conservation Standards for 'MSB Partnership Collections'.

To be most useful for species survival in the wild, all seed received by the Garden for inclusion in the Conservation Seed Bank undergoes initial germination and viability testing. Additionally, cultivation protocols for the seeds are developed and documented, and periodic long-term viability testing is conducted. Quantity permitting, seeds will also be divided into curation and long-term storage packets and sent to a backup storage facility. The most efficient way to preserve plant tissue long-term will be determined with options of conventional seed bank, cryostorage and micropropagation. Priority is given to recalcitrant germplasm and germplasm with unknown storage behavior. The Conservation Seed Bank is fully equipped to absorb and research all seed types with options of conventional seedbanking for orthodox species and cryostorage or micropropagation for recalcitrant or intermediate species. For exceptional species as an alternative or byproduct of seed banking, micropropagation or cryostorage is used to foster the conservation collection. In vitro techniques are currently used to optimize yield from seeds and spores that benefit most from this closely regulated environment.

B. Conservation DNA Repository

The Conservation DNA Repository of the Garden offers staff scientists, students and outside researchers access to preserved leaf tissue and extracted plant DNA. Samples in the DNA repository originate from specimens in the Garden's living collections, including its conservation collections, as well as leaf tissue collected in the wild from priority species. Samples exist as either a single representative of a species collected from the Garden's living collections or as multiple individuals from a species across multiple populations for that species. Preserved leaf samples are stored with silica desiccant, and extracted DNA is stored at -20 degrees Celsius. Some flash frozen material is stored at -80 degrees Celsius. As of 2020, there were 770 species represented in DNA storage as either dried leaf tissue or a DNA extract.

C. Conservation Horticulture Collections

Conservation Horticulture Collections of the Garden are primarily housed and maintained at the Garden's Atlanta location and at the Conservation Safeguarding Nursery at the Garden's location in Gainesville. These collections are composed of whole living plants of imperiled native species, propagated and maintained for purposes of ex-situ safeguarding against loss of their wild populations, or restoration and augmentation of those wild populations as part of species recovery efforts. These conservation efforts may be led by the Garden or may be done in partnership with governmental natural resource agencies or certified non-government conservation organizations.

Current collections include those that were previously collected and separately maintained at the population or site level, and moving forward, those that are collected separately from individual mother plants and maintained as distinct lineages. Each maternal line is recorded and given its own unique identifying number and is subsequently tracked with all associated collection data as prescribed by the Garden's Maternal Line Seed Collection Protocol.

Inventories of Conservation Horticulture Collections are conducted yearly and updated as plants are upgraded and relocated. Inventories include data on the number of plants, the size of containers in which they are growing, and the specific locations in which they are kept at the Garden. Inventories include unique identifying numbers for each plant/collection and are linked to the conservation plant records database.

D. Conservation Safeguarding Nursery

Established in 2009 on 3.5 acres at the Garden's Gainesville location, the Conservation Safeguarding Nursery serves as a sanctuary to rare and endangered plants native to the southeastern United States. The nursery houses an educational display bog, prairie garden, 140+ raised beds (bog and woody species), and a lathe house that primarily shades *Torreya taxifolia* and represents all of the trees' growth stages including mature stock trees, seedlings and seed beds. Plant beds include both population level sourced plants and maternal line tracked material. All visitors at the safeguarding nursery are required to sign a non—disclosure agreement due to the sensitive nature of the plant material. All plant materials (e.g. plants, seeds, or tissue) sent out of the safeguarding nursery require a Conservation Materials Transfer Form signed by both the Garden and recipient institution.

E. International Conservation Collections

The focus of the Garden's Conservation and Research departments international work is to partner with local botanical gardens and research institutions working in global biodiversity hotspots to establish in-country conservation efforts. This work is conducted by working with local partners and collaborators towards integrated conservation of threatened taxa in support of the Global Strategy for Plant Conservation. The objectives for this work include:

- With partners, identifying and prioritizing species of greatest conservation concern.
- Supporting the establishment and management of coordinated ex situ collections and ex situ metacollections of high conservation value in countries of origin.
- Collaborating and facilitating applied research (e.g. conservation biology, population genetics, population structure, taxonomy).
- Working with partners to ensure that threatened species are conserved in situ and help inform land management activities.
- Building capacity to empower and mobilize in-country partners in biodiversity hotspot centers.
- Increasing public awareness and engagement.

This work will all be done in accordance with the Convention on Biological Diversity[8] and the Garden's Access to Genetic Resources and Benefit-Sharing Policy. The Garden will maintain records of permits and/or memoranda of agreements specifying terms and conditions under which genetic resources are acquired and/or shared for all work. The Conservation Collections Database will track the use of these plant materials within the Garden, any benefits arising from their use, distribution to third parties and any terms and conditions of distribution. No biological material or data will be shared without explicit written permission for the countries of origin and

[8] Convention on Biological Diversity of 5 June 1992 (1760 U.N.T.S. 69).

documentation will be tracked in the Garden's records. The Garden will report compiled data to relevant agencies as required by law, will make accession information available to cooperating scientists and will make general information on its collections available to the public.

SUPPORT FACILITIES

A significant portion of the Garden's plant collections is maintained in the following facilities which are not generally accessible by visitors to the Garden:

1. ABGG Greenhouses

The nursery and greenhouses in the Garden's Gainesville location consist of three main greenhouses and four hoop-style greenhouses along with sun and shade outdoor growing space. The main purpose of these facilities is to propagate and grow plants to assist in the development of major woody plant collections in both the Garden's Atlanta and Gainesville locations. In addition to these facilities, there is also space dedicated to overwintering unusual and hard—to—find annuals for displays at the Garden's locations in Atlanta and Gainesville, propagating and growing plants for the fall and spring plant sales at the Garden's Gainesville location, and assisting the Garden's International Plant Exploration Program in growing new seed collections for evaluation and distribution.

2. Conservation Support Facilities

The Conservation Greenhouse is managed by the Conservation Horticulture Team and is the main production and holding facility for conservation horticulture collections at the Garden's Atlanta location. This greenhouse primarily houses established and developing perennials as well as some young woody collections. Young plants are transferred to this facility from propagation systems for further development after the seedling stage. Plants are cultivated and held for varying amounts of time depending on their size and status in the conservation program.

The Conservation Staging Area is an open air site located behind Greenhouse 3 at the Garden's Atlanta location and is shared with the Day Support Greenhouses. This space serves as a staging area for plants moving from the Conservation Greenhouse to their next destination. Plants held in this area are in the final stages of development and hardening off for destinations such as the Conservation Safeguarding Nursery or final outplanting into the wild. The Conservation Staging Area may also be used as an overflow holding facility at times when the Conservation Greenhouse exceeds capacity.

Artificially lit grow stands in the Head House are maintained by the Conservation Horticulture team as a propagation and early development system. Seeds requiring traditional propagation methods are germinated in seed flats and developed to a stage at which the seedlings can be upgraded to larger containers and moved to the Conservation Greenhouse. Additionally, seedlings propagated in the Micropropagation Laboratory are moved to this area for further development before they move on to long-term growing facilities such as the Conservation Greenhouse, the Conservation Staging Area, or Greenhouses 1, 2 or 3.

Artificially lit grow stands in the basement area below the Conservation Greenhouse are maintained by the Conservation Horticulture team for plants with cool-temperature requirements such as *Sarracenia purpurea* var. *montana* or *Sarracenia purpurea* var. *purpurea*. This area serves

in the same capacity as the Conservation Greenhouse, namely housing plants until they are ready or needed for their next stage in the conservation program.

3. Day Support Greenhouses

These facilities serve as a housing and propagation facilities for the securing and safeguarding of the Garden's many diverse living collections while not on display and house plants in both the Garden's indoor and outdoor collections. These houses also support the Fuqua Conservatory and the Fuqua Orchid Center and outdoor gardens as able. Collections that are intended for rotation in and out of these greenhouses include tropical conifers, gesneriads, Aroids, *Nepenthes*, *Tillandsia*, *Huperzia*, *Selaginella*, *Piper*, *Peperomia*, *Hoya*, *Dischidia*, New Caledonian collections, ant plants, bromeliads and begonias.

4. Orchid Support Greenhouses

These houses serve to maintain diverse collections of orchids, including potted and mounted tropical orchids, and to provide an area for orchid seedling production. Temperate zone orchids and other threatened and endangered native species are among the Conservation Collections grown in the Conservation Greenhouse and Conservation Garden.

INTERNATIONAL PLANT EXPLORATION PROGRAM

The Garden's International Plant Exploration Program (the "IPEP"), established in 2016, has three basic components: plant exploration, plant evaluation and support of a visiting scholar program. The goals of the program will be to (1) continue to explore the remote forests and jungles in areas where plant diversity is the highest, (2) work with local institutions to protect and propagate threatened species and (3) create relationships that will allow for knowledge and personnel exchange between institutions in these areas and the Garden.

The IPEP will focus on temperate areas with a climate and topography similar to that of the southeastern United States (approximately Zones 6—8 of the United States Department of Agriculture's Plant Hardiness Zone Map). A particular geographic area of focus of the IPEP is southeast Asia because of the close relationship between the temperate floras of that region of Asia and eastern North America. Targeted genera that are part of collections efforts include: *Magnolia*, *Acer*, *Hydrangea*, *Viburnum*, *Hedychium*, *Epimedium* and other herbaceous perennials. Once collections have been made, seed and plants from expeditions will be evaluated at the Garden's Gainesville location in the IPEP evaluation field nursery. Plants are evaluated for heat and cold hardiness, as well as potential for invasiveness. Plants are also distributed to other botanical institutions worldwide to assist with evaluation and germplasm preservation.

ACQUISITIONS

New acquisitions go through a rigorous curatorial and budgetary process, and are well-documented. The Garden acquires plant material from a variety of sources. Plants are acquired through donations from other botanic gardens and arboreta, gifts, private collectors, purchases from commercial sources, plant exploration trips, seed collections from plants already growing at the Garden and from breeding programs. When species are imported, all required import and export permits will be obtained, and collected specimens will be submitted for inspection by the

United States Department of Agriculture. New acquisitions should adhere to the Garden's mission and the goals of this Policy. The Garden complies with the Convention on Biological Diversity and will only share plant material appropriately. When plants are collected outside of the United States, the Garden is committed to demonstrating the utmost respect to the nation from which plants are being collected and any collaborating institutions.

In the case of plant material for the Garden's Conservation Collections, it may be acquired through fieldwork or transfer from other collections. All field collected plant material must comply with the Convention on Biological Diversity, best practices as outlined by the CPC, and national and international permitting. The Garden's preferred mode of conservation collection acquisition is that Southeastern Center for Conservation staff conduct the fieldwork using best practices and recording all required data. Collections from sources other than the Garden's personnel may also be accepted if they follow the same best practices approaches as the Garden does, are correctly documented, and legally acquired and transferred. Accepted types of collections include living material, seeds, dried tissue samples, and DNA.

Gifts of plants must be accompanied by documentation that the donor obtained the plants in a manner consistent with the Garden's acquisition guidelines. Donors may not place any restrictions on gifts of plants. The Garden's Development Department will be notified of all gifts of plants to the Garden. Memorial plants or other plant specific naming opportunities are rare and are to be handled in conjunction with the Garden's Chief Executive Officer and Development Department. will not make monetary appraisals of gifts of plants. Plants obtained via exchanges with other gardens and institutions should meet the Garden's selection criteria. Exchanges shall be accepted under the approval of the Vice President of Horticulture and Collections, the Gainesville Manager of Horticulture or the Vice President of Conservation and Research, as appropriate, and a Material Transfer Agreement should be entered into for any such exchange.

1. Selection Criteria

All plants to be included in the collections of the Garden, however acquired, must meet the goals, objectives and collections philosophy of the Garden and meet the following the selection criteria:

- Collections must adhere to guidelines and goals set for each facility or garden section.
- Proper maintenance and care must be provided for the plant(s), collection, or garden in terms of staff, facilities, space and endowment. Priority will be given to developing plant collections of highest botanical and horticultural standards or interest.
- All components of the Garden's mission and goals of this Policy should be used to determine what plants should be included in plant collections.
- Conservation priority based on conservation guidelines discussed above.
- The Garden will adhere to legal and ethical principles referenced elsewhere in this Policy when obtaining wild collected plants.
- The Garden will not aid, abet or encourage the destruction of any natural ecosystems, communities or populations in developing its plant collections.

2. Distribution

The Garden will share its living collections through the distribution of germplasm to professional colleagues at other botanical gardens, arboreta, research institutions, plant breeders and other interested parties with documentation and agreements deemed appropriate by the Garden's staff.

APPLICABLE LAWS, REGULATIONS AND POLICIES

The Garden seeks to adhere to all applicable state, national and foreign laws rules and regulations, as well as widely accepted international treaties, conventions and agreements, in each case, regarding use, transfer, sharing and conservation of plant material. These include the following:

- The Convention on Biological Diversity (CBD).
- The Nagoya Protocol on Access and Benefit Sharing of the CBD.
- Global Strategy for Plant Conservation (GSPC).
- USDA Animal and Plant Health Service (APHIS).
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).
- North American Botanic Garden Strategy for Plant Conservation (NABCSPC).
- International Plan Exchange Network (IPEN).
- Importation and exportation laws in countries of plant material origin. It is incumbent upon the collector to research the laws of countries in which they are working, and to obtain all relevant import and export permits. Permits and documentation of legal transfer are required for deposition and transfer of plant material.
- Local permits from relevant land management units or permission from landowners. Collectors must obtain proper permits and permissions, and submit them with deposited material.

As noted above, the Garden also follows best practices detailed in the CPC Best Plant Conservation Practices to Support Species Survival in the Wild.

All conservation collections are subject to the requirements of collection permits for the collection of any biological material, issued to the Garden by state, federal, or international organizations or by private landowners that permit collection on lands they control. This is particularly important for rare and endangered species. Written documentation is required for all collections including on private lands and must be included in the Conservation Collection Database records.

PLANT DOCUMENTATION

Because detailed and comprehensive records of plant material in the Garden's collections are essential to the proper use and management of these collections, the Garden is committed to maintaining a robust plant records system. All plants in the Garden's living collections will be tagged and accessioned in this system. Plant material that is not accessioned only includes plants for sale and plants included only as part of special temporary exhibits. Information tracked in the plant records system will generally include, as applicable, accession and deaccession records, inventory records, images, mapped locations, distributions, micropropagation lab records and provenance data. The Plant Documentation Manager is responsible for the management of the plant records system.

Currently, the Garden is considering the implementation of a new database for its plant records system, as well as updating its operating procedures for the system. Once these are finalized, this Policy will be revised to include a description of the information tracked in the Garden's plant record system and the Garden's procedures for maintaining the system.