INTERRRETIVE MASTER PLAN 2019 - 2023

CORNELL BOTANIC GARDENS

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1 INTRODUCTION

THE INTERPRETIVE EXPERIENCE

On your way home from visiting relatives, your family decides to stop at that botanic garden you've been meaning to visit. The clear directions provided on the garden's website help you navigate through city traffic with ease. As you come closer to your destination, you are happy to find road signs that guide you in the right direction and as you approach the garden, you easily locate the large and attractive entrance sign in the distance. Once you've parked, you easily identify a path leading to a welcome center. When you arrive at the center, you receive a friendly welcome from a staff member and then notice a sign publicizing a guided tour of the grounds later that day. An eye-catching exhibit draws your attention, which gives you a clear picture of what you can experience and helps your family plan your day. Though you've just arrived, you feel comfortable and eager to explore this unique place.

When you think back to visits to your favorite attractions, what made them memorable? They likely started out similarly to the scenario above. It is critical to the success of botanic gardens, museums, zoos, aquariums, and other cultural attractions to consider what visitors need to make their experience enjoyable and enriching. Enabling visitors to easily orient themselves, recognize and locate all experiences offered, and interact with interpretation that helps them gain a deeper understanding of what they are experiencing and why it is important are all part of the "interpretive experience." This experience is successful when the interpretive planning process is taken to determine how best to deliver these services to visitors.

WHAT MAKES INFORMATION INTERPRETIVE?

Visitors come to experience what is offered at a cultural attraction, not to engage with interpretation. To motivate visitors to commit time and engage with messages communicated during their visits, information must be offered in a way they consider worthwhile for the effort involved. Information that relates to the visitor, reveals a larger message, and provokes visitors' curiosity has a much higher likelihood of attracting and holding visitors' attention. Presenting information in this way is considered the interpretive approach to communication.

DEFINITION OF INTERPRETATION

The National Association for Interpretation (NAI) is a not-for-profit organization whose mission is to inspire leadership and excellence to advance heritage interpretation as a profession. NAI defines interpretation as:

> *"A mission-based communication process that forges emotional and intellectual connections between the interests of the audience and the meanings inherent in the resource."*

DEFINITION OF INTERPRETIVE PLANNING

The purpose of an interpretive plan is to identify the most appropriate methods of interpretation to successfully deliver messages to the intended audiences for the purposes of achieving a desired outcome. NAI defines interpretive planning as:

> *"A decision-making process that blends management needs and resource considerations with visitor desire and ability to pay to determine the most effective way to communicate the message to targeted markets."*

1 INTRODUCTION

THE INTERPRETIVE PLANNING PROCESS

LAY THE FOUNDATION

- **Establish Interpretive Goals and Objectives:** A mission-based road map for achieving desired outcomes from offering an Interpretive Program.
- **Inventory parameters:**
  Site-specific: Identify features of the site that impact the scope of interpretive media.

  Institutional: Identify policies, funding, staffing and other factors that impact the Interpretive Program.
- **Inventory interpretive opportunities:** Take stock of all interpretive features and their potential interpretive stories.
- **Profile audience characteristics:** Identify the needs, interests, and expectations that motivate the audience to commit time and pay attention to interpretive offerings.

DEVELOP THE PLAN

- **Develop message framework:** The overarching theme, subthemes, and supporting stories that focus communication to achieve the desired impact on attitude and behavior.
- **Identify visitor interpretive experiences:** Develop narratives that describe the desired visitor experience for all target audiences that align with their motivation for visiting.
- **Identify the information network:** All components that facilitate an interpretive experience that enhances the experience visitors expected.
- **Prescribe interpretation:** Description of all interpretive media and services needed to facilitate the desired visitor experiences.
- **Implement strategy:** A timeline of tasks required (by year) to complete the interpretive plan, which includes seeking funding.

SCOPE OF PLAN

Interpretation is an integral part of Cornell Botanic Gardens' management and operations and this plan builds on our strong foundation of interpretive media and services.

Beginning in 2014, Cornell Botanic Gardens launched a thoughtful examination of our organization and our resolve to make a positive impact on people and the planet. A new mission and vision was developed and, in fall 2016, our name was changed to Cornell Botanic Gardens from Cornell Plantations to better reflect our commitment to our core pillars— cultivation, conservation, and education.

This plan ensures that all current and new interpretive offerings are aligned with our updated vision, mission, and strategic plan.

FURTHER READING A complete account of Cornell Botanic Gardens' history and natural heritage is found in Appendix A.

1 INTRODUCTION

CORNELL BOTANIC GARDENS: AT A GLANCE

Cornell Botanic Gardens is Cornell University's gardens, arboretum, and natural areas. Diverse cultivated collections and natural areas provide opportunities for study, research, and enrichment for the Cornell community and the general public.

CULTIVATED COLLECTIONS

Diverse collections of cultivated plants are located within 25 acres of specialty gardens surrounding the Nevin Welcome Center and within the nearby 100-acre F. R. Newman Arboretum.

Nevin Center Gardens: Twelve display gardens feature herbs, flowers, vegetables, rhododendrons, perennials, ornamental grasses, groundcovers, plants with winter interest, conifers, and more.

F. R. Newman Arboretum: A wide range of native and cultivated varieties of trees and shrubs hardy in New York State including maples, oaks, crabapples, conifers, dogwoods, and urban trees. Display gardens include the Zucker Flowering Shrub Collection, the Treman Woodland Walk, and numerous "pocket gardens" dispersed throughout the Arboretum.

NATURAL AREAS

Cornell Botanic Gardens manages 38 preserves totaling 3,600 acres, which are managed to protect the full range of natural community types and most rare plant habitats found in the Finger Lakes Region for education, research, and conservation.

On-campus Natural Areas: Over 700 acres among 11 natural areas are found on or near Cornell campus. Woven amid the gardens and Arboretum, they impart the scenic beauty of Cornell and include three gorges and iconic Beebe Lake.

Off-campus Natural Areas: A diversity of 27 natural areas including bogs, fens, gorges, glens, meadows, woodlands and other ecologically-significant communities are located throughout Tompkins County and beyond.

FURTHER READING A complete inventory of all cultivated and natural areas is found in Appendix B.

OPERATIONS

Budget: 3.5 million dollar annual budget funded by endowments, monetary gifts and membership, grants, earned income and Cornell University.

Staff: Team of 41 includes
- 5 administrative/development staff.
- 7 staff in the education department, which includes communication and interpretation.
- 5 facilities management and construction staff.
- 7 staff devoted to stewarding natural areas.
- 19 staff oversee the curation and care of the cultivated collections.

Volunteers: A core of 125 volunteers carry out a wide range of tasks from gardening and stewarding natural areas to leading tours.

Advisory Council: Eleven dedicated individuals including Cornell alumni, faculty, students, and community members who advise and support our vision.

Faculty Fellows: Eight Cornell faculty from across disciplines formally collaborate to advance their teaching and research while furthering Cornell Botanic Gardens' mission.

FURTHER READING A complete list of physical features, policies, and other parameters as well as their potential impact on interpretive recommendations is found in Appendix C.

CURRENT INTERPRETIVE AND EDUCATION PROGRAMS

Cornell Botanic Gardens offer a wide variety of high-quality interpretive and educational opportunities to the public year-round.

HOW INTERPRETATION AND EDUCATION WORK TOGETHER

Achieving desired visitor outcomes (goals and objectives) depends on more than just interpretive opportunities. The role of interpretation is not in-depth education, but inspiration to learn more. Attending an education program at Cornell Botanic Gardens such as a class, workshop, and lecture is one way for visitors to learn more about a subject introduced through interpretation.

Adult education: We offer educational programs for adults throughout the year, including guided tours, workshops, botanical art classes, lectures, and special events. Staff and volunteers also lead a significant number of pre-arranged group tours.

Cornell student engagement:
- A wide variety of undergraduate and graduate level classes engage with our gardens and natural areas as part of class instruction.
- Four for-credit classes are taught by Cornell Botanic Gardens staff including Restoration Ecology; The Art of Horticulture; Food, Fiber, and Fulfillment; and the Interpretive Approach to Communication.
- A pilot Learning by Leading program in 2020 aims to cultivate student leaders through carrying out mission-based projects.

Family and Youth Programs: Educational programs are offered to area school groups including Wildflower Exploration for third graders and Haudenosaunee Food Crops for fourth graders. Family-focused events are offered periodically and educational materials are offered on our website.

Visitor Services: Visitors engage with visitor services staff at the front desk in the Nevin Welcome Center.

Interpretive Program: In addition to in-person programs listed above, Cornell Botanic Gardens offers a range of interpretive media including outdoor signs, plant labels, exhibits, visitor map, audio tours, and self-guided smart phone tours.

2 GOALS AND OBJECTIVES

Interpretation at Cornell Botanic Gardens plays a major role in achieving our mission. This section describes how the mission, strategic plan, and other aspects of management are considered to make the most informed and effective interpretive media recommendations.

As part of the interpretive planning process, a set of interpretive goals and objectives are established, which take their direction from Cornell Botanic Gardens' mission and strategic plan. Interpretive objectives are tools to measure impacts on the behavior, knowledge, and attitude of the target audience, which, if achieved, indicate success in achieving the interpretive goals.

The tools for achieving the interpretive goals and objectives are the interpretive recommendations described in Section 5.

MISSION AND GOAL HIERARCHY

The relationship between Cornell Botanic Gardens' vision, mission, interpretive goals and objectives, as well as all interpretive media recommendations, is illustrated in the diagram below. Everything is driven by Cornell Botanic Gardens' vision and mission.

2 GOALS AND OBJECTIVES

MISSION, VISION, AND STRATEGIC PLAN

OUR VISION
A world in which biocultural diversity is respected, sustained, and celebrated

OUR MISSION
Inspiring people—through cultivation, conservation, and education—to understand, appreciate, and nurture plants and the cultures they sustain.

PRINCIPLES
- Steward Cornell University's world class horticultural collections and natural areas
- Foster the pursuit of knowledge about the interdependence of plants and peoples
- Be integral, indispensable, and influential to Cornell's mission
- Be purveyors of hope

STRATEGIC PLAN

Our natural world is extraordinarily diverse, immensely beautiful, and key to our survival. Cornell Botanic Gardens' strategic plan is a road-map for our organization to lead in counteracting the devastating decline of biological and cultural diversity that threatens the very existence of many indigenous peoples and ultimately, our human species.

The following three strategic goals guide us in realizing our vision and mission:

GROW: Cultivate and conserve plants and the cultures they sustain.

- Cultivate, curate and steward high-quality, sustainably-managed horticulture collections and natural areas.
- Highlight and celebrate biocultural diversity by linking biological and cultural diversity throughout our natural areas and gardens.
- Honor a sense of place in our local community.

INSPIRE: Nurture the unique and personal connection people have to plants.

- Use the exceptional experiences our gardens and natural areas afford to change viewpoints and inspire positive action.
- Promote a stewardship ethic by cultivating the next generation of biocultural guardians.
- Expand our interpretation to highlight the interconnectedness of plants and peoples.
- Create exciting installations and unique events that connect to diverse audiences.

CONNECT: Create alliances to collectively fight the loss of biocultural diversity.

- Catalyze the intellectual resources of the university by strengthening and expanding our connections to Cornell.
- Serve as a biocultural conservation hub, bridging disciplines to create and share best practices.
- Forge collaborations with people and groups of different cultures.

2 GOALS AND OBJECTIVES

INTERPRETIVE GOALS AND OBJECTIVES

Interpretive goals and objectives ensure that the interpretive media and services recommended in this plan focus on achieving Cornell Botanic Gardens mission, vision, and strategic goals.

The following table lists the interpretive goals and objectives and their relationship to the strategic goals.

INTERPRETIVE GOAL	STRATEGIC PLAN CONNECTION	INTERPRETIVE OBJECTIVES
Goal 1: Understand and appreciate the inextricable link between biological and cultural diversity.	**Nurture the unique and personal connection people have to plants.** • Expand our interpretation to highlight the interconnectedness of plants and peoples **Cultivate and conserve plants and the cultures they sustain.** • Highlight and celebrate biocultural diversity by linking biological and cultural diversity throughout our natural areas and gardens.	Visitors will: A. Recognize and appreciate that biodiversity is essential to the health of Earth's ecosystems and to successful horticulture—critical to human survival. B. Feel inspired to explore the rich diversity of cultures and plants that sustain tormahem around the world as a result of their visit to Cornell Botanic Gardens. C. Recognize that many cultures around the world are threatened by the decline of biodiversity, industrialization, and climate change and that conserving the world's cultures and languages is a pathway to conserving the world's threatened biodiversity. D. Recognize and appreciate that languages are representative of diverse world views and value systems of cultures and the loss of these languages erases the understanding of this rich diversity of human experience. E. Explain in their own words the meaning of biocultural diversity and conservation

2 GOALS AND OBJECTIVES

INTERPRETIVE GOAL	STRATEGIC PLAN CONNECTION	INTERPRETIVE OBJECTIVES
GOAL 2: Feel empowered to explore and apply ways to contribute to a sustainable future.	**Nurture the unique and personal connection people have to plants.** • Use the exceptional experiences our gardens and natural areas afford to change viewpoints and inspire positive action. • Promote a stewardship ethic by cultivating the next generation of biocultural guardians. **Create alliances to collectively fight the loss of biocultural diversity.** • Forge collaborations with people and groups of different cultures.	Visitors will: A. Realize the urgency of the climate crisis and advocate for change in at least one way. B. Recognize that Cornell Botanic Gardens' cultivated and natural areas demonstrate nature-based solutions for achieving a sustainable future in the face of climate change and further explore them during their visit. C. Want to apply at least one nature-based solution to sustainability in their own life. D. Recognize and appreciate that traditional/indigenous people and their intimate knowledge of Earth's systems greatly contributes to the conservation and sustainable use of the world's biodiversity. E. Feel open to new ideas and perspectives about their relationship with the natural world through exploring other cultures. F. Feel grateful for the beauty of nature and all that it provides for us.

2 GOALS AND OBJECTIVES

INTERPRETIVE GOAL	STRATEGIC PLAN CONNECTION	INTERPRETIVE OBJECTIVES
GOAL 3: Understand and appreciate Cornell Botanic Gardens' role in advancing Cornell University's mission.	**Cultivate and conserve plants and the cultures they sustain.** • Honor a sense of place in our local community. **Create alliances to collectively fight the loss of biocultural diversity.** • Catalyze the intellectual resources of the university by strengthening and expanding our connections to Cornell. • Serve as a biocultural conservation hub, bridging disciplines to create and share best practices.	Visitors will; A. Name at least one way that Cornell Botanic Gardens contributes to the University's educational mission and commitment to sustainability. B. Recognize and appreciate that Cornell Botanic Gardens is a living laboratory for learning about, developing, and applying forward-looking approaches to environmental sustainability. C. Appreciate the cultivated and natural areas of Cornell Botanic Gardens on or near campus as places of retreat to find beauty, inspiration, and overall nourishment of their well-being and want to return for that experience. D. Appreciate that the area's dynamic geological history shaped the diversity within the gardens, arboretum, and natural areas of Cornell Botanic Gardens. E. Recognize that the vision to preserve the University's scenic and ecologically-diverse landscapes and to develop botanic gardens and arboretum was part of the vision of Cornell leaders from the University's founding in 1865.

2 GOALS AND OBJECTIVES

INTERPRETIVE GOAL	STRATEGIC PLAN CONNECTION	INTERPRETIVE OBJECTIVES
GOAL 4: Recognize and appreciate that Cornell Botanic Gardens is involved in local, national, and international alliances to conserve biological and cultural diversity.	**Cultivate and conserve plants and the cultures they sustain.** • Honor a sense of place in our local community. **Create alliances to collective-ly fight the loss of biocultural diversity.** • Catalyze the intellectual resources of the university by strengthen-ing and expanding our connections to Cornell. • Serve as a biocultural conservation hub, bridging disciplines to create and share best practices. • Forge collaborations with people and groups of different cultures.	A. Name at least one collaboration that Cornell Botanic Gardens is involved in to conserve biological and cultural diversity. B. Recognize that Cornell Botanic Gardens stewards over 4,000 acres of natural areas to protect rare plant populations and preserve the full range of ecological habitats of the Finger Lakes Region for education, research, and enjoyment. C. Recognize and appreciate the critical role botanic gardens, including Cornell Botanic Gardens, play in preserving plant species diversity and genetic resources for developing new varieties of plants to meet human needs and enhance well-being. D. Feel hopeful about the efforts toward conserving the world's biological and cultural diversity
GOAL 5: Provide a sense of welcome and hospitality to our visitors.	**Cultivate and conserve plants and the cultures they sustain.** • Cultivate, curate and steward high-quality, sustainably-managed horticulture collections and natural areas. • Honor a sense of place in our local community. **Nurture the unique and personal connection people have to plants.** • Create exciting in-stallations and unique events that connect to diverse audiences.	A. Feel welcomed by accessible and friendly staff. B. Be able to easily navigate to and throughout Cornell Botanic Gardens areas. C. Recognize that the Nevin Welcome Center provides visitor services and a gift shop with light refreshments and know how to get there. D. Recognize that Cornell Botanic Gardens offers plant and nature focused programs and events and know how to find information about them. E. Feel safe during their visit. F. Follow all rules for safety and etiquette during their visit. G. Recognize that they can learn about plants through their labels and be able to easily find a label for each accessioned plant.

2 GOALS AND OBJECTIVES

INTERPRETIVE GOAL	STRATEGIC PLAN CONNECTION	INTERPRETIVE OBJECTIVES
GOAL 6: Feel inspired to provide support to Cornell Botanic Gardens	**Cultivate and conserve plants and the cultures they sustain.** • Cultivate, curate and steward high-quality, sustainably-managed horticulture collections and natural areas. • onor a sense of place in our local community. **Nurture the unique and personal connection people have to plants.** • Create exciting installations and unique events that connect to diverse audiences.	Visitors will: A. Appreciate Cornell Botanic Gardens' role in conserving biological and cultural diversity and inspiring positive change for a sustainable future, as part of Cornell University. B. Recognize they can support Cornell Botanic Gardens through volunteering, taking a class, or providing financial support through a membership or donation and complete one of those actions within a month of their visit. C. Provide a monetary donation during their visit. D. Introduce at least one friend or family member to the botanic gardens after their visit.

ADDITIONAL MANAGEMENT CONSIDERATIONS

In addition to the vision, mission, and strategic goals, there are other aspects of management that need to be considered when recommending the most appropriate interpretive media. These include budget, staff and volunteer availability, weather, and other circumstances that ensure that interpretive recommendations are realistic and effective. These factors could be assets to the interpretive experience as well as constraints that could possibly limit the scope of potential recommendations.

AT A GLANCE

- Cornell Botanic Gardens is in an excellent position to build on its strong foundation of interpretive offerings.
- Cornell Botanic Gardens has a large group of volunteers who are dedicated, highly educated, and continually express their desire to learn more.
- Cornell Botanic Gardens is in close proximity to the Cornell campus.

FURTHER READING A complete list of management considerations and their potential impact on interpretive media recommendations is found in Appendix C.

3 THEME HIERARCHY

A thematic framework is the most valuable tool for ensuring that all interpretive messages focus on achieving the interpretive goals and objectives.

Interpretation that works toward communicating one main message, or theme, will have the greatest impact on visitors. The result is a clear understanding of the "big idea" we want visitors to come away with after their experience at Cornell Botanic Gardens.

The elements in a thematic framework include:

CENTRAL THEME* (MESSAGE):
The overarching idea or concept to be communicated through all interpretation.

SUB-THEME:
Concepts that support the central theme.

SUPPORTING STORIES:
Stories that communicate sub-themes and the central theme.

*Themes differ from topics in that themes are complete sentences that provide the "so what" about a particular topic.

The following central interpretive theme and set of five supporting subthemes and storylines have been developed as the thread that ties together all stories communicated through exhibits, signs, brochures, and other interpretive media.

Note: The themes as stated here will not necessarily be conveyed to the public in this exact wording. They simply capture the "big idea" around which content will be developed.

MAIN INTERPRETIVE THEME

NATURE AND CULTURE ARE INSEPARABLE

Five subthemes and supporting stories:

SUBTHEME 1
Cultures are shaped by the plants and ecosystems with which they have co-evolved.

- Plants significant to a culture are reflected in cuisine, medicine, materials, art, literature, and ceremony.
- People preserve their culture and traditions through the plants they grow and use.
- Present-day horticultural practices have been influenced by cultures around the world throughout history.
- Languages reflect a culture's value system and relationship with the natural world and approximately 50% of the world's languages are threatened with extinction by 2050.
- Industrialization and climate change are major factors contributing to the loss of the world's biological diversity, which is linked to the loss of the world's cultural and linguistic diversity.

3 THEME HIERARCHY

SUBTHEME 2

A diversity of perspectives, world views, and approaches are critical to solving our complex environmental challenges.

- Threatened by industrialization and climate change, the world's biodiversity is essential to the health of Earth's ecosystems and to successful horticulture—critical to human survival.
- The predicted impacts of the climate crisis are being realized at a rapid pace and it is critical for everyone to advocate for change.
- Different cultures offer diverse world views, value systems, and relationships with the natural world.
- Local and indigenous people and their intimate knowledge of Earth's systems greatly contribute to the conservation and sustainable use of the world's biodiversity in the face of climate change.
- Sustainable gardening and land stewardship are nature-based solutions for achieving an unparalleled global collaboration toward a sustainable future.
- Plants play an integral role in the adaptation to and mitigation of climate change, critical to achieving a sustainable future.

SUBTHEME 3

The way of life of the Cayuga people, one of six nations of the Haudenosaunee confederacy, developed on the lands where Cornell Botanic Gardens and Cornell University are now located.

- The dynamic geologic and natural history of the Ithaca area and the Finger Lakes Region culminated in rich soil and an abundance of water and resources, which enabled the Haudenosaunee to thrive prior to European contact.
- The number of people who speak the Cayuga language is rapidly diminishing, but efforts within the Cayuga community are preserving their language and culture.
- Each of the distinct ecological communities and associated human histories of the Finger Lakes are preserved within and stewarded by Cornell Botanic Gardens for research, education, enjoyment, and the protection of rare plant populations.

SUBTHEME 4

Cornell Botanic Gardens plays a valuable role in the conservation of plant and biological diversity and the development of solutions for a sustainable future.

- Cornell Botanic Gardens collaborates with Cornell University staff, faculty, and students to conduct research and provide class instruction aimed at conservation and environmental sustainability.
- Cornell Botanic Gardens collaborates with international organizations to conserve biological and cultural diversity.
- Plant breeding relies on the diversity of genetic resources accessible within botanic gardens like Cornell Botanic Gardens, which is critical to preserving the diversity of plants humans rely on for food, medicine, fibers, materials and overall well-being.

SUBTHEME 5

Part of the vision of university founders, Cornell Botanic Gardens is indispensable to carrying out Cornell's mission and significantly defines the Cornell experience.

- Cornell Botanic Gardens' cultivated collections, natural areas, and breath of staff knowledge and expertise are used for research and

education, which work to achieve Cornell's Presidential Priorities through:

providing opportunities to develop critical thinking, creativity, problem-solving, and teamwork skills that prepare students to become educated global citizens,

providing opportunities to fulfill Cornell's civic responsibilities of creating a truly diverse, inclusive, and egalitarian community in which all groups are included in the conversation and all members communicate effectively across difference,

enhancing Cornell's impact on the world through creating synergy between the liberal arts and applied fields of study as well as fulfilling its public engagement mission to enhance lives.

- Cornell Botanic Gardens plays a leading role in carrying out the University's commitment to sustainability and is a living laboratory for learning about and developing forward-thinking approaches to a sustainable future.
- Cornell Botanic Gardens adds extraordinary beauty to the Cornell University campus and provides opportunities for relaxation, exercise and stress relief, which are essential to the well-being of the Cornell community and beyond.
- Cornell Botanic Gardens provides a place for all to nurture their personal connections to plants and nature, which is essential to our well-being.
- Over 85% of Cornell Botanic Gardens' operating budget is supported by memberships, donations, and grants.

4 TARGET AUDIENCE PROFILES

This section focuses on identifying the needs, motivations, and interests of people who engage with Cornell Botanic Gardens to determine the most effective methods of communication.

Cornell Botanic Gardens has made an informed decision to focus communication and interpretive efforts on the following three audience groups over the next three years. The recommendations in this interpretive plan were made from analyzing how to best communicate to these audience groups.

STUDENTS
Cornell students are part of the "next generation" of stewards of the earth and represent a group that can be influenced and influential.

SUPPORTERS
This group includes donors, members, alumni, and volunteers. Because we receive no net financial support from the university, supporters are critical to providing the resources we need to be successful.

VISITORS
This group includes people who currently make an effort to come to the botanic gardens, both local and out of town visitors. The 2017 Ithaca/ Tompkins Visitor Survey ranked Cornell Botanic Gardens as the most visited cultural organization in the county.

TARGET AUDIENCE ANALYSIS

The characteristics of the three audiences listed above were analyzed to determine the most effective methods of communication.

THE PROCESS

Step 1: Build profiles of the characteristics for each target audience. Focus on characteristics that provide insight to the:

- type(s) of experiences that attract them, or would attract them if they are not currently visiting and are able to,
- types of interpretive experiences they are willing to devote their time and attention to,
- level of knowledge of and interest in concepts interpreted,
- motivations for engaging with Cornell Botanic Gardens,
- needs and expectations,
- opportunities for engagement based on their interests and expectations for their visit,
- limitations based on lack of interest, understanding, or capability

The process does not end after step 1:

Step 2: For each characteristic identified in the profile, identify the **implications** for how it would impact effective communication.

The following are summaries of key characteristics and associated implications for the three target audiences:

4 TARGET AUDIENCE PROFILES

VISITORS

MOTIVATIONS FOR VISITING

This group includes visitors from out of the county for the day or number of days and are aware that Cornell Botanic Gardens is a major attraction with beautiful gardens and natural areas and want to explore what we have to offer. This group also includes local visitors.

CHARACTERISTIC	IMPLICATION
Out-of-town tourism market	
The majority of the tourism market comes from elsewhere in New York State and nearby states.	Provide interpretation that encourages them to grow plants displayed at Cornell Botanic Gardens.
Because they chose to visit as a leisure activity, they likely have some level of interest in plants, gardening and/or spending time in nature.	Providing interpretation that facilitates learning about the plants displayed in the gardens and the ecology of our natural areas would align with their desired experience.
For many tourists, a visit may be their first.	They will need information on all of the opportunities to explore and how to navigate the gardens and natural areas. They will likely be interested in information that introduces them to the spaces.
They do not visit frequently.	They might want to continue to stay engaged without visiting the physical space and would be less likely to participate in a class or event.
A large portion of the visitors to Tompkins County come to visit Cornell.	Visitors will likely seek information on what/how to explore at Cornell. Identify methods of increasing awareness about Cornell Botanic Gardens to Cornell visitors such as providing information at the Tang Welcome Center. Communicate the value of visiting Cornell Botanic Gardens during their visit.
They may have the ability to spend a half day or longer exploring our sites.	They have more time and willingness to invest in interpretive opportunities and take time to explore multiple areas. They will need to know where to get food, drinks and use restrooms.
They might be parents of Cornell students and are from a non-English-speaking country.	They will have the strongest connection with plants that they are familiar with. Providing interpretation in their native language would allow them to engage with interpretation.
They may also be visiting Cornell as a prospective school and would be interested in understanding how the Botanic Gardens adds to the Cornell experience.	Interpret the role of Cornell Botanic Gardens in academic instruction and research.
The majority of tourists visiting Tompkins County are between the age of 40 and 70.	May not use smart phones as their primary method of navigation and ways to seek information.
Tourists visit Tompkins County in all seasons.	Would want to be aware of what the botanic gardens offers during all seasons.

4 TARGET AUDIENCE PROFILES

CHARACTERISTIC	IMPLICATION
The majority of tourists visit Tompkins County visit as couples or family units.	Provide interpretive experiences they can engage in as a group.
The vast majority of tourists visiting Tompkins County have a graduate or undergraduate education and have a high income level (150k+)	Has the ability to make a donation or spend money in the gift shop. Would likely have the means and interest in learning more about concepts introduced after their visit.
Local Visitors	
Are able to visit several times per year.	They would only engage in introductory interpretation once and would be looking for other ways to engage.
Are invested in the local community.	They would likely be interested in learning about community efforts that Cornell Botanic Gardens is engaged in and how they could support them.
They would be able to attend workshops, classes, and lectures.	Communicate upcoming events to this group.
This group includes family groups, couples, or individuals.	Offer a variety of interpretative media to accommodate varying learning approaches and knowledge levels.
The current membership benefits such as discounts on classes and gift shop items are most appopriate for this group.	Target this audience for membership solicitation.
They could visit on short notice.	Communicate to this group about pop-up gift shop sales, or upcoming events or last-minute opportunities or happenings.

Source: Ithaca/Tompkins County Visitor Survey, 2017

CORNELL STUDENTS

MOTIVATIONS FOR VISITING

Students may be visiting Cornell Botanic Gardens as part of a class, or on their own time with family and friends or by themselves to get exercise or just enjoy the setting to relax.

CHARACTERISTIC	IMPLICATION
Do not have a lot of time for extracurricular activities during the semester.	Offer activities for engagement before classes begin or after they end. Offer opportunities for engagement that intersect with activities they already are committed to such as clubs, volunteer groups, sororities and fraternities.
Do not have confidence that they can find Cornell Botanic Gardens and all there is to explore.	Provide easy and accessible wayfinding from key points on campus and information on all the areas they can explore.
Are not aware of ways they engage as part of Cornell Botanic Gardens.	Identify student information “hubs” to communicate this information or partner with Cornell organizations that communicate regularly with students.

4 TARGET AUDIENCE PROFILES

CHARACTERISTIC	IMPLICATION
Are active users of social media.	Communicate with them through Instagram, SnapChat, and other social media they are using.
Are often brought to Cornell Botanic Gardens by their families for their first visit. This often occurs during orientation or first year family weekend.	Provide information on how to engage as a student that they will encounter during this visit.
English might not be students' and their families' first language.	Provide interpretation in non-English languages.
If they are not visiting during a class, they likely want to visit to exercise or nurture their well-being	Provide interpretive opportunities that are fun, don't feel like school, and mesh with their recreational activities.
They likely have a smart phone and use it to navigate	Provide ways for them to get to and explore Cornell Botanic Gardens using digital maps that identify their location.
May not know when they are in the gardens (they may be passive visitors on a regular basis).	Add more wayfinding signage to indicate to them what areas are part of Cornell Botanic Gardens.
Many visit with a class or for research purposes.	Provide information during their class visit on ways they can engage beyond their class or research.
The time in which most students are on campus is mostly the colder months.	Encourage visiting when the weather starts to warm up at the end/ beginning of the academic year (fall/spring). Offer activities during study week/orientation week.
Engage with natural areas more frequently than the gardens around the Nevin Welcome Center as they are in closer proximity to campus and residential areas.	Provide interpretive opportunities in the areas they are most likely to engage.
Have expressed interest that they could come to Cornell Botanic Gardens for a large leisure time event such as an outdoor movie, concert, or other cultural event.	Attract this group with this type of event and integrate interpretation about additional experiences they could have if they visited again.

Source: Cornell Botanic Gardens Student Survey; May, 2018

SUPPORTERS (MEMBERS/DONORS, ALUMNI, VOLUNTEERS)

MOTIVATIONS FOR VISITING OR ENGAGING

Not all in this group live close enough to visit regularly if at all, but by supporting us in some way have expressed their commitment to our mission. Volunteers visit regularly to support us through dedicating their time and skills. Alumni engage because of their sentiment for Cornell.

CHARACTERISTIC	IMPLICATION
Members & Donors	
Value the mission of Cornell Botanic Gardens.	Provide ways for them to encourage awareness, visitation, and support to others in the community and beyond. Communicate regularly about initiatives that support the mission.
More likely to have a higher interest in learning about plants, gardening, nature, and/or conservation due to their support of our mission.	Offer in-depth learning opportunities.

4 TARGET AUDIENCE PROFILES

CHARACTERISTIC	IMPLICATION
Likely to continue to give their time and/or money.	Provide exclusive benefits for their support. Communicate regularly how their support benefits the organization and the greater good. Periodically ask them for gifts and communicate what they would support.
Want to see how their money is used to make an impact.	Communicate donor supported projects where appropriate.
Some, but not all, live far away.	Provide means for remaining engaged with them off site.
Volunteers	
Value the mission of Cornell Botanic Gardens.	Provide ways for them to encourage awareness, visitation, and support to others in the community and beyond.
Have a great interest in learning about plants, gardening, nature, and/or conservation.	Offer in-depth learning opportunities outside of their volunteer experience.
Most live locally and can visit regularly.	Offer regular opportunities to engage that are targeted to volunteers.
Due to their support of time, they might be willing to support us through monetary donation.	Communicate regularly about the benefits of giving.
Have developed a relationship with staff.	Provide ways for them to offer candid feedback/input on ways to continue to improve our programming to reach our mission.
Some are trained to offer guided tours.	Expand opportunities for them to volunteer to be roving docents or facilitate discovery carts. Set up means for them to administer formal or informal visitor surveys for tour participants and other visitors they engage with.
Enjoy the benefits of being volunteers at the Botanic Gardens.	Provide opportunities for them share their experiences with others to cultivate new volunteers.
Alumni	
They have a connection with Cornell Botanic Gardens physical spaces due to memories generated during their time at Cornell.	Provide interpretation that highlights historical references and other features about specific places.
Are strongly encouraged to support Cornell as alumni.	Communicate that their support could go directly to Cornell Botanic Gardens.
Many visit during Reunion Weekend.	Offer interpretive opportunities during this time that relate to their interests. Provide ways for them to share their contact information to continue communicating after their visit.
There are many alumni visiting on reunion weekend who are ability impaired, most often due to their higher age demographic.	Provide ways they can explore our gardens and natural areas other than walking.
The majority live far away.	Provide means for remaining engaged with them through social media, e-mail, and other methods of reaching them where they are.

5 RECOMMENDATIONS

This section identifies and describes all new interpretive media and services recommended for Cornell Botanic Gardens. We want visitors to engage in and enjoy the interpretation we offer. To achieve this, the entire visitor experience must be enjoyable and comfortable. The visitor experience starts with choosing to visit, ends with their travel home, and includes all stages in between. This plan identifies the network of information required at each of these stages to create a successful visitor interpretive experience.

The typical visitor experience includes the following stages:

CHOOSING TO ENGAGE
Potential visitors must first be aware of Cornell Botanic Gardens and the experiences offered there, which relies on marketing to target audiences.

PRE-VISIT
This stage involves gathering the information people need to plan a visit (Cornell Botanic Gardens website, Google, call to visitor services staff, tourist guide).

TRAVEL
All of the wayfinding information needed for people to easily navigate to Cornell Botanic Gardens (GPS coordinates/street address, maps, road signs, bus routes).

ARRIVAL
All of the information visitors want to know about the site to satisfy their needs during their visit (location of restrooms, food/beverage availability, orientation to all opportunities, times and locations of special events happening).

PRIMARY EXPERIENCE
This stage includes all of the information needed to facilitate the experience which attracted them to Cornell Botanic Gardens, which should include interaction with the network of interpretation offered. The interpretive network should guide visitors through the site and include a thematic overview and interpretive media that communicate subthemes and supporting stories. All interpretive media and services work together to enable visitors to walk away understanding certain concepts, feeling certain ways and wanting to take specific actions—all outlined in section two of this plan.

DEPARTURE
All of the information appropriate to provide to visitors as they prepare to leave. This includes, but not limited to, encouraging them to visit the gift shop, sign up to receive our e-newsletter, give a donation in the welcome center, pick up the membership brochure, and seek information on upcoming programs, events and other reasons for visiting again.

RETURN TRAVEL
All of the information visitors need to travel home or to their next destination.

POST-TRIP
The means by which Cornell Botanic Gardens can continue to market experiences and opportunities with visitors (e-newsletter, social media).

5 RECOMMENDATIONS

New services and media recommended in this plan are grouped by which stage of the visitor experience they support. Media and services currently in place for each stage are also included.

CHOOSING TO ENGAGE

Over the next three years, Cornell Botanic Gardens will focus on engaging with Cornell students, donors, members, Cornell alumni, volunteers, and visitors to the area. This requires identifying the best ways to increase awareness of what Cornell Botanic Gardens offers these audience groups. This plan recommends:

- Creating a strategic plan identifying what and how to communicate with students.
- Creating a strategic plan identifying what and how to communicate with alumni, including capturing more e-mails during Cornell events (reunion, TCAM, homecoming).
- Communicating directly with class officers prior to reunion and homecoming to encouraging alumni visitation during these events.
- Producing an introductory video and distributing strategically to increase awareness (scope and description on the following page).
- Preparing exhibits that can be rented for use in other public spaces (bioculturally-focused ones like the Tree of Peace, gourds, peppers, quinoa/chia/amaranth, ash baskets).

CURRENT STRATEGIES

The Associate Director of Communications and Marketing is dedicated to increasing awareness of what Cornell Botanic Gardens offers through myriad strategies. Foundational efforts focused on our target audiences include:

- Rack cards distributed at the Tompkins County Visitor Center and other key tourist attractions.
- Information in the Tompkins County Visitor Guide
- Presence on Facebook, Twitter, and Instagram
- Visitor maps and Interpretive sign at Cornell's Tang Welcome Center.
- Students are trained to provide information on Cornell tours about what students can experience at Cornell Botanic Gardens.
- Interpretive and wayfinding signs placed in high-visibility locations within Fall Creek Gorge and around Beebe Lake.
- Promotion of our summer intern program to Cornell Students.
- Participation in Cornell programming for freshman orientation, first-year family weekend, reunion, homecoming, graduation, and trustee council weekend.
- Several staff teach Cornell classes, and many students visit during their class. Our Student and Community Outreach coordinator continues to expand those connections.
- Promoting our spaces and events on LCD screens in key gathering points on campus.
- Exhibit in Mann Library lobby.

PRE-VISIT

Potential visitors need to easily find all they need to plan their trip, including hours of operation, what to bring, how to get to Cornell Botanic Gardens, how long a visit might take, etc. A key tool for providing this information is the Cornell Botanic Gardens website. Those who do not choose to access information on the internet will likely call the visitor services desk.

5 RECOMMENDATIONS

CORNELL BOTANIC GARDENS WEBSITE

Because the majority of potential visitors will use the internet to find trip planning information, the primary strategy for facilitating the pre-visit experience is the Cornell Botanic Gardens website. Although our website was updated in March 2019 and provides a breadth of information for trip planning, the following enhancements are recommended:

- Complete effort to achieve level AA conformance based on Web Content Accessibility Guidelines (WCAG) 2.0 as required by Cornell.
- Add a map people can download and print easily.
- Evaluate the use of the interactive map on desktop and mobile devices and adjust if necessary.
- Improve on how we communicate what resources are available on our website for our three target audiences.

PRINTED GUIDEBOOK (PASSPORT)

This printed guide is intended to provide a pocket-sized tool for people to locate and explore all of the spaces that comprise Cornell Botanic Gardens. Our gardens, arboretum and some natural areas are located on the Cornell campus and our welcome center provides a central location to get oriented. However, this guidebook serves the purpose of providing the information needed to locate and explore our natural areas off campus. Although this guidebook will primarily focus on providing directions and a trail map for each area, it will also serve as a pre-visit tool, as it will provide information to help visitors plan their trip (hours, amenities available, time needed to explore).

Objectives:
By using the guidebook, visitors will:

- Be able to easily navigate to all destinations that comprise Cornell Botanic Gardens.
- Be aware of the experiences offered at each destination.
- Feel motivated to follow all visitor guidelines.
- Want to make an effort to visit each location over time.

Promotion and distribution: After producing the guidebook, the communications team will identify strategies for its promotion and distribution, which will also serve to promote awareness of Cornell Botanic Gardens and the breadth of experiences offered.

INTRODUCTORY VIDEO

The introductory video will be prominently visible on our website to help visitors plan a visit by giving them a better feel for the terrain, good times to visit, and other information.

Objectives:
From viewing the introductory video, visitors will:

- Be aware of all of the areas that comprise Cornell Botanic Gardens
- Be aware of the wide variety experiences offered at Cornell Botanic Gardens
- Identify and appreciate Cornell Botanic Gardens' mission and be motivated to contribute to it through their support of participating in classes, making a donation, volunteering, or becoming a member.
- Name at least two ways Cornell Botanic Gardens carries out its mission.
- Name at least one way Cornell Botanic Gardens contributes to the mission of Cornell University and feel it is an important part of the Cornell experience.
- Be excited about visiting Cornell Botanic Gardens.

5 RECOMMENDATIONS

TRAVEL

Our gardens, arboretum, and natural areas are spread across Cornell's campus and throughout Tompkins County, posing a challenge for determining which location to visit and how to get there. Our updated website addresses this challenge by providing addresses and links to Google maps for all locations, but this plan recommends the following improvements:

- Review all Google map locations for all areas on our website to make sure they are accurate.
- Better promote the Tompkins County Active Transit (TCAT) bus stop on Judd Falls Road on our website and other promotional materials.

In addition to providing the information for vehicle wayfinding, there in a need to provide additional pedestrian wayfinding from various points on the Cornell campus. This plan recommends:

- Complete installation of wayfinding signs to connect all of our on-campus gardens/natural areas to each other and key areas on campus.
- Create Pocketsights™ tours to provide guided routes to Cornell Botanic Gardens from key points on campus and identify effective ways to promote this to students, faculty, and staff. Engage student ambassadors for guidance. Include tour created in partnership with Cornell Health.
- Collaborate with planners of the North Campus residential expansion to make sure our areas are integrated to the wayfinding signs around this area.

Additional tools for improving this stage of the visitor experience:

- The printed guidebook (passport) will include directions to all areas that comprise Cornell Botanic Gardens on and off campus (see full description on the previous page).

CURRENT STRATEGIES FOR VEHICULAR AND BUS TRAVEL

- Cornell Botanic Gardens branded road signs marking entrances and providing orientation to the parking lot at the Nevin Welcome Center, two Arboretum entrances, and parking lot in the Mundy Wildflower Garden.
- Road signs on NYS Route 366 traveling eastbound and westbound to Cornell Botanic Gardens.
- Cornell branded road signs orienting people to Cornell Botanic Gardens
- Sign for bus stop on Judd Falls Road accompanied by pedestrian wayfinding.

ARRIVAL

Visitors driving to our on-campus gardens and natural areas are encouraged to first visit the welcome center to get oriented to what and where they can explore. However, people not only arrive by vehicle to Cornell Botanic Gardens, but on foot from many entry points on campus. Therefore, much of the interpretive effort to date has been on placing orientation signs at entrances to our many gardens and natural areas both on- and off-campus. For some, these signs serve as their first point of contact (arrival stage) and for others they are part of their primary experience, having already been oriented at the welcome center or other location.

CURRENT ARRIVAL STRATEGIES

- Trained staff at the visitor services desk next to rack of maps and other useful information.
- Permanent exhibit in the welcome center lobby that orients people to our variety of spaces and experiences and communicates our mission and how it is carried out.
- Visitor orientation signs with visitor maps at the Nevin Welcome Center parking lot, Mundy Wildflower Garden parking lot, Arboretum, Kienzle Overlook, entrances to Beebe Lake, Fall Creek, and Cascadilla Gorge.

5 RECOMMENDATIONS

- Orientation kiosks at six off-campus natural areas.
- Brochure boxes with visitor maps at all parking bays in the Arboretum and in visible areas in the gardens around the Nevin Welcome Center.
- Gorge safety brochure distributed at the Nevin Welcome Center, Tang Welcome Center, and other appropriate locations on campus. Incoming students are also given one during orientation.

The following recommendations will improve the arrival experience:

STRATEGIES AT THE NEVIN WELCOME CENTER

- Display the Nevin Welcome Center hours in the parking lot so people don't walk all the way to the welcome center to find it is closed.
- Create a self-serve orientation area in the Nevin Welcome Center, which includes simple instructions on all ways to explore Cornell Botanic Gardens (self-guided tours, recommended routes, guided tours and events, guidebook).
- Complete an update of the permanent exhibit that orients people to all they can experience and introduces our mission and how we carry it out.
- Display the introductory video in the welcome center for people to view on their own (project scope and objectives in the pre-visit stage section).
- Continue to update and distribute the Gorge Safety brochure

STRATEGY FOR ARRIVAL AT OFF-CAMPUS NATURAL AREAS

- Continue to add trailhead kiosks in off-campus natural areas.

STRATEGIES FOR ARRIVAL OF PEDESTRIANS WALKING FROM THE CORNELL CAMPUS

- Create prominent gateways at entrances to Cornell Botanic Gardens from key entry points on campus and add more markers that indicate when people are within Cornell Botanic Gardens.

  Scope: Design a prominent structure that is visually attractive from a distance that clearly indicates it is an entrance to Cornell Botanic Gardens and incudes orientation in the form of a brochure and/or outdoor sign. This includes parking lot by the Nevin Welcome Center. Reach out to Valerie Amer's landscape design class to develop plans.

  Objectives: People who arrive at the gateway will:
  - Recognize they are entering Cornell Botanic Gardens.
  - Identify all of the areas that comprise Cornell Botanic Gardens and know how to access them.
  - Feel motivated to explore Cornell Botanic Gardens at that time or during a future visit.
  - Be able to describe in their own words the importance of Cornell Botanic Gardens to the Cornell experience.

- Design and install an orientation sign at the entrances to upper Cascadilla Gorge.

  Design concept: Design one or two outdoor panels in the "path sign" design layout, with a metal base permanently installed in the ground.

  Objectives: People who engage with the orientation sign will:
  - Recognize they are entering Cascadilla Gorge, stewarded by Cornell Botanic Gardens.
  - Recognize that it connects to the lower Cascadilla Gorge Trail.
  - Be aware of the trails offered at this entrance and feel safe hiking them.
  - Know what they will experience by hiking this trail.

5 RECOMMENDATIONS

STRATEGIES FOR VISITORS TO IDENTIFY HOW THEY CAN ENJOY THE GARDENS SAFELY WHILE PROTECTING OUR PLANT COLLECTIONS:

- Install more rules of etiquette signs around the gardens.
- Create a strategic communication campaign to encourage visitors to keep their dog on a leash and clean up after them.

PRIMARY EXPERIENCE

The primary experience begins when visitors have taken care of basic needs and feel comfortable finding their way around the site.

This interpretive plan builds on the substantial foundation of interpretive services that already provide an engaging primary experience. Cornell Botanic Gardens hired an Interpretation Coordinator in 2007 to create the botanic gardens' first interpretive plan. Since then, interpretive media and services have been added each year. The large majority of existing interpretation provides visitors with an overview of the significance of each garden collection or natural area. One of the strategic goals adopted in 2017 provides the directive to "expand our interpretation to highlight the interconnectedness of plants and peoples."

While there is still a need for some basic orientation and thematic overview to improve this stage of the visitor experience, most recommendations in this section involve interpretation that will further our mission of inspiring people—through cultivation, conservation, and education—to understand, appreciate, and nurture plants and the cultures they sustain.

CURRENT PRIMARY EXPERIENCE STRATEGIES

Gardens around the Nevin Welcome Center:

- Interpretive signs at the entrance to most of the gardens around the Nevin Welcome Center
- Orientation sign to all garden areas outside the Nevin Welcome Center
- Audio tour of the gardens around the welcome center
- Interpretive plant labels in the Herb Garden
- Interpretive booklet highlighting the cultural significance of 10 different plants in the Young Flower Garden
- Interpretive panels for each bed in the Pounder Vegetable Garden
- Self-guided smart phone walking tour of the gardens and Conifer Slope
- Drop-in decent guided tours on weekends during the growing season
- Docent-led bus tours upon request

Nevin Welcome Center:

- Exhibits rotated every six months that emphasize the connection between plants and peoples

Mundy Wildflower Garden:

Introductory sign and map at the vehicular entrance to the Mundy Wildflower Garden
Bloom board and 75 interpretive plant labels
Interpretive sign at the Native Lawn

F. R. Newman Arboretum:

- Interpretive signs in four key gathering areas in the Arboretum highlighting nearby collections and the purpose of the arboretum
- Interpretive panel at the sculpture garden

5 RECOMMENDATIONS

- Interpretive panel at the Watercourse Garden
- Audio tour of each collection or point of interest in the Arboretum
- "Path signs" which promote a walking route and accompanying self-guided smart phone tour at Newman Overlook and entrance to the Morgan-Smith Trail
- Drop-in decent guided tours on weekends during the growing season
- Docent-led bus tours upon request

Beebe Lake:

- Introductory signs at all entrances
- "Path signs" which promote a walking route and accompanying self-guided smart phone tour

Fall Creek Gorge:

- Introductory sign at four entrances
- Interpretive sign at four "destination" sites
- Self-guided smart phone walking tour
- Staff-led guided tours during freshman orientation

Cascadilla Gorge:

- Self-guided smart phone walking tour
- "Path Signs" at each entrance orienting visitors and promoting the self-guided smart phone tour
- Staff-led guided tours during reunion, Cornell homecoming, and other events upon request.

Additional interpretation:

- Sustainable Landscapes Trail: Seven stops within Cornell Botanic Gardens along a walking path of 16 stops that span the Cornell campus to view sustainable approaches to landscape design. A small sign with QR code for more information is mounted on a post.
- "Path sign" along Tower Road on campus, which promotes a walking route and accompanying self-guided smart phone tour connecting on campus gardens to the Nevin Welcome Center gardens.

NEW RECOMMENDATIONS

The majority of interpretive services listed above provide an overview of and orientation to our gardens, arboretum, and natural areas. Although this plan is focusing on the next "layer" of interpretation to increase awareness and inspire action around the conservation of biological and cultural diversity, the following strategies address the remaining needs of visitor orientation and thematic overview:

- Introductory signs for remaining gardens around the welcome center that don't have them (Groundcover Collection, Hillside garden, Rock Garden, North Walk, and Lowi Lawn).
- Complete installation of wayfinding signs to better connect all of our on-campus gardens/natural areas.
- Path Signs and associated tours: Update Mundy Wildflower Garden and Upper Cascadilla Gorge Path Signs and complete converting remaining Path Guide walking routes into Pocketsights Tours.
- The printed guidebook (passport) will include trail maps to all areas that comprise Cornell Botanic Gardens on and off campus (see full description on the second page of this section).
- Beebe Lake Dam interpretatin on Triphammer Bridge
- Assess the efficacy of trail markers installed in Fall Creek Valley and Identify need for additional markers in other natural areas.
- Update McConville Barn sign.

5 RECOMMENDATIONS

- Provide information about interpretive opportunities to horticulture staff so they can share with visitors who inquire (self-guided tours, upcoming events, info available on website).
- Offer docent trainings on how to integrate our updated interpretive themes into their tours.

STRATEGIES TO INCREASE THE UNDERSTANDING OF AND APPRECIATION FOR THE INEXTRICABLE LINK BETWEEN BIOLOGICAL AND CULTURAL DIVERSITY (GOAL 1)

The majority of interpretive services that are dedicated toward achieving set interpretive goals and objectives occur during the primary interpretive experience. Achieving interpretive goals and objectives will take us closer to our vision of a world in which the interdependence of biological and cultural diversity is respected, sustained, and celebrated.

Note: For all interpretive media and services that follow, this plan recommends, whenever possible, defining words or phrases that reflect a culture's relationship with the natural world.

- **Collaboration with the Haudenosaunee community**: Strengthen collaboration with Steve Henhawk, the Gayogohó:no' (Cayuga community), Cornell's American Indian and Indigenous Studies Program (AIISP) and Ganondagan State Historic Site to provide interpretation that advance initiatives set by these partners (build partnership in 2020-2021 to develop plan for on-going projects). We anticipate this collaborative planning process will result in a highly visible presence of interpretation throughout our gardens and natural areas that elevates local indigenous voices while achieving our intepretive goals and objectives.

  Potential interpretive resources and concepts:
  - Guiding principles for forest management
  - Native plants in the Mundy Wildflower Garden and elsewhere
  - Place names and other words written in the Gayogohó:no' language and their translations.
  - Haudenosaunee philosophy and cosmology

- Acknowledge that the traditional homeland of the Gayogohó:no' (Cayuga) Nation is now the location of Cornell and Cornell Botanic Gardens wherever appropriate (before programs and events, on signs, exhibits).

- **Theme years:** Offer programming, seasonal plant displays, and interpretation focused around a theme that highlights the interdependence of biological and cultural diversity. Evaluate the intended outcomes after the first year and make adjustments.

  Criteria: When planning all interpretation and programming, be sure to:
  - Collaborate with campus and community partners as appropriate.
  - Engage Cornell students in planning and offer events that draw them to participate.
  - Forge connections with people and groups of different cultures.

- **Visitor storytelling:** Develop a system for people to share stories of their personal connections with plants.

  Scope:
  - Format similar to The Morton Arboretum's Tree-mendous Tree Stories.
  - Curate and post stories on our website and promote.
  - Pilot in 2021 season, evaluate, and refine.
  - Encourage couples (both students and alum) to share where they met or had a date within Cornell Botanic Gardens.
  - Pursue funding for a listening station to install in the Nevin Welcome Center for people to share and listen to other visitors' stories.

Objectives: People who share or view shared stories will:
- Develop a deeper sense of connection with plants special to them.
- Gain a deeper appreciation for the diversity of plants and all they provide for us.
- Gain a deeper awareness of the inextricable link between plants and peoples.
- Appreciate the diversity of people and their ideas and world views and all they contribute to a vibrant and healthy world.

- **Highlight the cultural significance of selected plants using small interpretive signs.**

  Scope:
  - Select a dozen plants each year to add to the gardens over time.
  - Use the audio tour format and/or link to website to provide more information.
  - Year 1: Include popular plants in the container garden collection.

  Objectives: People will:
  - Gain a deeper sense of the inextricable link between cultures and plants.
  - Be impressed by the diversity of cultures shaped by plants.
  - Feel inspired to further explore the rich diversity of cultures and plants that sustain them around the world.
  - Be able to explain why conserving biological and cultural diversity is important.

- **Ecological Calendar Project exhibit** in the Nevin Welcome Center is tenatively scheduled for spring 2021. This project is already under development and themes/goals/objectives have been established.

- Construct a "gratitude wall" that includes the words and translation of the word "gratitude" in different languages.

- Continue to offer programs when plants, featured in the Young Garden books, are in bloom.

- Use the discovery cart to create "pop up" engaging interpretation about plants and the cultures that sustain them using activities from past Judy's Days.

  Consider the following:
  - Docents or students could facilitate.
  - Garden ambassadors could use these for outreach activities in the dorms and elsewhere.

- **Identify other locations around our gardens/arboretum to create books similar to the Young Garden books.**

  Justification: This is the second "layer" of interpretation highlighting the inextricable link between plants and peoples. The first layer are the brief small signs next to a select group of plants (listed above), then continues with these more in-depth outdoor booklets with multiple pages that highlight how plants have influenced a wide variety of cultures. This format could potentially be used to highlight trees sacred to cultures worldwide, as well as interpret hydrangeas, rhododendrons, and other culturally-significant plants displayed prominently in our cultivated collections.

  Objectives: The objectives are similar to the ones listed for the signs above.

- **Develop talking points about biocultural conservation** to provide to all staff when they discuss with the public. This could be completed by the biocultural goal team.

- **Demonstrate and interpret horticultural practices and the cultures from which they originated.**

  Justification: Not only are cultures shaped by the plants that are available and sustain them, but modern-day horticultural practices

applied around the world are influenced by practices from different cultures throughout history. Interpreting cultures through this lens emphasizes the value of cultural diversity while showcasing the techniques applied by our expert staff.

Objectives: Visitors will
- Recognize and appreciate that modern-day horticultural practices have been shaped by a wide variety of cultures past and present.
- Feel inspired to further explore the rich diversity of cultures and plants that sustain them around the world.
- Recognize that Cornell Botanic Gardens' horticultural staff cultivate high-quality cultivated collections and steward natural areas to enhance biodiversity at a world class university.

- **Add interpretation to the Asian Summer Garden when funds are raised for it.**

  Further project development that aligns with the interpretive goals and objectives in this plan will start once the funding is received and construction plans are finalized.

STRATEGIES TO EMPOWER VISITORS TO EXPLORE AND APPLY WAYS THAT CONTRIBUTE TO A SUSTAINABLE FUTURE (GOAL 2)

Goal #2 was established to work toward the organization's strategic goals of "using the exceptional experiences our gardens and natural areas afford to change viewpoints and inspire positive action" and "promoting a stewardship ethic by cultivating the next generation of biocultural guardians."

This plan recommends:

- **Building on Cornell's Sustainable Landscapes Trail, orient visitors to areas that showcase and interpret sustainable gardening and land management practices.**

  Scope: There are currently seven "stops" in place within Cornell Botanic Gardens that are part of a 16 stop tour that highlights sustainable landscape features or practices throughout the Cornell campus. Currently in place are posts with a small sign labeling the feature and a QR code to learn about it on a webpage. A Pocketsights™ tour provides a guided walking route to each stop. In order to remove the barrier of having to scan a QR code to read a large amount of text on a website, the scope of this project includes creating a video narrative with images to convey the information. The content in the video and tour should work to communicate Cornell Botanic Gardens' role in achieving Cornell's goal of using campus as a living laboratory for developing sustainable best practices. The future forest iniative should be communicated in appropriate places.

- **Climate change interpretation in the Mundy Wildflower Garden:** Provide orientation to and interpretation at several areas that address solutions to climate change challenges including the weather station and David Weinstein's phenology research, deer management, invasive species management and long-term restoration, hemlock woolly adelgid impact and research, native lawn demonstration area, a plot of plants that are predicted to be affected by climate change (painted trillum, metasequoia, sugar maples, and more), and bee conservation research in collaboration with the Danforth lab.

  Scope: The interpretation coordinator and the natural areas staff are currently developing a plan for how to unify these areas in the Mundy Wildflower Garden to provide the appropriate means for visitors to experience climate solutions first hand with the intention of empowering people to apply these practices in their home landscapes and communities.

  Objectives: Although the objectives will be fully developed as the project progresses, interpretation offered as a part of this project will work to achieving the following interpretive objectives. People will:
  - Realize the urgency of the climate crisis and advocate for change in at least one way.

- Recognize that Cornell Botanic Gardens' cultivated and natural areas demonstrate nature-based solutions for achieving a sustainable future in the face of climate change and further explore them during their visit.
- Want to apply at least one nature-based solution to sustainability in their own life.
- Recognize and appreciate that traditional/indigenous people and their intimate knowledge of Earth's systems greatly contribute to the conservation and sustainable use of the world's biodiversity.

- **Work with students in a class offered in spring of 2021 to reimagine the Climate Change Garden and the associated interpretation.**

  Scope: Because new interpretation will not be ready for the 2021 growing season, staff will continue to offer the current interpretation (signs, brochure, plants inside and outside of the high tunnel).

- **Complete and install any remaining Mundy Wildflower Garden labels.**

  Scope: Beginning in 2018, wooden painted labels were replaced by metal labels with a QR code for people to scan to access more information about the plant. A Cornell student researched the cultural significance of the plant as well as its wildlife value and how it was affected by climate change and the information was populated on a page on our website. So far, 75 labels have been installed and there is research complete for another 25. Staff have to determine how many more plants should have these labels above the 100 already researched.

- **Finalize the design and use the Pounder Vegetable Garden to demonstrate features and practices of a sustainable back yard.**

  Scope: During the 2020 growing season, the beds in this garden were designed to show a variety of sustainable gardening practices including approaches to using cover crops, mulching, companion and succession planting, water conservation and planting in small spaces, and no-till. The garden also demonstrates ways to reduce one's carbon footprint by choosing a diet rich in plant protein and storing your food to reduce food waste.

- **Doggie digester and interpretation**: Raise funds for a doggie-digester and interpret how it is a sustainable practice.

  Justification: Cornell Botanic Gardens, especially the arboretum and some natural areas, has a high use of people walking their dogs. Despite the installation of dog poop stations, staff continue to spend time cleaning up dog waste. Because we strive to demonstrate sustainable practices, this provides an opportunity to showcase how to process dog waste in a way it can be repurposed.

  Scope: Investigate how it is done at the City of Ithaca dog park.

- **Ash tree interpretation:** Interpret ash trees marked to be cut down with a small sign providing access to more info (QR code to website/ audio tour). Encourage donation for planting of replacement trees.

- **Temporary interpretive signs in natural areas:** Provide brief temporary signs along frequently used trails with demonstrations of our approaches to natural areas stewardship (eg. Invasive species management, natural areas stewardship, research, support for hunting program, water quality management). This can be done by creating a template that could be used by natural areas staff to add the appropriate text.

STRATEGIES TO IMPROVE ACCESSIBILITY TO ALL VISITORS

- Improve accessibility to our gardens and natural areas: Identify and prioritize areas that could become ADA accessible should resources be available.
- Provide options for tours during Reunion that are accessible for people with mobility impairments such as tours in Upper Cascadilla Gorge trail as an alternative to the Lower Trail.
- Provide translation in major languages for interpretive signs and audio tours. Identify, prioritize, and phase over two years.

- Add a sign in the welcome center with "welcome" in many languages, which also communicates the availability of interpretation in other languages (part of the self-guided interpretive area in the Nevin Welcome Center).

STRATEGIES TO IMPROVE ACCESS TO BASIC INFORMATION ABOUT ACCESSIONED PLANTS

- Identify which areas need more visible plant labels and create phased implementation and fundraising.
- Add plant lists to our website. Then add signage within gardens for visitors to access them.
- Evaluate the effectiveness of the APGA plant snap app to determine whether we should promote to our visitors. Perhaps a volunteer group could do this.

STRATEGIES FOR INTERPRETING AND ADDING OUTDOOR ART

- Find funding to create a sculpture to honor Barbara McClintock at the shed.
- Identify with the art committee the design and format of the interpretation of art on our grounds. Create interpretation for existing outdoor art.
- Consider installing sculpture to highlight and honor trees sacred to cultures around the world.
- The interpretation coordinator will continue to be part of the art committee to help to select outdoor art that works to achieve Cornell Botanic Gardens' interpretive goals and objectives.

DEPARTURE

During this phase of the visitor experience, we encourage visitors to spend time in the gift shop in the Nevin Welcome Center. Not only will they provide support through their gift shop purchases, they have the opportunity to:

- sign up to receive our e-newsletter.
- make a donation before they leave the welcome center.
- pick up a membership brochure.
- learn about upcoming classes and other further learning opportunities.

CURRENT DEPARTURE STRATEGIES

- Donation box next to the cash register and next to the door leading to the parking lot.
- Paper to leave your name and e-mail to receive e-news updates.
- Brochure rack with membership brochures and brochure with seasonal classes and programs.
- Membership brochures placed in brochure boxes in high-traffic areas.
- Docents are trained to provide membership brochures at the end of all guided tours.

This plan recommends:

- Replace the paper e-news sign-up sheet with a mechanism for direct digital sign up (iPad) at the register.
- Create strategic plan for how to capture more e-mails from alumni during their visit during reunion, TCAM, and/or homecoming.
- Create strategic plan for how to capture more e-mails from students during their visit.
- Identify best means of providing information to students who visit Cornell Botanic Gardens for a casual walk about how else they can engage (display in Nevin, signs around Garden, info kiosks on campus, dorms, other?). Engage student ambassadors for guidance.

5 RECOMMENDATIONS

RETURN-TRIP

A large majority of visitors are from outside the local community and have likely visited other tourist attractions and are interested in exploring more. This audience segment often wants to know how to get to other areas of Cornell Botanic Gardens or other attractions in the county. They also often seek information about where to get food or other refreshments.

CURRENT DEPARTURE STRATEGIES

The visitor services staff have regional guidebooks and maps behind the counter to provide visitors who seek this type of information and are trained to know how to get to nearby restaurants.

THIS PLAN RECOMMENDS

- Identify how to increase number of people that leave e-mail at trailhead kiosks.
- Create a "tear-off" pad of one-page maps of accessible areas within Fall Creek and Cascadilla Gorge.
- Create a "tear-off" pad of one-page maps of hiking trails within the Fall Creek Valley (Morgan-Smith Trail, Park Park, Fall Creek Valley north and south, link to Monkey Run).

POST-TRIP

For this phase of the experience to be successful, visitors need to know how they can continue to learn about future experiences offered by Cornell Botanic Gardens, and/or Cornell Botanic Gardens staff need to obtain visitor contact information (e-mail) to continue to communicate.

CURRENT POST-TRIP STRATEGIES

- Visitors who provide an e-mail at the visitor services desk are added to the e-mail distribution list and are sent updates and news from Cornell Botanic Gardens.
- Regular communication on social media channels (Facebook, Twitter, Instagram).

THIS PLAN RECOMMENDS

- E-mail follow up from Cornell Botanic Gardens within a week of signing up at the Nevin Welcome Center. E-mail includes benefits of membership, and a short survey of the type of information they are most interested in receiving from us.
- Continual additions of resources on our website people can access to learn about actions they can do in their home landscape and community to conserve biological and cultural diversity. For example, create a video that empowers homeowners to remove invasive plants and re-establish native plants using the model of the long-term ecosystem restoration project in the Mundy Wildflower Garden.

VIRTUAL ENGAGEMENT

Not all people who engage with Cornell Botanic Gardens will visit our physical spaces. Our website, social media, and other media outlets are primary means for communicating our mission and how people can support Cornell Botanic Gardens without ever visiting.

The following recommendations are intended to further provide mission-relevant information to virtual audiences via our website:

- Embed our plant records database on our website.
- Add plant lists for all gardens and natural areas to our website.

5 RECOMMENDATIONS

- Complete online Herb Garden catalog. Post on website as gated content requiring email to access.
- Create staff blog to communicate our efforts and expertise with a focus on what changes staff are making in our gardens and natural areas due to the effects of climate change and the intention to become more sustainable. The blogs can also serve the purpose of encouraging people to visit the areas in which we demonstrate these practices to experience them first hand.
- Add information on our website about how we are contributing to Cornell's climate action plan and the overall mission of Cornell and add a link on the research page to a page highlighting our findings on ecosystem restoration in the face of climate change.
- Continue to refresh the research page to include sustainability and climate change-related research projects taking place at Cornell Botanic Gardens.
- Continue to create in-depth video tours of our gardens and natural areas for people to experience virtually. One has been created for the gardens around the Nevin Welcome Center and another is planned for the arboretum in fall.

EVALUATION

A significant investment in staff time and funds are required to plan, write, design, fabricate, and install the various means of interpretive services recommended in this plan. Therefore, it is critical to ensure these interpretive materials are accomplishing the goals and objectives established here. Several evaluation methods should be used to measure success both during the development phase and following implentation.

THIS PLAN RECOMMENDS

- Conduct a visitor survey during in 2021. The survey should include measuring the motivations, interests, level of knowledge of interpretive concepts, and expectations of target audiences as well as use of our areas. Use these data as a baseline for another survey several years later to measure an increase of understanding of interpretive concepts and achievement of interpretive objectives.
- Continuous audience evaluation: Find an easy way for people to take a quick exit survey at the welcome center (iPad at the desk or e-mail them a survey after their visit).
- Conduct formative and summative evaluation for all interpretive media and services.

  Formative Evaluation: Formative, or front end, evaluation is incorporated during the development of interpretive materials to ensure the best product. For example:
  - All text is subject to style analysis to ensure that it complies with accepted guidelines for each audience (sentence length, structure, readability, use of active voice, technical language).
  - Text should be tested on members of the appropriate audiences, and revised as necessary.
  - Mockups will be utilized wherever possible within time/cost constraints, for focus group evaluation.

  Summative Evaluation: Summative evaluation takes place once material is in the field. This focuses on evaluation against our desired outcomes. Pre- and post-visit testing will be conducted periodically to assess change in awareness and knowledge regarding our messaging.

FURTHER READING To more fully understand how the interpretive strategies listed in this section work together to achieve Cornell Botanic Gardens' interpreitve goals, Appendix D provides a list of the interpretive strategies recommended to achieve each interpretive objective.

WELCOME TO

THE POUNDER VEGETABLE GARDEN

PLANTS HAVE FAMILIES, TOO!

The plant kingdom is organized into groups based on shared characteristics, which is useful for studying and identifying plants. Here you can explore food plants displayed alongside their relatives in 11 different families.

Signs also highlight ways to:

- Use water efficiently
- Attract pollinators and other beneficial insects
- Practice Integrated Pest Management
- Grow perennial fruits and vegetables
- Use organic materials and methods
- Compost plant waste
- Nourish your soil
- Learn how a changing climate affects the plants we grow

6 IMPLEMENTATION SCHEDULE

The recommendations included in this plan have been prioritized and listed in the following five-year implementation plan.

Notes:
- Each fiscal year has been divided into two, six month blocks. July-Dec. is indicated by an "A" and Jan. - June is indicated by a "B."
- For most items below, staff and supporters who will be participating in the development process are listed in orange.

ORIENTATION, WAYFINDING, AND VISITOR SERVICES

PROJECT NAME AND DETAILS	2019-2020		2020-2021		2021-2022		2022-2023		2023-2024	
	A	B	A	B	A	B	A	B	A	B
Audience Evaluation and Engagement										
Visitor survey: Conduct a visitor survey during 2021 to measure the motivations, interests, levels of knowledge of interpretive concepts, and expectations of target audiences as well as use of our areas. Communications Team, Senior Leadership Team				x	x					
Continuous audience evaluation: Find an easy way for people to take a quick exit survey at the welcome center (iPad at the desk or e-mail them a survey after their visit). Visitor Services Coordinator, Interpretation Coordinator				x	x	x	x	x	x	x
Replace the paper e-news sign-up sheet with a mechanism for direct digital sign up (iPad) at the register. Visitor Services Coordinator, Interpretation Coordinator					x					
Create a strategic plan identifying what and how to communicate with alumni. Include capturing more e-mails during Cornell events (Reunion, TCAM, Homecoming) and communicating directly with class officers prior to Reunion and Homecoming to encourage alumni visitation during these events. Development Staff, Communications Team		x	x	x	x	x				
Create strategic plan identifying what and how to communicate with students. Garden Ambassadors, Communications Team, Student & Public Engagement Coordinator		x	x	x	x					
Identify best means of providing information to students who visit Cornell Botanic Gardens for a casual walk about how else they can engage (display in Nevin, signs around Garden, info kiosks on campus, dorms, other?). Garden Ambassadors, Communications Team, Student & Public Engagement Coordinator, Visitor Services Coordinator		x	x	x						
Accessibility										
Improve accessibility to our gardens and natural areas: Identify and prioritize areas that could become ADA accessible should resources become available. Senior Leadership Team, Visitor Services Coordinator, Interpretation Coordinator				x	x	x	x	x	x	x
Provide options for tours during Reunion that are accessible for people with mobility impairments such as tours in Upper Cascadilla Gorge trail as an alternative to the Lower Trail. Development Staff, Interpretation Coordinator, Natural Areas Director and Project Manager				x	x	x	x	x	x	x
Provide translation in major languages for interpretive signs and audio tours. Identify, prioritize, and phase over two years. Add a sign in our welcome center with "welcome" in many languages. Interpretation Coordinator, Executive Director, staff subcommittee TBD				x	x	x	x			

6 IMPLEMENTATION SCHEDULE

PROJECT NAME AND DETAILS	2019-2020		2020-2021		2021-2022		2022-2023		2023-2024	
	A	B	A	B	A	B	A	B	A	B
Complete effort to achieve level AA conformance based on Web Content Accessibility Guidelines (WCAG) 2.0 as required by Cornell. Interpretation Coordinator		x	x							
Pre/post-arrival experience										
Display Nevin Welcome Center hours in the parking lot. Interpretation Coordinator, Visitor Services Coordinator, Graphic Designer				x						
Brief video introducing the Cornell Botanic Gardens experience. Promote on website and other appropriate channels. Communications Team				x	x					
Self-serve orientation area in the Nevin Welcome Center, which includes simple instructions on all ways to explore Cornell Botanic Gardens (self-guided tours, recommended routes, guided tours and events, guidebook). Include passport when completed. Interpretation Coordinator, Graphic Designer, Visitors Services Coordinator				x	x					
Promote the TCAT bus stop on Judd Falls Rd. on our website and other materials. Interpretation Coordinator			x							
Review all Google map locations for all areas on our website to make sure they are accurate. Interpretation Coordinator			x							
Add a map on our website that people can download and print easily. Interpretation Coordinator			x							
Evaluate the use of the interactive map on our website and adjust if necessary. Communications Team			x	x						
Improve on how we communicate which resources are available on our website for our three target audiences. Interpretation Coordinator			x	x						
Provide information about interpretive opportunities to horticulture staff so they can share with visitors who inquire (self-guided tours, upcoming events, info available on website). Interpretation Coordinator, Horticulture Staff				x	x					
Plant identification										
Identify which areas need more visible plant labels and create phased implementation and fundraising. Interpretation Coordinator, Plant Records Manager, Director of Horticulture		x	x	x	x	x	x	x	x	x
Embed our plant records database on our website. Interpretation Coordinator		x								
Add plant lists to our website and add signage within gardens for visitor access. Interpretation Coordinator		x	x	x						
Evaluate the effectiveness of the APGA plant snap app to determine whether we should promote to our visitors. Perhaps a volunteer group could do this. Interpretation Coordinator, volunteer subcomitee				x	x					
Visitor behavior										
Complete installation of more rules of etiquette signs around the gardens. Interpretation Coordinator, Graphic Designer, Landscape Designer, Visitor Services Coordinator			x							
Create strategic communication campaign to encourage visitors to keep their dog on a leash and clean up after them. Communications Team, Natural Areas Staff					x	x				

6 IMPLEMENTATION SCHEDULE

PROJECT NAME AND DETAILS	2019-2020		2020-2021		2021-2022		2022-2023		2023-2024	
	A	B	A	B	A	B	A	B	A	B
Orientation and wayfinding										
Introductory signs for remaining gardens around the welcome center that don't have them (Groundcover Collection, Hillside garden, Rock Garden, North Walk). Seek funding in 2020-2021. Design/install in 2021-2022. Interpretation Coordinator, Graphic Designer, Horticulture Staff, Director of Development, Education Director				x	x	x				
Complete installation of wayfinding signs to connect all of our on-campus gardens and natural areas to each other and key areas on campus. Phase over 2 ½ years. Interpretation Coordinator, Graphic Designer, Landscape Designer, University Architect			x	x	x					
Upper Cascadilla Gorge path orientation sign(s) Interpretation Coordinator, Graphic Designer, Natural Areas Director, Education Director			x	x						
Mundy Wildflower Garden path orientation sign Interpretation Coordinator, Graphic Designer, Natural Areas Director, Education Director, Wildflower Garden Curator			x	x						
Beebe Lake Dam interpretation sign Interpretation Coordinator, Graphic Designer, Natural Areas Director, Education Director	x	x	x							
Create printed guidebook (passport) to hiking Cornell Botanic Gardens. Identify strategy to promote and distribute. Communications Team, Natural Areas Project Manager			x	x	x					
Convert remaining Path Guide loops into Pocketsights™ Tours Interpretation Coordinator			x	x						
Continue to add trailhead kiosks in natural areas. Prioritize and add each year. Identify how to increase number of people that leave e-mail at trailhead kiosks (possibly part of the new printed guidebook?). Interpretation Coordinator, Graphic Designer, Education Director, Natural Areas Director				x	x	x	x	x	x	x
Assess the efficacy of trail markers installed in Fall Creek Valley and identify need for additional markers in other natural areas. Implement if needed. Interpretation Coordinator, Natural Areas Stewardship Coordinator					x	x				
Create Pocketsights™ tours to provide guided routes to Cornell Botanic Gardens from key points on campus. Interpretation Coordinator, Garden Ambassadors			x	x						
Create prominent gateways at entrances to Cornell Botanic Gardens from campus. Add more markers that indicate when people are within Cornell Botanic Gardens. Fundraise, implement over three years. Senior Leadership Team, Interpretation Coordinator, University Landscape Architect				x	x	x	x	x	x	x
Add signage promoting the use of the Lowi Lawn and where to access the croquet sets. Communications Team			x	x						
Connect with planners of the North Campus residential expansion to make sure our areas are integrated to the wayfinding signs around this area. University Landscape Architect, Interpretation Coordinator			x	x						
Continue to create in-depth video tours of our gardens and natural areas for people to experience virtually. One has been created for the gardens around the Nevin Welcome Center and another is planned for the arboretum in fall. Interpretation Coordinator, Graphic Designer, Community and Student Outreach Coordinator, Director of Education		x	x	x	x					

6 IMPLEMENTATION SCHEDULE

BIOLOGICAL AND CULTURAL CONSERVATION INTERPRETATION

PROJECT NAME AND DETAILS	2019-2020		2020-2021		2021-2022		2022-2023		2023-2024	
	A	B	A	B	A	B	A	B	A	B
Whenever possible, feature words/phrases that reflect a culture's relationship with the natural world (e-communications, exhibit, sign, plant labels). Include in exhibit on the Ecological Calendar Project.	x	x	x	x	x	x	x	x	x	x
Ecological Calendar Project exhibit in Nevin Welcome Center scheduled to open in June 2021, Interpretation Coordinator, Director of Education, Graphic Designer, Executive Director		x	x	x						
Continue to display bioculturally-focused exhibits in the Nevin Welcome Center as part of the current theme year. Interpretation Coordinator, Graphic Designer, additional staff TBD	x	x	x	x	x	x	x	x	x	x
Bioculturally-focused theme years: Offer programming, seasonal plant displays, and interpretation focused around a theme that highlights the interdependence of biological and cultural diversity. Staff team representing all departments	x	x	x	x	x	x	x	x	x	x
Form committee to identify themes for next four years.			x							
Plan for 2021 theme		x	x							
Evaluate intended outcomes for 2021 theme and make adjustments for future theme years.				x	x					
Plan for 2022 theme				x	x					
Plan for 2023 theme						x	x			
Plan for 2024 theme								x	x	
Create a biocultural theme each year for the container collection and other displays of plants and interpret in conjunction with the theme for that year. Interpretation Coordinator, Landscape Designer, and other hort staff that care for this collection				x	x	x	x	x	x	x
Visitor storytelling: Develop a system for people to share stories of their personal connections with plants. Interpretation Coordinator, Community and Student Outreach Coordinator, Garden Ambassadors			x	x	x					
Pursue funding for a listening station to install in the Nevin Welcome Center for people to share and listen to other visitors' stories. Interpretation Coordinator, Community and Student Outreach Coordinator					x	x				
Continue to offer programs when plants, featured in the Young Garden books, are in bloom. Community and Student Outreach Coordinator, Young Garden Curator	x	x	x	x	x	x	x	x	x	x
Use the discovery cart to create "pop up" engaging interpretation about plants and the cultures that sustain them using activities from past Judy's Days. Interpretation Coordinator, Community and Student Outreach Coordinator, Garden Ambassadors, Volunteers				x	x	x	x	x	x	x
Continue to collaborate with Steve Henhawk, the Cayuga community, and Ganondagan State Historic Site to provide meaningful interpretation to our visitors. Build partnership in 2020-2021 and develop plan for on-going projects. Staff team TBD		x	x	x	x	x	x	x	x	x
Acknowledge that the traditional homeland of the Cayuga community is now the location of Cornell and Cornell Botanic Gardens wherever appropriate (before programs and events, on signs, exhibits). All staff as appropriate		x	x							

6 IMPLEMENTATION SCHEDULE

PROJECT NAME AND DETAILS	2019-2020		2020-2021		2021-2022		2022-2023		2023-2024	
	A	B	A	B	A	B	A	B	A	B
Highlight the cultural significance of selected plants using small interpretive signs. Select a dozen each year to add to the gardens over time. Interpretation Coordinator, Graphic Designer, horticulture staff			x	x	x	x	x	x	x	x
Identify other locations around our gardens/arboretum to create books similar to the Young Garden books. Interpretation Coordinator, Graphic Designer, horticulture staff					x	x	x	x	x	x
Develop talking points about biocultural conservation to provide to all staff when they discuss with the public. This could be completed by the biocultural goal team. Interpretation Coordinator, horticulture staff			x	x						
Complete online Herb Garden catalog. Post on website as gated content requiring email to access. Interpretation Coordinator, Graphic Designer, Herb Garden curator				x	x	x				
Demonstrate and interpret horticultural practices and the cultures from which they originated. Interpretation Coordinator, Horticulture staff, Graphic Designer					x	x	x	x		
Prepare exhibits that can be rented for use in other public spaces (biocultural-focused ones like the Tree of Peace, gourds, peppers, Quinoa/Chia/Amaranth, ash baskets). Interpretation Coordinator, Graphic Designer					x	x	x	x	x	x
Construct a "gratitude wall" that includes the word and translation of the word "gratitude" in different languages. Community and Student Outreach Coordinator, Garden Ambassadors			x	x	x					
Add interpretation to the Asian Summer Garden when funds are raised for it. Interpretation Coordinator, Graphic Designer, Summer Garden curator										

CLIMATE CHANGE & SUSTAINABILITY INTERPRETATION

PROJECT NAME AND DETAILS	2019-2020		2020-2021		2021-2022		2022-2023		2023-2024	
	A	B	A	B	A	B	A	B	A	B
Building on Cornell's Sustainable Landscapes Trail, orient visitors to areas that showcase and interpret sustainable gardening and land management practices and provide additional interpretive media beyond what is currently offered. Interpretation Coordinator, Graphic Designer, Natural Areas Director, Education Director, Horticulture Director			x	x						
Offer a mix of interpretive media focused on climate change interpretation in the Mundy Wildflower Garden: Orient visitors to several areas that address solutions to climate change challenges including the weather station and David Weinstein's phenology research, deer management, invasive species management and long-term restoration, HWA impact and research, native lawn demonstration area, a plot of plants that are predicted to be affected by climate change (painted trillum, metasequoia, sugar maples, etc.), and bee conservation research in collaboration with the Danforth lab. Interpretation Coordinator, Graphic Designer, Natural Areas Director, Wildflower Garden Curator			x	x	x	x				
Create a video to promote the long-term ecosystem restoration project in the Mundy Wildflower Garden with the message to homeowners that they can do this at home. Interpretation Coordinator, Graphic Designer, Natural Areas Director, Wildflower Garden Curator					x	x	x			

6 IMPLEMENTATION SCHEDULE

PROJECT NAME AND DETAILS	2019-2020		2020-2021		2021-2022		2022-2023		2023-2024	
	A	B	A	B	A	B	A	B	A	B
Create staff blog to communicate our efforts and expertise with a focus on what changes staff are making in our gardens and natural areas due to the effects of climate change and to become more sustainable. Communications and Marketing Director, Interpretation Coordinator, staff experts	x	x	x	x	x	x	x	x	x	x
Add information on our website about how we are contributing to Cornell's climate action plan and the overall mission of Cornell. Add a link on the research page to one highlighting our findings on ecosystem restoration in the face of climate change. Interpretation Coordinator			x	x						
Continue to refresh the research page to include sustainability and climate change-related research projects taking place at Cornell Botanic Gardens. Interpretation Coordinator, Natural Areas Director, Horticulture Director	x	x	x	x	x	x	x	x	x	x
Work with students in a class offered in spring of 2021 to reimagine the Climate Change Garden and associated interpretation. Education Director, Landscape Architect Professor Josh Cerra, Interpretation Coordinator				x	x	x	x			
Complete and install any remaining Mundy Wildflower Garden labels. Wildflower Garden Curator, Staff Botanist, Interpretation Coordinator			x	x	x	x	x			
Finalize the design and use the Pounder Vegetable Garden to demonstrate features and practices of a sustainable back yard. Pounder Garden Curator, Horticulture Director, Landscape Designer, Interpretation Coordinator		x	x	x	x	x				
Raise money for a doggie-digester and interpret how it is a sustainable practice. Interpretation Coordinator, Horticulture Director							x	x		
Interpret ash trees marked to be cut down with a small sign providing access to more info (QR code to website/audio tour). Encourage donation for planting of replacement trees. Interpretation Coordinator, Natural Areas Director, Graphic Designer		x	x							
Provide brief temporary signs along frequently used trails with demonstrations of our approaches to natural areas stewardship (eg. Invasive species management, natural areas stewardship, research, support for hunting program, water quality management). This can be done by creating a template that could be updated by staff working in those spaces. Interpretation Coordinator, Natural Areas staff				x	x	x	x	x	x	x
Complete the creation of interpretive signs for IPM staff to place next to an area that demonstrates a pest control approach. Interpretation Coordinator, IPM Horticulturalist				x						
Building on Cornell's Sustainable Landscapes Trail, orient visitors to areas that showcase and interpret sustainable gardening and land management practices and provide additional interpretive media beyond what is currently offered. Interpretation Coordinator, Community and Student Outreach Coordinator, Graphic Designer			x	x						
Provide a mix of dlimate change interpretation in the Mundy Wildflower Garden: Orient visitors to several areas that address solutions to climate change challenges including the weather station and David Weinstein's phenology research, deer management, invasive species management and long-term restoration, HWA impact and research, native lawn demonstration area, a plot of plants that are predicted to be affected by climate change (painted trillum, metasequoia, sugar maples, etc.), and bee conservation research in collaboration with the Danforth lab. Interpretation Coordinator, Graphic Designer, Wildflower Garden Curator, Natural Areas Director			x	x	x	x				

6 IMPLEMENTATION SCHEDULE

PROJECT NAME AND DETAILS	2019-2020		2020-2021		2021-2022		2022-2023		2023-2024	
	A	B	A	B	A	B	A	B	A	B
Create a video to promote the long-term ecosystem restoration project in the Mundy Wildflower Garden with the message to homeowners that they can do this at home. Interpretation Coordinator, Graphic Designer, Wildflower Garden Curator, Natural Areas Director					x	x	x			
Create staff blog to communicate our efforts and expertise with a focus on what changes staff are making in our gardens and natural areas due to the effects of climate change and to become more sustainable. Communications and Marketing Director, staff experts	x	x	x	x	x	x	x	x	x	x
Add information on our website about how we are contributing to Cornell's climate action plan and the overall mission of Cornell. Add a link on the research page to one highlighting our findings on ecosystem restoration in the face of climate change. Interpretation Coordinator, Director of Natural Areas			x	x						

OUTDOOR ART INITIATIVES

PROJECT NAME AND DETAILS	2019-2020		2020-2021		2021-2022		2022-2023		2023-2024	
	A	B	A	B	A	B	A	B	A	B
Find funding to create a sculpture to honor Barbara McClintock at the shed. Art Committee					x	x				
Identify the design and format of the interpretation of art on our grounds. Create interpretation for existing outdoor art. Art Committee				x						
Consider installing sculpture to highlight and honor trees sacred to cultures around the world. Art Committee				x	x	x	x	x	x	x
Continue participation by the interpretation coordinator on the art committee to assist in selecting outdoor art that works to achieve Cornell Botanic Gardens' interpretive goals and objectives.	x	x	x	x	x	x	x	x	x	x

ADDITIONAL INITIATIVES

PROJECT NAME AND DETAILS	2019-2020		2020-2021		2021-2022		2022-2023		2023-2024	
	A	B	A	B	A	B	A	B	A	B
Offer docent trainings on how to integrate our updated interpretive themes into their tours.		x	x	x						
Train docents to lead gorge tours				x	x					
Update McConville Barn sign. Interpretation Coordinator, Director of Development, Graphic Designer		x	x	x						
Work with the Garden Ambassadors to create a gratitude wall. Community and Student Outreach Coordinator, Garden Ambassadors			x	x	x					

APPENDIX A

Cornell University's varied topography and landscape is what defines its scenic beauty. Cornell Botanic Gardens is responsible for most of these natural treasures, overseeing one-third of the Ithaca, New York, campus, and with off-campus natural areas, a total of 3,600 acres.

HOW CORNELL BOTANIC GARDENS CAME TO BE: A TIMELINE

The vision to secure space for an "outdoor laboratory" began with the birth of Cornell University in 1865. Early Cornell leaders envisioned areas for natural study, research, and enjoyment, as well as display gardens in which "plants are displayed so appropriately that at first there is interest, then appreciation for their many values for human use and enjoyment."

Over the 150 years since its founding, plans for what is now Cornell Botanic Gardens were formed and manifested.

1870-1911– Albert Prentiss and Willard Rowlee, as university grounds superintendents "set apart the arboretum from Cornell."

1909– Cornell Alumni recognized the need to preserve and protect the gorges surrounding the University.

1914– An area for a Botanic Garden and Arboretum were part of a Cornell University Master Plan.

1925– The first plan for an "arboretum, including Cascadilla and Fall Creek Gorges" is approved by the Board of Trustees.

1936– The northern half of Comstock Knoll was officially transferred to the Cornell Arboretum by the Department of Forestry.

1935-1941–The Civilian Conservation Corps established at Cornell to build infrastructure for arboretum site to "pave the way for plantings to follow."

1944–Professor Liberty Hyde Bailey, trustee of the Arboretum Committee, suggests the name Cornell Plantations, which is approved. This is considered the founding year of Cornell's botanic garden and arboretum.

1958– The "Sponsoring Committee" is established to provide alumni support and advice.

1963– The Mundy Wildflower Garden is established.

1964 – The Forest Home School becomes Cornell Plantations' headquarters, now the Lewis Building. The first Rhododendrons are planted on Comstock Knoll.

1965– Land ceded to Cornell Plantations from Cornell to increase the size the arboretum. Richard Lewis is named first director.

1973– The Clement Gray Bower's Rhododendron Collection on Comstock Knoll is dedicated.

1974– The Robison York State Herb Garden is dedicated.

1977– Cornell assigns stewardship of university natural areas to Plantations.

1981– The expansion of the arboretum is completed and it becomes the F. R. Newman Arboretum. The Young Flower Garden, and Heasley Rock Garden are dedicated.

1987– The Groundcover Collection is dedicated.

2000-2007– Plantations completes a series of capital improvement projects, which includes the construction of the Arboretum Building (2000), Horticulture Building (2001), Ramin Administration Building (2003), Rowley Carpentry Shop (2004), and the Lath House and Plant

APPENDIX A

Production Facility, with renovations to the Lewis Education Building (2007-8).

2001– The Mullestein Winter Garden is dedicated.

2008– Plantations works with Architects Baird, Sampson and Neuert to design a new welcome center.

2009– Plantations completes the Interpretive Master Planning Process.

2010– The Brian C. Nevin Welcome Center dedicated

2014– Christopher Dunn hired as director and begins process of evaluating brand and strategic direction of Cornell Plantations

2015– Strategic planning begins

2016– University Board of Trustees approves name change from Cornell Plantations to Cornell Botanic Gardens

2017- Strategic plan adopted, establishing Cornell Botanic Gardens' aim to be leaders in connecting plants and peoples for a world of beauty, diversity, and hope

2018– Cornell Botanic Gardens successfully meets first-year objectives of plan

2020- Cornell Botanic Gardens completes the interpretive master planning process

LAND USE HISTORY OF CORNELL BOTANIC GARDENS

The Cornell University campus and areas managed by Cornell Botanic Gardens are located in Tompkins County in central New York, which encompasses the southern end of Cayuga Lake, one of 11 lakes within the Finger Lakes Region. While the cultivated collections of Cornell Botanic Gardens are located on the Cornell campus, most natural areas are dispersed throughout Tompkins County, and two located in neighboring counties.

The deep gorges, glacially-carved lake valleys, rolling hills, and wetlands of the Finger Lakes Region host a wide range of habitats, each with differing plant communities. Most of the land in this region was originally forested, but the topography and plant composition within natural spaces today have been altered by varying levels of human activity.

Humans have inhabited the Finger Lakes Region as far back as 11,500 BCE, shortly after the most recent glacier retreated from this area. Over time, population density shifted and gradually increased. During the time of initial European contact, the land that today includes Tompkins County was the homeland of the Gayogo̲hó:nǫ' (Cayuga Nation), or "People of Great Swamp"—one of six nations of the Haudenosaunee (Iroquois). Most of their impact on forested lands occurred in close proximity to their villages, where they harvested wood and other plant materials, applied burning techniques to manage forests, and cleared some areas for agriculture and trails. Recorded documents describe Gayogo̲hó:nǫ' villages as thriving with vast stores of food for everyone in the event of a failed growing season. Gayogo̲hó:nǫ' acknowledge they are part of a complex web of life, in which every part is necessary. With this understanding given by The Creator comes the responsibility of maintaining the balance and harmony of all beings. This environmental philosophy along with the relatively low population of Gayogo̲hó:nǫ' in Tompkins County likely resulted in limited impact on the original vegetation of this area.

Aside from the occasional missionary and trader, Gayogo̲hó:nǫ' had minimal direct contact with Europeans within their territory until the Revolutionary War. Believing Gayogo̲hó:nǫ' sided with the British during the war, George Washington ordered General John Sullivan to drive Gayogo̲hó:nǫ' out of the area toward the west. In 1779, Sullivan's troops traversed the east and west side of Cayuga Lake, systematically destroying villages, agricultural fields, stockpiled food, and any inhabitants. Prior to the soldiers' arrival Gayogo̲hó:nǫ' learned of the approaching armies and fled their villages for Fort Niagara to seek help from the British. After the war some Gayogo̲hó:nǫ' returned to

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their homeland and others relocated to the Six Nations Reserve in Ontario, Canada, on a Seneca Reservation in western New York, or on a reservation in Oklahoma. Between 1789 and 1807, a series of treaties were negotiated that greatly reduced Gayogo̲hó:nǫ' territory and by 1841, the last section of Gayogo̲hó:nǫ' traditional homeland was ceded to New York State. This loss of Gayogo̲hó:nǫ' land has been contested since that time, disputing the legality of the treaties. Starting in 2003, Gayogo̲hó:nǫ' have purchased land in their traditional territory, establishing homes and businesses, including a schoolhouse built in 2015 for classes, meetings, ceremonies, and other community gatherings. They continue to feel deeply connected and concerned for the plants, animals, waters, and all natural features of their traditional homeland.

It wasn't until the 1790's that the forests of Tompkins County and the Finger Lakes began to experience changes of a much greater magnitude. The northern portion of Tompkins County was divided and provided as payment for veterans' service in the Revolutionary War. As the land was developed, towns sprang up by the early 1800s, and when a railroad reached Ithaca by the 1830's, forest cleared for farming increased. In the flatter northern part of the county, approximately 90% of forested land was cleared for agriculture by the turn of the 20th century, while 70% of the hilly southern portion was cleared. By the early 1900s, fields and entire farms were abandoned, as plowing proved difficult, crop yields were low, and agricultural products were able to be imported from further away. The vegetation types that emerged from abandoned farm fields were categorized as "post-agricultural successional fields" and "post-agricultural successional forest" and have different compositions of plants than the original deciduous forests. In 2000, 50% of Tompkins County was forested. These forests are a mosaic of former farm fields abandoned at different times (about 50%), forests that were never cleared but were extensively logged or used as pastures, and a smaller portion are remnants of old-growth forest.

The extensive human land use over the past few hundred years has also resulted in the loss of some native plants (approximately 30) and the introduction of non-native plants. Mostly agricultural weeds or ornamental plants, there are presently over 700 non-native plants in the region, which account for 35% of total plant species, according to F. R. Wesley, staff botanist for Cornell Botanic Gardens. The majority of these non-natives are not very common and not invasive in the region, but the handful of species that are invasive pose a threat to the diversity of plant communities and require extensive management to control their spread.

In addition to the loss of some native plants, a small number of tree species that were abundant in original forests have greatly decreased in numbers, primarily due to diseases introduced from Asia and Europe. Significant cases include the chestnut blight (1920s), Dutch Elm disease (1960s), and beech bark disease (1980s). Despite these diseases, you can still see young elm trees and chestnut saplings in the forest understory, as well as an occasional older chestnut and American elm, and American beech still persists. More recently, hemlock woolly adelgid (2009) and emerald ash borer (2018) are greatly impacting the populations of eastern hemlock and American ash.

The diverse habitats of the Finger Lakes Region are invaluable for education and research. The 3,600 acres of natural areas stewarded by Cornell Botanic Gardens provide the opportunities for Cornell students, faculty, and the general public to enjoy these spaces and explore the full range of ecological communities found in the Finger Lakes Region.

Sources

Guide to the Plant Communities of the Central Finger Lakes Region by Charles L. Mohler, Peter L. Marks, and Sana Bardescu

Smith Woods: The Environmental History of an Old Growht Forest Remnant in Central New York State by Warren D. Allmon, Marvin V. Pritts, Peter L. Marks, Blake P. Epstein, David A. Bullis,and Kurt A. Jordan

Tompkins County Timeline exhibit at The History Center, Ithaca, New York

Lecture: "Destroyed, Forgotten, Never Noted: Ithaca's Hidden Indigenous History", September 19th 2015 by Professor Kurt Jordan, PhD Associate Professor of Anthropology & American Indian Studies at Cornell University

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BRIEF GEOLOGIC HISTORY OF CORNELL BOTANIC GARDENS

Cornell University's varied topography and landscape is what defines its scenic beauty. Woven within Cornell's main campus, people can ascend deeply cut gorges, and pass water rushing over sizeable waterfalls or quietly meandering through its bed of bedrock. Most of Cornell Campus' attractive open space is cared for by Cornell Botanic Gardens, which offers several bird's-eye views of its unique landscape, characterized by a chain of "bowls" rounded out by nearby Fall Creek for thousands of years. Liberty Hyde Bailey, founder of Cornell Botanic Gardens, once said, "Cornell University with its State Colleges has a great domain, notable for the diversity of its soils and contours and for the command of distant landscapes."

Water is the main character in the geologic story of the Finger Lakes Region, including Cornell Botanic Gardens, and dates back millions of years. Water, in many forms, has shaped the stunning and varied landscape we enjoy today.

The foundation of this landscape, its bedrock, was formed during the Silurian and Devonian periods, between 438 and 360 million years ago. At that time, this area was submerged beneath a shallow, inland ocean bordered to the east by a vast mountain chain, referred to as the Acadian Mountains. Mountain streams deposited gravel, sand, and mud into the shallow ocean and, over time, deep layers of sediment accumulated on the ocean floor, to become the shale, siltstone, sandstone, and limestone of this region's underlying bedrock.

We can thank water in the form of glaciers for today's landscape of rolling hills, and deeply cut gorges. Between two million and 12,000 years ago, glaciers intermittently covered this area, during the period known as Pleistocene Glaciation. This cycle of glacial advances and retreats bulldozed through shallow river valleys, leaving in their place the deep and narrow Finger Lakes of today, including nearby Cayuga Lake. At the end of the most recent glacial advance, many stream valleys were left to plunge over the glacially-steepened walls of Cayuga Lake and have spent the past 12,000 years carving deep into the lake's hillsides. Bordering Cornell campus to the north and south, Cascadilla and Fall Creeks are two examples of such hillside streams, which have carved deep chasms into the bedrock, during their steep descent from campus to meet Cayuga Lake in the valley below. Both gorges' unique waterfalls and looming gorge walls are signature to Cornell Campus' scenic beauty, which are managed and protected as part of Cornell Botanic Gardens.

Upstream from these gorges, the grade of the land becomes much gentler and both stream corridors wind through campus, residential areas and, in large part, woodlands and meadows cared for by Cornell Botanic Gardens. As equally dramatic as deeply-cut gorges, the waters of Fall Creek have carved a chain of rounded out "bowls" in the landscape since the last glacier's retreat. Geologists believe the waters of Falls Creek spent thousands of years carving a wide and rounded valley prior to the emergence of the most recent glacier. During its retreat, the glacier "buried" Fall Creek's pre-glacial valley with accumulated debris. Since then, Fall Creek has been re-excavating its pre-glacial valley. In some places, Fall Creek did not uncover its buried gorge, but instead carved a new route through bedrock. "Hemlock Gorge" at the east mouth of man-made Beebe Lake is one example of this.

This chain of five post-glacial "bowls" comprises the majority of on-campus areas of Botanic Gardens, including the 25-acre area around the Nevin Welcome Center and 150-acre arboretum. Cornell Botanic Gardens' dynamic topography is ideal for the display of its diverse cultivated collections. These collections of natural areas and cultivated plants are a great asset to the university, as they are used for education and research by the Cornell community and the general public, and is regarded as a well-known regional tourist attraction.

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On behalf of Cornell University, Cornell Botanic Gardens staff curate and cultivate 6,100 unique accessioned plants (some of which are very rare) in gardens around the Nevin Welcome Center and throughout the F. R. Newman Arboretum. Staff also steward 44 natural areas encompassing 3,600 acres including Beebe Lake, Cascadilla Gorge, and Fall Creek Gorge, and other iconic places on campus, and throughout Tompkins County.

GARDENS AROUND THE NEVIN CENTER GARDENS

Robison York State Herb Garden
Here, there are more than 400 species of herbs, or plants that have use or other significance to humans, organized in 17 theme beds. They reflect how plants are valued by people for food, flavor, fiber, medicine, fragrance, and spiritual and cultural associations. The garden's hardscape integrates the local rural style with Llenroc stone walls, split rail fences and metal gates. The garden was designed with wide grass spaces to accommodate large groups and raised beds in the center of the garden to allow people to view plants at eye-level. Benches were integrated into the raised beds in the center of the garden for people to relax and enjoy the garden's scenic beauty.

This garden's creation stemmed from the passion and persistence of Audrey O'Connor, former editor. Dedicated in 1974, it was the first garden of the botanic garden collection and serves as the foundation of Cornell Botanic Gardens interpretive focus on the inextricable link between peoples and plants. This garden was a gift of alumnus Ellis H. Robison in tribute to his wife, Doris Burgess Robison, an accomplished gardener. Much of the inspiration, information, and labor for the garden originally came from a community group with a special interest in herbs—The Auraca Herbarists (Auraca is a contraction of the town names Aurora and Ithaca). Auraca is still active and members support Cornell Botanic Gardens in many ways.

Martha Howell Young Flower Garden
Plants in this garden celebrate the human relationship to significant and useful plants by revealing how they are reflected in art, literature, ceremony, the symbolic meanings they communicate, and the emotions they evoke. There are ten outdoor booklets that are changed throughout the growing season which focus on the lore and cultural uses of the rose, carnations & pinks, daisy, sunflower, poppy, lily, iris, tulip, peony, and chrysanthemum. The garden's antique water trough is carved out of a single block of stone. This garden was endowed by John Young (class of '27) in memory of his wife who was very good friends with Doris Burgess Robison. It was dedicated on June 11, 1981. The garden was designed by James Clawson, a graduate student in Landscape Architecture, part of the Department of Floriculture and Ornamental Horticulture.

Mullestein Winter Garden
This garden was designed to provide an attractive and interesting garden setting during the colder months. Over 700 plants were selected for their attractive and interesting form, persistent fruit and/or cones, evergreen foliage, later fall or early spring flowering, colorful twigs and exfoliating or mottled bark. A winter garden is appropriate here because our winters are so long, therefore any color and winter garden interest is welcome. We wanted a garden with year-round appeal to visitors, and one that students can enjoy when they are here! This is the first of its kind for a university in the U.S, and is at its best in November through March. The garden was funded by Whitey Mullestein '32, a longtime sponsor of Cornell Botanic Gardens, who also funded the hillside garden above the herb garden. Mullestein is German for "millstone," which is why a raised millstone is featured in the center of the garden. The garden was dedicated on May 8, 2001.

There are three millstones connected by a central axis running though three gardens above. The millstone in the herb garden was found along the banks of Fall Creek. The millstones in the flower and winter gardens are a pair that came from a mill elsewhere in Tompkins County. The center paths are stone dust and flagstone. There is an intentional subtle grade, just under 2%, which draws attention to the center of the garden. The center courtyard was designed to be large enough for classes to meet. It is also a heat sink during sunny winter days (due to the stone mass).

Pounder Vegetable Garden and Climate Change Garden
The Pounder Garden has shifted its focus as of the 2014 season. Since the 1980's, the garden demonstrated changes in North American gardening from the Colonial era to modern times, which were caused by food shortages, plant breeding, transportation, advances in refrigeration technology, and taste preferences. In spring 2014, the plantings shifted to showcase home gardening techniques that save

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energy and resources as well as work to mitigate climate change. Beds in this garden include plants that attract pollinators, ornamental edibles, cover crops, low-maintenance vegetable gardening techniques, and fruit-bearing shrubs. The southeast corner of the garden is home to the Climate Change Demonstration Garden, which allows visitors to compare common plants growing outside to the same ones growing inside a high-tunnel at higher temperatures. Interpretation in this garden helps visitors observe and understand how changes in climate and weather patterns are affecting plants.

Bowers Rhododendron Collection on Comstock Knoll
This garden has 302 accessioned plants, representing 123 different taxa (classifications) of plants in the *Rhododendron* genus. Almost all are hybrids. This collection was planted in an area known as Comstock Knoll, a small pile of glacial debris that is now a rolling hill. Its varied topography, well-drained soil and sheltered location allows for the growth of an exceptionally diverse mix of shrubs, trees and herbaceous perennials, including ones not typically hardy to this region.

The Knoll is named after John and Anna Comstock, who owned this land in the early part of the 20th century. John was a Cornell professor of entomology. Anna, one of Cornell's first women professors, founded and headed the former Department of Nature Study, and wrote the "Handbook of Nature Study." Beginning around 1912, forestry students planted red and white pines here. In 1985, nearly 20 mature white pines atop the knoll were lost in a storm. Cornell Botanic Gardens then re-designed the garden, adding new paths and access points. Almost everything other than the pines and rhododendrons was planted in later years.

Rhododendrons have long been hybridized to develop a wider variety of blooms, foliage, and hardiness. The Rhododendron collection honors Dr. Clement Gray Bowers, a horticultural scientist and who specialized in rhododendron breeding, classification, and selection. Bowers is considered a world authority on rhododendrons, and authored the first comprehensive book on rhododendrons for the United States audience called "Rhododendrons and Azaleas." Dr. Bowers bred rhododendrons that were suited to cold winters.

Groundcover Collection
Created around 1987, this collection demonstrates how a wide range of plants are ideal to use as groundcovers for landscaping in shady and sunny areas. Most of the groundcover collection, which surrounds staff offices in the Lewis Building, showcases groundcovers that flourish under shady conditions. Shade trees in the shady ground cover collection attract visitor interest and include Cornelian cherry dogwood (*Cornus Mas*), and false cypress (*Chamaecyparis*).

North Walk
The Mullestein Hillside Garden showcases plants that are good for stabilizing banks. Created around 1987

Mullestein Hillside Garden
This garden showcases plants that are good for stabilizing banks. The Mullestein Hillside garden was created during the time of the Winter Garden's creation in 2000.

Conifer Slope
A variety of genera in the conifer family are showcased on the north-facing slope in front of the Nevin Welcome Center. This is one of several sites scattered around Cornell Botanic Gardens that make up our conifer collection, which totals 21 taxa of firs (excluding dwarf forms), 39 pines, and 25 spruces. Each site emphasizes a different characteristic of conifers. The cool, north-facing Conifer Slope concentrates on firs (*Abies* spp.), which are poorly represented in most northeastern arboreta. This slope provides an opportunity for visitors to discover the characteristics and environmental requirements of conifers and to understand the difference in morphology between gymnosperms and angiosperms.

Kienzle Overlook
This overlook was created to provide a distinct gateway to Cornell Botanic Gardens and features panoramic views of the gardens around the Nevin Welcome Center. The plantings demonstrate ways to use specimen dwarf and mid-size conifers in conjunction with perennials, ornamental grasses, and small flowering trees. It is one of several sites that comprise Cornell Botanic Gardens' conifer collection.

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Bioswale Garden
A bioswale garden was installed adjacent to the parking lot near the Nevin Welcome Center in 2010. An interpretive panel in view of this garden communicates its purpose, how water flows into the bioswale, and where it goes from there. It also highlights the types of plants growing in the bioswale.

Heasley Rock Garden
Plants here are designed to survive conditions such as dry, nutrient-deficient soils and sunny and windy habitats, similar to the harsh conditions found in alpine and coastal environments. One purpose of a botanical garden is to help preserve biodiversity by collecting and growing plants that may be rare or threatened. As the climate changes globally, plants in alpine environments will continue to be at risk of losing the environment to which they are adapted. This rock garden was created as a way to contribute to the effort of preserving some of those plants. Dedicated in 1980, it is a gift from the family of Walter Heasley, a Cornell graduate of 1932. This garden is most spectacular in early spring.

Class of '53 Container Garden
This collection of containers is located on the patio in front of the Lewis Education Center during the warmer months. The container gardens show how you can enjoy the beauty of plants regardless of available gardening space and demonstrates how to create a container garden with a variety of colors, interesting textures, and growth habits. The plants in the containers are meant to evoke the sense of the tropics and mirror our warm summers. Most of these plants must be kept in the greenhouse during the winter months. This patio container garden was dedicated in June, 2003 and was made possible by the Cornell Class of '53.

Additional Interpretive features around the Nevin Welcome Center:

Nevin Welcome Center
Built in 2010, this building offers a 100 person classroom, conference room, restrooms, lobby with art and interpretive exhibits, visitor services desk, and a gift shop with light refreshments. The welcome center was built to minimize its environmental impact and was designed using the Leadership in Energy and Environmental Design (LEED) rating system designed by the U.S. Green Building Council and was awarded the GOLD level of certification. Energy and resource-saving features include evacuated tube solar collectors for heating, wood louvers for external solar heat in winter while shading in summer, natural ventilation and insulation, and a green roof. The building was funded by a bequest from Woody Southwick in honor of his longtime partner Brian C. Nevin.

McClintock Shed
The shed adjacent to the Pounder Vegetable Garden is where Nobel Prize winning geneticist Barbara McClintock stored tools and ate her lunch while conducting her studies as a graduate student at Cornell in the 1920's. The field across the way was the field where she grew corn for her research. McClintock was not recognized for her work until the 1980's.

Lewis Education Center
From the early 1900's to the mid 1960's, this building was the Forest Home Elementary School. Today, it is offices for Cornell Botanic Gardens Education staff.

F. R. NEWMAN ARBORETUM

To the east of the gardens around the Nevin Welcome Center is the 150-acre F. R. Newman Arboretum—a mixture of trees and shrubs, several display gardens, and natural areas. This area houses the majority of Cornell Botanic Gardens trees and shrubs. The varied topography that resulted from Fall Creek excavating a series of post-glacial "bowls" allows for the display of a wide variety of species. The plants in the arboretum are selected for specific site conditions, resistance to pests and diseases, and are laid out according to ecological needs, not just by their taxonomy or species classification. The collections include maples, oaks, crabapples, conifers, dogwoods, urban trees, and other species in a 150-acre pastoral setting. Specialty gardens in the arboretum include the Zucker Shrub Collection and the Treman Woodland Walk.

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Below are descriptions of the arboretum's collections and display gardens. You will find descriptions of the arboretum's natural areas included in the list of on-campus natural areas.

TREE COLLECTIONS OF THE ARBORETUM

Class of 1901 Nut Tree Collection
The '01 Nut Tree Collection is the oldest accessioned collection in the arboretum and one of the older plant collections at Cornell Botanic Gardens. The trees were planted in the early 1960s and consist of 20 cultivars, representing black walnut (*Juglans nigra*), butternut (*Juglans cinerea*) and heartnut (*Juglans ailanthifolia*). The trees are generally mature and very large. The collection is intended to provide examples of the best "eating nuts" among the many cultivars of walnuts available to the homeowner. This area has rich soil and good air circulation for a variety of walnuts and butternuts that have been selected for disease resistance, adaptability, productivity, and precocity. The collections could also be used for visitors to explore the natural history of walnuts and butternuts including species distribution, ecology, life history, and interactions, and to introduce visitors to the economic value of walnuts as timber trees, and walnuts' historical uses among Native Americans and European settlers for food, dye, and medicine.

Chestnut Grove
This grove of chestnuts is grown on a very steep southwest-facing slope. They are grown to evaluate specimens on horticultural merit, disease resistance, winter hardiness, precocity, and productivity for propagation. The American chestnut holds an important place in American history. Before the chestnut blight wiped out near all chestnuts by 1904, it was an important forest and timber tree. This grove is one of many collaborative efforts to research disease-resistant genotypes in order to reintroduce the American chestnut in ornamental and naturalized plantings.

Oak Collections
There are three major oak collections in the arboretum. The primary focus of these collections is to maximize diversity of hardy species and cultivars in order to provide genetic resources for hybridization and development and increase the number of documented hybrids in the collection. This collection is also ideal for introducing visitors to the broad range of species within the *Quercus* genus and the variation within that species. Visitors can also use the collection to become familiar with the concept of hybridization, inter-specific hybrids, and selected cultivars. Oaks are a genus that is closely tied with history in America and throughout the world due to its valuable for lumber, firewood, as an ornamental tree. They are among the most revered of the native and cultivated trees of North America and Europe. They also figure prominently in our literature, usually as a symbol of strength and character. There is considerable interest in oaks on campus, and to faculty with have active research programs focusing on the genus *Quercus.*

The majority of the oak collection is found in the **Schnee Oak Collection** located southwest of Houston Ponds. It holds a diverse collection of shrubby and arboreal oak species. The Schnee Oak Collection contains 50 different oak taxa (species, cultivars, and hybrids). The goal of this collection is to acquire all the species hardy in Zone 5 for use in a hybridization program using pollen parents from Zone 6-8. This will introduce characteristics such as blue foliage, evergreen leaves, shrubby stature, high pH tolerance, and rapid growth rate into hardy oaks. Oaks in this collection include sawtooth, white, swamp white, turkey, northern pin, Georgia, shingle, overcup, bur, chestnut, downy, pin, blackjack, yellow chestnut, and northern red oak.

The **Peterson Oak Grove** is located southeast of the Houston and Grossman Ponds. It is a collection of hybrid oak trees that demonstrate how natural hybrid plants occur and how desirable and adaptable horticultural specimens can be created artificially through breeding.

The **Jackson Grove** is located northwest of the pond area and has a collection of relatively older oaks. The grove is a mix of several species of trees including yews, oaks, and a few elms. The grove is also home to the Dorothy Lump Hill Magnolia Collection which features beauties such as the loebner (*Magnolia x loebneri*), umbrella (*M. tripetela*), oyama (*M. sieboldii*), willow-leafed (*M. salicifolia*), cucumber (*M. acuminata*), big-leafed (*M. macrophylla*), and Kobushi Magnolias (*M. kobus*). Other magnolias include *Magnolia* 'Elizabeth', 'Golden Gift', 'Jon Jon', 'Limelight', 'Porcelain Dove', 'Sun Spire', 'Sunsation', 'Susan', 'Yellow Lantern'.

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Urban Tree Collection
The Urban Tree Collection consists of trees that show promise for being used in urban environments where site conditions are often poor. Many of the trees can be found in the berms between Arboretum Road and Route 366, around the ponds and near parking bays. These locations provide ideal spots for trees in the collection as they mimic urban conditions having poorly drained, compacted soils, very high soil pH and are subject to salt spray and open windy conditions. This collection gives Cornell Urban Horticulture Institute scientists and students studying plant materials a way to evaluate potential trees for difficult sites. This collection illustrates the importance of integrating trees into urban landscapes as they moderate temperature, noise, wind, erosion, and pollution reduction, and create wildlife habitat.

The Maple Collection
The Maple Collection is one of the core collections consisting of 308 trees, representing 195 species and cultivars. The trees in this collection are very diverse and so require very different site conditions causing the maples to be spread throughout Cornell Botanic Gardens. The maple collection is part of the Plant Collections Network, whose aim is to enhance the conservation and availability of germplasm (a collection of genetic resources for an organism) for current and future use. The goals of this collection are to collect, from wild parents of known origin, all members of section *Acer*, which includes 10 species and 36 subspecies. Also, Cornell Botanic Gardens aims to acquire a representative selection of cultivars, emphasizing those that are unique, horticulturally valuable, or are in danger of extinction. This is especially important because some of the taxa are extremely rare or missing in cultivation. Similar to the oaks, the maple has a high commercial value in the United States. This collection is ideal for displaying the diversity of a genus.

The maple collection can be used for introducing visitors to the concept of biogeography and how plants from one part of the world may closely resemble plants from another part, given similar climates. Visitors can also explore how many species in the same genus have adapted to various conditions and vary significantly as well as why some *Acers* are threatened or endangered and what efforts are being take to conserve them including collaborative efforts with the Plant Collections Network.

Some key collections include:
The Class of 1938 Native Maple Slope collection supports trees that grow best with full sun and fierce wind exposure. These maples tend to be species that are native to New York State. The maples on the slope are quite large, close to mature and include red maple (*Acer rubrum*), sugar maple (*A. saccharum*), silver maple (*A. saccharinum*), and striped maple (*A. pennsylvanicum*).

Others:
Along the southern edge of Newman Meadow and in the Class of 1923 Small Flowering Tree Collection are other points of concentration for the maple collection. Here an overstory of *Acer x freemanii*, a hybrid of red and silver maple, exists to demonstrate the differences in branching structure and crown shape within a group of hybrids. Beneath these hybrids is an understory of shade-loving maples. This site faces north so the shade-loving maples are protected from the winter sun. Many of these trees are Asian and include snakebark maples (*A. davidii and A. tegmentosum*) as well as small trees similar to the Japanese maple including *A. shirasawanum and A. pseudosieboldianum.* Many have attractive bark and brilliant fall color.

The **Conifer-Maple Slope**, also known as the Conifer Slope, is a north-facing slope that allows the growth of Zone 6 plants. It consists primarily of small-statured Asian maples. The overstory of older conifers provides protection from winter and summer extremes. The Conifer-Maple Slope is located across the street from the Nevin Welcome Center.

Jennings Flowering Crabapple Collection
The Jennings Flowering Crabapple Collection is a collection of crabapples, which includes many of the best cultivars for this region based on disease and insect resistance, flower and fruit characteristics, and general overall reliability. Crabapples are relatively adaptable to most conditions except poor drainage and because of their small stature, showy spring flowers, ornamental fall or winter fruits, and hardiness, they are a well-loved tree in upstate New York. Once an evaluation garden for the International Ornamental Crabapple Society, the collection includes the core collection of cultivars required by the Society. This collection was a bequest from Bettina S. Jennings who established the Howard Jennings Memorial endowment fund.

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Palmer-Kinne Dogwood Collection
This collection focuses on shrubby dogwoods (*Cornus*) that are selected for multi-season interest. Some of these shrubby dogwoods are coppiced (cut down to the ground) each year to ensure new, and therefore vibrantly colored, twig growth. In addition to the shrubby dogwoods further north along Plantations Road, the collection also has several kousa dogwood (*C. kousa*) and cornelian cherry (*C. mas*) trees.

DISPLAY GARDENS WITHIN THE ARBORETUM

Floriculture War Memorial
The Floriculture War Memorial trail commemorates Cornell Floriculture Studies majors who died in World Wars I and II. This trail features boggy areas and running water and show ways to use wet areas as attractive features of a landscape. Plants found along the trail include: umbrella magnolia, rhododendrons, Japanese pieris, western skunk cabbage and fetterbush.

Treman Woodland Walk
This hemlock-shaded garden borders on a small stream in the arboretum near the Zucker Shrub Collection. Ferns, globeflower, azaleas, daylilies, and hostas grow abundantly along the stream giving the garden a whimsical and uncultivated atmosphere. This intimately scaled streamside garden also displays moisture-loving plants, such as marsh marigold, Asian skunk cabbage, and Japanese primroses that cannot be grown well elsewhere at Cornell Botanic Gardens. The main trunk of the 80-year-old weeping willow tree at the center of the garden was removed in 2012, but shoots are growing out of the large stump that remains. Peak bloom is May and June although unusual foliage, both variegated and dramatically large, provides interest throughout the season. This garden is named in honor of longtime supporters and creators of the garden Allan and Margaret "Margo" H. Treman.

Zucker Shrub Sampler
The Shrub Sampler is located in the eastern half of what has been historically referred to as the "Test Garden bowl," and has been used by both the Department of Horticulture and Cornell Botanic Gardens for the display and evaluation of shrubs and small statured trees. One reason for placing this sampler in the Test Garden was to continue the tradition of woody plant evaluation that had been established in that site over several decades, including the Rose Garden, the Hedge Collection, the Synoptic Shrub Garden and the Dwarf Conifer Garden (these no longer exist). This sampler consists of curvilinear island beds planted with a diverse selection of flowering shrubs, ornamental grasses, and low-maintenance perennials. The shrubs in this collection have been selected for their displays of flowers, fruit, fall color, and winter interest. The shrubs peak in flower, color and texture in May and June, with later flowering shrubs such as *Hypericum, Hydrangea, and Potentilla* providing color throughout the growing season. The garden also features a display of daylillies, which peak in July and August; the ornamental grasses provide interest into late fall.

The **Harris Lilac Collection** is also nestled among the beds of the Zucker Shrub Collection and displays some of the best lilacs available. The lilac blooms range in color from white, pink, purple to lilac. Lilac's in the collection include: little leaf lilac, 'Miss Kim', 'Chinese lilac', and hybrid lilac (*Syringa X swegiflexa*).

Isabel Schnapps Zucker, for whom the collection is named, devoted her life to beautifying landscapes around the country. After earning a B.S. in floriculture and ornamental horticulture from Cornell University, she studied landscape architecture at various graduate colleges. She wrote a book called *Flowering Shrubs*, several award winning articles, and served as Garden Editor of The Detroit Times for nearly twenty years. Isabel and her husband Myron were founding members of the Plantations Sponsors, a group that provides funding and professional advice for capital projects.

ADDITIONAL INTERPRETIVE FEATURES WITHIN THE ARBORETUM

Kephart Glen
Kephart Glen is a secluded narrow valley in the southeastern corner of the arboretum. Plants of interest include serviceberry, larch, tulip trees, myrica, witch hazel, ash, white birch, oaks and pines.

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Newman Meadow
Newman Meadow, the largest open space on campus, recalls the open fields of an upstate New York farm. Its contours were carved thousands of years ago by Fall Creek. Plantations does not manage the meadow as a manicured lawn, instead the meadow is mown just once per year, which allows for a more diverse plant and animal habitat. There are meandering paths mown in the field that provide visitors the chance to walk through a community of beautiful tall grasses, insects and birds. Along the northern edge of the meadow is the Class of '01 Nut Tree Collection. Along the southern edge, visitors can enjoy part of our maple collection before wandering into Slim Jim Woods.

Grossman and Houston Ponds
Located at the bottom of the great bowl in the Newman Arboretum, Grossman and Houston Ponds are man-made and were excavated in the early 80's to resemble oxbow lakes. Within the ponds are collections of water plants including cattails, water lilies, pickerel weed, yellow flag iris and bald cypress. The ponds support a well developed freshwater aquatic ecosystem including reptiles, amphibians, insects and crustaceans, making it a great place for pond study. Additionally, a variety of wildlife flourishes around the ponds including minnows, sunfish, a largemouth bass and many birds such as Great Blue Heron, Green Heron, Killdeer, Eastern Phoebe, Tree Wwallow, Common Yellowthroat, American Black Duck, Canada Goose, Bank Swallow, Mallard, Blue Jay, American Crow, and Cedar Waxwing. Around the ponds many species of trees are planted including red maples, Swedish mountain ash trees, river birches, 'Heritage' river birches, green ashes, bur oak and swamp white oaks. The Class of '64 Grove next to Houston Pond houses classic examples of understory plants such as fringe trees, maackia, and 'Willowwood' viburnum, beneath a canopy of mature pin oaks.

Although maintenance of the ponds is minimal, staff perform an annual or biennial weeding out of flowering rush, cattails, and other aggressively spreading native plants. Houston Pond is named in honor of Neill ('13) and Elizabeth Houston, nature-lovers who were supporters in the early days. Grossman Pond was named to honor Joseph G. Grossman ('12) a long-time supporter who was also a dear friend of F. R. Newman.

Newman Overlook
Newman Overlook, located at one of the highest points in the arboretum and on campus, provides a spectacular view of the arboretum and far distant points. The stone structure was made from Llenroc, a form of New York State Bluestone, the name of which is Cornell spelled backwards. The majestic vista was created when Fall Creek carved out a giant bowl starting around 12,000 years ago. Chess players, joggers, geology students, and bird watchers frequent this beautiful spot. Visitors often ring the huge bell on the overlook, making the 150-acre Arboretum aware of their presence.

Sculpture Garden
Here, there are huge concrete sculptures across the road from the ponds. These ten-ton sculptures were produced in the 1960s by Cornell undergraduate architecture students. Under the guidance of Professor Jack Squier, these students learned first-hand the finer details of sculpture, design, and carpentry. The student artists volunteered their own time and money toward the full-scale project, and they participated in every aspect of the planning and construction of the sculptures from start to finish. Industrial Design magazine and several well-known architects praised the Sculpture Garden as one of the most exciting and successful projects for training architects in the country. Although many people know of the sculptures today, the sculptures were first erected before the Arboretum existed, and the location was very secluded and isolated from the main campus at the time. After Floyd Newman improved the accessibility of the site, the sculptures became a central focal point of the Arboretum.

Hyperbolic Parabaloid
Across Arboretum Road from the Flowering Tree collection is a concrete structure called the hyperbolic paraboloid, a thin, saddle-like reinforced-concrete structure. The structure was constructed in the 1960s by Professor Greenberg and his students to see if it would stand up to Ithaca's weather conditions. It did.

Andy Goldsworthy Art Installation
These four boulders were created by Cornell A. D. White Professor-at-Large Andy Goldsworthy, a famed environmental artist. Three of the rocks are hollowed and each contain a dwarf chestnut oak (*Quercus prinoides*) sapling growing from a soil-filled center. The fourth rock is intact. The exhibit is on loan indefinitely from New York City's Museum of Jewish Heritage. This exhibit was designed to honor Holocaust victims. It symbolizes how life can continue even under adverse conditions. The boulders were installed in June 2004, and in May 2005,

the exhibit was dedicated during which Holocaust survivors and others planted the dwarf oaks within the three boulders. Cornell faculty members and students advised Goldsworthy on the type of tree and stone to use, and on coring and creating irrigation systems within the boulders. As the trees grow, their roots will fuse to the stone. Eventually the roots may grow through the rock down into the ground, perhaps splitting the boulders open.

CORNELL BOTANIC GARDENS NATURAL AREAS

Cornell Botanic Gardens Natural Areas program manages 3,600 acres of biologically-interesting landscapes for education and research opportunities for a variety of fields of study. To accomplish this, Natural Areas staff work toward preserving the integrity of natural areas through thoughtful land management and is often involved in partnerships with conservation-minded organizations to preserve regionally threatened or ecologically-significant plant species and natural communities. Cornell Botanic Gardens Natural Areas are an invaluable resource to the academic community to generate innovative solutions to threats on our natural environment, with invasive species and global climate change at the forefront. The Natural Areas program has also recently collaborated on efforts to demonstrate "best practices" that contribute to environmental sustainability. Cornell has the good fortune of having over 700 acres of natural areas located on or near the Cornell campus and the remaining acreage is dispersed throughout Tompkins County, and in the case of two areas, adjacent counties.

ON-CAMPUS NATURAL AREAS

Lands adjacent to the Fall Creek Watershed

The majority of Cornell's main campus is tucked between two significant watersheds—Fall Creek and Cascadilla Creek. Cornell Botanic Gardens manages lands adjacent to Fall Creek beginning with Ithaca Falls in downtown Ithaca, westward through Fall Creek Gorge, man-made Beebe Lake, past the Mundy Wildflower Garden, and forested areas adjacent to the Arboretum (Fall Creek Valley North and South), past Park Park and through Monkey Run.

Fall Creek Gorge: Sedimentary rock formed millions of years ago is exposed within the gorge of Fall Creek, which has cut into the bedrock for the past 10,000 years. Fall Creek and its steep-sided gorge provided a source of water power for numerous mills along its course starting in 1814 and throughout the 1800's. In 1830, Ezra Cornell was hired to blast a tunnel through the solid rock to carry water to the industries located at the base of the falls. Today, remnants of the tunnel, sluiceways and stone foundations of some of the buildings are visible from Triphammer Bridge.

Beebe Lake and Adjacent Mature Forests: Forested slopes are found north and south of man-made Beebe Lake. The species composition of the forested areas north and south of the lake varies due to the aspect of these slopes with dry oak forests of the south-facing slopes and beech-hemlock forests of the cool north-facing slopes. Trails follow the circumference of the lakeshore, heavily used by joggers, hikers and bird watchers.

Mundy Wildflower Garden: Atypical of a conventional garden, this area is considered a "naturalistic area" in which horticulturists augment the diversity of plant species found here and make a tremendous effort of protecting these species against deer browse and invasive plants. The rich soils deposited by Fall Creek along its floodplain hosts a diversity of plant species in this garden. Throughout its history, the garden has endured extensive human disturbance. Underneath the forest canopy of floodplain trees including American sycamore and cottonwood, lie a tremendous collection of wildflowers native to or naturalized within the Cayuga Lake basin, including a wide variety of early spring ephemerals. In addition to its bounty of wildflowers, this garden is an excellent place to interpret regional geologic history as one of the largest glacial erratics is found here.

Fall Creek Valley North: This site has a mix of old and young floodplain forests, including one young forest that was a former Cornell rifle range. Wetlands are found in old channels of Fall Creek that were abandoned long ago when the creek took a new course. Here, wildflowers are abundant, and the older parts of the floodplain forest have rare species in the herb layer, such as spring avens (*Geum vernum*) and Gray's sedge (*Carex grayii*). Dominant trees include sycamore and cottonwood.

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Fall Creek Valley South: This natural area is located on both sides of Forest Home Drive, north of the Arboretum. Trails follow a level plateau, once a floodplain of Fall Creek, and steep slope carved by Fall Creek. The forest here is a high-quality example of a mature and old-growth forest. Trees found on the plateau are typical of rich, well-drained soils including red oak, white oak, beeches, hemlocks and sugar maple, some of which may be 400 years old. Trees on the slope include hemlock, basswood, sugar maple, white pine, black cherry and beech. At the base of the slope are groundwater-fed fens. The forested slopes above Fall Creek are dominated by oaks, hickories, white ash and red maple. The northern part of this property is habitat for a rare salamander species that breeds in Bull Pasture Ponds.

Park Park: This site includes meadow, shrub thicket, shady forest on a steep north-facing slope and floodplain forest next to Fall Creek, along Forest Home Drive east of the arboretum. The history of human disturbance at this site provides the on-going learning opportunity of evaluating successful habitat restoration. Past floods carrying heavy loads of gravel and sediment have created long ridges running parallel to the creek where species that thrive on disturbance are common, including honeysuckles, box elder, cottonwood and sycamore.

Monkey Run: This 500-acre site is located northeast of campus along Fall Creek and encompasses a large portion of Fall Creek's biological corridor. Trails lead through a variety of habitats including steep slopes of dry upland oak forest, rich floodplain forests, and wet meadows. Forested areas vary in maturity based on land-use history.

Lands Adjacent to the Cascadilla Creek Watershed

Cascadilla Creek borders Cornell's main campus to the south and Cornell Botanic Gardens manages lands adjacent to this stream corridor beginning with Cascadilla Gorge to the west, Cascadilla Meadows, and Upper Cascadilla Creek.

Cascadilla Gorge: Starting at Treman Triangle, a small park in the Fall Creek neighborhood in downtown Ithaca, people can hike a series of steps ascending 400 feet through Cascadilla Gorge past several tall, step-like waterfalls and flaky rock ledges and associated plant communities. This trail provides a major pedestrian connection between downtown and Cornell campus. Upstream of Collegetown, a walking trail follows the streambed which becomes relatively flat compared to the dramatic incline within the steep section of the gorge. The pedestrian bridge over the creek close to College Avenue was formerly a trolley bridge.

Cascadilla Meadows: East of Cascadilla Gorge, the creek is confined to a narrow, straight channel that was blasted into the bedrock where the stream was diverted during the construction of the Wilson Synchrotron. The creek passes lawn, weedy former pasture, marsh, disturbed shrubland and floodplain forest. North of Cascadilla Creek near Judd Falls Road is a remnant of wetland that retains a surprising number of interesting native species including rough goldenrod, sedge, marsh marigold and skunk cabbage.

Upper Cascadilla Creek: Upper Cascadilla Creek meanders through a narrow valley through a complex mix of forest, shrub thicket, wetland and floodplain. There are several good examples of mature oak-hickory forest, mature floodplain forest that includes a good example of sycamore-cottonwood forest with a rich herb layer and north-facing slopes with white pine and hemlock. This natural area can be enjoyed from the East Hill Recreation Way, a multi-use trail that was a former railroad corridor.

Additional On-campus Natural Areas

Slim Jim Woods: Areas of natural vegetation found within the F.R. Newman Arboretum include Slim Jim Woods, a wide strip of old forest on a steep north-facing slope, as well as high-quality examples of mature and old-growth forests found on north-facing slopes.

Palmer Woods: Located on north campus, extending north from the A-lot parking area, this area includes old forest, young forest, meadows and wetlands. Large white and red oaks dominate the old forest. Newer wooded areas here were once fairways of the Cornell golf course.

Hasbrouck Woods: This area encompasses remnants of forest on Cornell's Robert Trent Jones Golf Course. The two lobes of forest are dominated by large white and red oaks, and by hickories, including one of the largest swamp white oaks in the county, which is a locally scarce species.

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Hertel Bowl: This area is part of the upper slope of the Fall Creek Valley. It is the most ancient of a number of bowls carved by the rushing waters of Fall Creek. This area is a post-agricultural successional field.

Bluegrass Lane Natural Areas: Located adjacent to Bluegrass Lane and the Robert Trent Jones Golf Course, this area included Bull Pasture Ponds, Bluegrass Lane Wetland and Meadow. The ponds are forested wetlands with a tall swamp white oak canopy near a small north-south drainage divide, a rare vegetation type in the area. It is also the breeding place and habitat of the larval stage of the scarce Jefferson's salamander and spotted salamander. The wetland is a drainage-divide marsh dominated by wetland herbs and shrubs and is one of the few large wetlands remaining close to campus. The meadow is dominated by grasses, goldenrods, asters, white bedstraw and hawkweeds, canary grass, and cattails.

Warren Woods: This forested tract surrounded by Cornell fields was once the location of a Civilian Conservation Corps (CCC) camp. The CCC was a government public-service program established during the Great Depression of the 1930s to provide work and vocational training for the unemployed. The camp located here worked on a lot of infrastructure projects you see today in the Arboretum and Nevin Welcome Center and surrounding gardens. This forest includes patches of hemlock, red maple, and white ash and black ash and American elm grow on the wetter areas.

Mitchell Street Natural Area: This area was previously used for livestock grazing and contains several successional communities including thicket, meadow, grassland within an oak opening, hay meadow, and mixed meadow, together providing a range of habitats for observing a diversity of songbirds.

McGowan Woods and Meadow: This is an important area that is heavily used for teaching and research and every tree in the woods is numbered in order to note how the forest has changed over time. It has a notable variety of tree species, many of which are large. It also has a diverse spring wildflower display. The meadow is dominated by tall goldenrod and smooth goldenrod.

CORNELL BOTANIC GARDENS OFF-CAMPUS NATURAL AREAS

In addition to 700 acres on-campus, the majority of natural areas are dispersed throughout Tompkins County, and in the case of two natural areas, in bordering counties. Cornell Botanic Gardens continually strives to acquire communities that are ecologically rich or harbor ecologically rare or threatened plant species. Together, the off-campus areas encompass a broad range of environmental conditions and associated plant and animal communities characteristic to those throughout the Finger Lakes Region. Twenty-seven off-campus natural areas include old-growth, second-growth, and young forests, as well as cattail marsh, wetland shrub thicket, swamp forest, wooded gorges, floodplain forest, acid bogs, vernal ponds, fens. Glacial features including kettle holes, glacial moraine, gorges, kame, eskers, glacial lakes, and deltas.

Bald Hill and Caroline Pinnacles: Bald Hill and Caroline Pinnacles are two very steeply-sloping hillsides in the White Church valley with a west-southwest-facing aspect and many rock outcrops, especially near the top. This is one of the most dramatic examples in the local region of a valley slope over-steepened by glaciers gouging at the valley-side as they moved down this through-valley and is part of a very large, contiguous forested area in the southeastern part of Tompkins County.

Carter Creek Preserve: Part of a large forested wild area that includes the state managed Connecticut Hill Wildlife Management Area, this natural area clearly exhibits a history of agricultural use. Here, Carter Creek cuts between two steep hillsides that are dissected by small tributaries. The vegetation is upland forest in different stages of maturity: old growth, second growth and young forest.

Cayuga Marsh: Most of the wetland around this natural area is owned and managed by the New York State Department of Environmental Conservation as wildlife habitat. Associated species include false nettle (*Boehmeria cylindrica*), marsh fern (*Thelypteris palustris*), spotted jewelweed (*Impatiens capensis*), and cut grass (*Leersia oryzoides*).

Cayuta Lake: The entire Cayuta Lake aquatic system, including its surrounding wetlands, is relatively pristine and noted for the presence of rare species and high biodiversity. The Allen Preserve, which begins on a hill above Cayuta Lake, includes meadow, upland forest, swamp

forest, and wetland shrub thicket near the inlet to Cayuta Lake.

Dunlop Meadow: Dunlop Meadow supports a large variety of common meadow species and the rolling topography provides variation in soil conditions and variation in plant species composition. It is a young meadow at this point in time and is impressively large, an important characteristic for nesting of some bird species.

Edwards Lake Cliffs Preserve: This preserve protects one of the rarest environments in the local region – the lake cliffs. In addition, Shurger Glen, cut by Gulf Creek, is a forested ravine and winding gorge with breathtaking waterfalls, scenic views and rare species.

Ellis Hollow Wetlands: The terrain and vegetation along this section of Cascadilla Creek are very diverse. Here you can explore forest, old orchard, or shrub thicket, and hay meadows that were once agricultural fields. There are also some small sections of forest near the creek that have always been forested.

Etna Preserve: Fringed gentian is a locally rare plant species in Tompkins County and is scarce in New York State. Fringed gentians thrive in open meadows where competition from other meadow species is limited, in seasonally flooded or fairly sterile soils, and sometimes in areas where the topsoil has been scraped away.

Fischer Old-growth Forest: This is the best example of the few remaining remnants of pre-European settlement forest in the region. This old-growth forest is notable not only for the extreme size of many individual trees, but also for the high number of tree species, at least 23, of canopy size. Among these is chinkapin oak (*Quercus muehlenbergii*), a locally rare species.

Frost Ravine: Frost Ravine is part of a large contiguous forest with a broad range of habitats including mature, high-quality stands, open fields and shrub thickets, all which contribute to the diversity of species and habitat. Management is divided among several Cornell units, including Cornell Botanic Gardens, Athletics and the College of Agriculture and Life Sciences.

Lick Brook: This natural area, together with the Finger Lakes Land Trust's Sweedler and Thayer Preserve protects Lick Brook and its deep gorge with multiple waterfalls including one that is nearly 140 feet tall.

Lighthouse Point: A short trail passes through floodplain forest and marsh on a delta built of sediments deposited by the two creeks at the mouth of Cayuga Lake, which has long been long regarded as botanically significant by university faculty members. A causeway leads to the Cayuga Inlet Lighthouse, which was constructed in 1917.

McDaniel Woods, Meadow, and Swamp: The meadows here have a diverse mix of grasses and forbs with many summer field flowers and a small pond that attract butterflies and the upland forest has a rich assemblage of spring wildflowers. The rather undisturbed swamp forest is part of Townley Swamp, one of the largest swamps in Tompkins County.

Monkey Run: Trails here, which connect to the 10 mile long Cayuga Trail and the Dryden Rail Trail, follow the creek from the rims of forested banks and at creek level through rich floodplain forest, seeps, and wet meadows.

Polson Preserve: This site is predominantly sloping forest, bisected by small ravines with a seasonally wet and flat hilltop with shallow bedrock. A section of this preserve is very steeply-sloping and interesting to geologists for the glacially oversteepened valley with exposed shale bedrock layers.

Purvis Road Natural Area: The site is part of a larger area owned by the New York State College of Agriculture and Life Sciences. In 2003 the bog and the area north of Lake Road were transferred to Cornell Botanic Gardens' management. It also contains active beaver dams and various wetland habitats, and is ideal site wildlife viewing, especially birding.

Renwick Slope: The forest here is typical of stands found on the west-facing slopes along Cayuga Lake, which extends from the Cayuga Heights area to the flatlands of the City of Ithaca near Ithaca High School.

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Ringwood Ponds: The kame-kettle hole-esker glacial features here are rarely found at so high an elevation in our region. Because many of the trees are more than 150 years old, the forest is considered old-growth. Equally noteworthy is the abundance and diversity of amphibians, uncommon nesting birds associated with the ponds, and unusual aquatic insects, including fairy shrimp.

Slaterville 600: The site is part of a larger forested area known locally "Slaterville 600" or the "Old 600," which refers to the size of of a military lot of 600 acres that was given to soldiers of the Revolutionary War in lieu of payment. Two tributaries flow across the property, which have exposed shales and sandstones that are especially good examples of joint-plane fracturing.

Steep Hollow Creek: At this site, Steep Hollow Creek has cut through one of several glens flowing down the eastern slope of the Cayuga Inlet Valley. Aptly named, this creek has cut through very deep gravel deposits to form a steep-sided glen. The creek now flows over exposed bedrock in a series of small waterfalls.

Tarr-Young Preserve: This mostly steeply-sloping 15.6 acre area includes a mix of forest with a history of disturbance along with high-quality mature-to-old-growth forest. A boardwalk trail passes over seeps at the toe of the slope before ascending through hemlock and hardwood forests with a rich diversity of wildflowers.

Turkey Hill Road Meadow: This area was once part of the Turkey Hill Farm or "turkey farm" used by the university's Poultry Science Department and supports a high diversity of plants, breeding birds and insects. Because it is so close to campus, it provides excellent opportunities for class field trips and research projects.

Additional Natural Areas: Cornell Botanic Gardens also manages five additional highly sensitive natural areas—South Hill Swamp, McLean Bogs, Coy Glen, Eames Bog, and Salt Road Fen.

APPENDIX C

PARAMETERS

In order to recommend the most appropriate interpretive services, it is important to evaluate any factors that would enhance or possibly limit the scope of potential interpretive recommendations, which we're calling parameters. It is important to identify and analyze parameters so that recommended interpretive strategies are realistic and feasible as well as work to improve the visitor experience.

The following chart lists significant parameters and the implications to consider when recommending the most appropriate interpretive media and services:

STAFF AND VOLUNTEER CAPACITY

PARAMETER	IMPLICATION
There are several vacant staff positions, which puts pressure on current staff to accomplish all that is required to care for our gardens and natural areas.	Staff are already taxed and might have limited capacity to support the interpretive program.
Cornell Botanic Gardens staff are extremely knowledgeable, skilled, and creative, which include a full-time interpretation coordinator and graphic designer.	• Engage as many staff as possible in contributing to the planning and development of interpretive media and services. • We have the capacity to design attractive interpretive visual in-house. • We have the capacity to plan and develop content for interpretive media in-house.
Cornell Botanic Gardens staff and volunteers offer high-quality education classes, lectures, and special events.	Interpretation should encourage visitors to attend these programs and/or come again to participate in one.
Cornell Botanic Gardens has a welcome center with two classrooms, gift shop, restrooms, and lobby area with interpretive exhibits, which has limited hours depending on the time of year.	The interpretive system should not rely on what's available inside the Nevin Welcome Center as people who visit when it is closed will not engage with it.
We have a large and dedicated group of volunteers who are highly educated and continually express their desire to learn more as well as offer guided tours and educational programs.	The Interpretive Program has the capacity to offer high-quality docent-led guided tours.

BUDGET

PARAMETER	IMPLICATION
Cornell Botanic Gardens annual income comes from monetary gifts, membership, grants, paid events, and only a small portion from Cornell's budget.	Staff are required to seek additional funds to implement the recommendations within this plan.
Cornell Botanic Gardens is required to pay Cornell a significant fee for services, which has posed a challenge to balancing our annual budget.	There are currently no excess funds from the budget to be used for interpretive services.
There is no dedicated annual budget for interpretation and all interpretive projects rely on monetary donations or grants to fund.	Fundraising for each interpretive recommendation should be built into this plan.

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ENVIRONMENTAL SETTING AND INFRASTRUCTURE

Cornell Botanic Gardens on-campus areas are a mosaic of both cultivated and natural areas that border the Cornell campus to the north and south. Interpretation has the capacity to create a stronger perceptual and physical connection between these areas (Nevin Welcome Center gardens, Arboretum, Wildflower Garden, Beebe Lake, Fall Creek Gorge, Cascadilla Gorge, etc.) and provide visitors with suggested routes depending on their interests and/or time available to visit.

PARAMETER	IMPLICATION
The majority of our natural areas are located some distance from the Cornell campus and are dispersed throughout the county.	Interpretation should provide visitors with a more complete scope of all areas that comprise Cornell Botanic Gardens and orientation to how they can access off-campus areas.
Some areas of Cornell Botanic Gardens are within close proximity to on-campus housing (Fall Creek Gorge, Beebe Lake).	Interpretation could make Cornell students aware that these areas are part of Cornell Botanic Gardens and could promote exploration of other areas at these entry points.
There are many entrances to Cornell Botanic Gardens, rather than one main entrance.	Interpretation could provide orientation at all key entrance points.
Because there is a steep hill that students must travel to reach the Nevin Welcome Center from campus, student perceive that our areas are further away from campus than they actually are.	Identify ways to communicate to students how close the welcome center is to the ag quad and other points on campus.
Limited food service is available at the welcome center.	Information should be given to where visitors can eat nearby.
Visitors have to cross roads to access various areas of Cornell Botanic Gardens on campus.	Crosswalks and other measures of ensuring visitor safety should be implemented.
The only restrooms available are in the Nevin Welcome Center and one portable restroom in the Arboretum.	This needs to be clearly communicated to visitors.
Most of our gardens and natural areas are not ADA accessible.	Offer alternative ways for people with disabilities to experience Cornell Botanic Gardens.
When the trees are fully leafed out, it can be difficult to see the Nevin Welcome Center from the parking lot.	Clear orientation should be available to help visitors easily find the welcome center.

CORNELL RESOURCES

PARAMETER	IMPLICATION
We support the university in part through offering our gardens and natural areas as living laboratories to advance the fields of horticulture, natural sciences, and beyond.	Interpretation can increase student, faculty and staff awareness of the research opportunities within Cornell Botanic Gardens and how to go about using our areas for their research.
Cornell University is a well-respected and well-known academic institution with a wealth of world class research.	There are many resources available on campus to contribute to the development of interpretive media and services.
There is a diverse population of faculty, staff, and students at Cornell.	The wide variety of cultures and associated knowledge can be tapped to offer unique and rich interpretive opportunities.
Because most students only enroll in classes for four years, there is a limited window of time to encourage them to visit and engage with Cornell Botanic Gardens.	Consider most efficient avenues for promoting Cornell Botanic Gardens to students.

APPENDIX C

OTHER

PARAMETER	IMPLICATION
The Cornell Botanic Gardens completely redesigned the website, which was launched in March 2019.	This is a valuable tool in the planning stage of the visitor experience.
Visitors frequently comment that Cornell Botanic Gardens is a beautiful place and they have a high-quality experience when they visit.	This asset should be leveraged to draw more visitors.

APPENDIX D

INTERPRETIVE STRATEGIES

All interpretive media and services recommended in this plan were thoughtfully selected based on how likely they are to attract and sustain attention by target audiences, how well they will work within the parameters of the site and organization, and ultimately their likelihood of working to achieve the interpretive goals and objectives. This section shows how all recommended interpretive media and services, or "strategies," are intended to work together to achieve interpretive goals and objectives for Cornell Botanic Gardens.

Goal 1: Understand and appreciate the inextricable link between biological and cultural diversity.

OBJECTIVE A

Visitors will recognize and appreciate that biodiversity is essential to the health of Earth's ecosystems and to successful horticulture—critical to human survival.

STRATEGIES

- Mundy Wildflower Garden plant labels
- Network of interpretation in the Mundy Wildflower Garden focusing on sustainable land management in the face of climate change
- Introductory signs for remaining gardens around the welcome center that don't have them (Groundcover Collection, Hillside garden, Rock Garden, North Walk)
- Enhanced Pocketsights tour for gardens around the Nevin Welcome Center, Arboretum, Fall Creek Loop
- Include in content on trailheads kiosks within off-campus natural areas.
- Introduce concept on the Mundy Wildflower Garden Path Sign.
- Introduce concept in printed guidebook (passport).
- Weave into interpretation and programming related to the theme for each year.
- Incorporate in a video to promote the long-term ecosystem restoration project in the Mundy Wildflower Garden.
- Incorporate in the Cornell Botanic Gardens introductory video.
- Incorporate, when appropriate, on temporary signs along frequently used trails with demonstrations of our approaches to natural areas stewardship.

OBJECTIVE B

Visitors will feel inspired to explore the rich diversity of cultures and plants that sustain them around the world as a result of their visit to Cornell Botanic Gardens.

STRATEGIES

- Offer programming, seasonal plant displays, and interpretation focused around a theme that highlights the interdependence of biological and cultural diversity.
- Use the discovery cart to create "pop up" engaging interpretation about plants and the cultures that sustain them using activities from past Judy's Days.
- Outdoor booklets in the Young Flower Garden and any other booklets created that are similar to this concept throughout the gardens
- Brief signs that highlight cultural significance of plants
- Any interpretation that highlights the way of life of the Haudenosaunee people and other means to elevate indigneous voices
- Small signs next to a selection of plants that highlight their cultural significance
- Demonstrate and interpret horticultural practices and the cultures from which they originated.
- Asian Summer Garden interpretation
- Offer opportunities for people to share stories of their personal connections with nature and share their stories with others.

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OBJECTIVE C

Visitors will recognize that many cultures around the world are threatened by the decline of biodiversity, industrialization, and climate change and that conserving the world's cultures and languages is a pathway to conserving the world's threatened biodiversity.

STRATEGIES

- Whenever possible, feature words/phrases that reflect a culture's relationship with the natural world (e-communications, exhibit, sign, plant labels). Include in exhibit on the ecological calendar project.
- Interpret the resilience of the Haudenosaunee community language and culture to illustrate these concepts.
- Acknowledge that the traditional homeland of the Cayuga community is now the location of Cornell and Cornell Botanic Gardens wherever appropriate (before programs and events, on signs, exhibits).
- Incorporate these concepts in exhibits in the Nevin Welcome Center and incorporate into programming and interpretation of seasonal plant displays focused around a biocultural theme.
- Incorporate these concepts on small signs highlighting the cultural significance of select plants.
- Add names of plants in the language from which they are native to on plant labels.
- Offer lectures and other programming that incorporates these concepts.
- Seek new art installations that convey these concepts.
- Incorporate in the Cornell Botanic Gardens introductory video.

OBJECTIVE D

Visitors will recognize and appreciate that languages are representative of diverse world views and value systems of cultures and the loss of these languages erases the understanding of this rich diversity of human experience.

STRATEGIES

- Whenever possible, feature words/phrases that reflect a culture's relationship with the natural world (e-communications, exhibit, sign, plant labels). Include in exhibit on the ecological calendar project.
- Incorporate in the Cornell Botanic Gardens introductory video.
- Provide words in the Cayuga language that reflect their world views and value systems on appropriate interpretation.
- On plant labels, add names of plants in the language from which they are native to.
- Offer lectures and other programming that incorporates these concepts.
- Provide a place to display the word "welcome" in as many languages as possible in the Nevin Welcome Center. Encourage visitors to add "welcome" in a language they are familiar with.
- Encourage people to share words in their native language as part of stories they share of their personal connections with plants.
- Incorporate this concept wherever possible on bioculturally-focused interpretation such as small signs next to plants and new Young-Garden-style outdoor booklets.
- Seek new art installations that convey these concepts.

OBJECTIVE E

Visitors will explain in their own words the meaning of biocultural diversity and conservation.

STRATEGIES

- Introduce and explain the terms "biocultural diversity and conservation" in a permanent exhibit in the Nevin Welcome Center.
- Introduce and explain the terms "biocultural diversity and conservation" in an introductory video about Cornell Botanic Gardens.

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- Introduce and explain the terms "biocultural diversity and conservation" on docent tours of the gardens around the Nevin Welcome Center and the arboretum.
- Spontaneous conversations between staff and visitors might lead to the discussion of the term "biocultural diversity and conservation" and how it relates to our mission.
- Offer lectures and other programming that introduces and explains the terms "biocultural diversity and conservation."
- Webpage dedicated to introducing and explaining "biocultural diversity and conservation" on our website
- Incorporate these concepts in communication promoting the biocultural theme of programming and interpretation each year.
- Introduce and explain the terms "biocultural diversity and conservation" through "pop up" engaging interpretation on discovery carts using activities from past Judy's Days.

Goal 2: Feel empowered to explore and apply ways to contribute to a sustainable future.

OBJECTIVE A

Visitors will realize the urgency of the climate crisis and advocate for change in at least one way.

STRATEGIES

- Network of interpretation in the Mundy Wildflower Garden focusing on sustainable land management in the face of climate change
- Encourage advocacy through our communications such as the e-newsletter and social media.
- Mundy Wildflower Garden labels
- Climate Change Garden interpretation
- Enhanced promotion and interpretation for the Sustainable Landscapes Trail
- Incorporate in the Cornell Botanic Gardens introductory video.
- Interpret ash trees marked to be cut down with a small sign with way to access more info (QR code to website/audio tour). Encourage donation for planting of replacement trees.

OBJECTIVE B

Visitors will recognize that Cornell Botanic Gardens' cultivated and natural areas demonstrate nature-based solutions for achieving a sustainable future in the face of climate change and further explore them during their visit.

STRATEGIES

- Network of interpretation in the Mundy Wildflower Garden focusing on sustainable land management in the face of climate change.
- Enhanced promotion and interpretation for the Sustainable Landscapes Trail
- Highlight in the Nevin Welcome Center permanent exhibits areas visitors can explore.
- Encourage visitors at a self-serve orientation area in the welcome center to engage with interpretive media that explore nature-based solutions demonstrated throughout the gardens and natural areas.
- Staff blog to communicate our efforts and expertise with a focus on what changes staff are making in our gardens and natural areas due to the effects of climate change and to become more sustainable
- Highlighting demonstration areas and encourage people to visit these areas within the introductory video.
- Highlight as appropriate in the trailhead kiosks within off-campus natural areas.
- Highlight in brief temporary signs along frequently used trails with demonstrations of our approaches to natural areas stewardship.

APPENDIX D

OBJECTIVE C

Visitors will want to apply at least one nature-based solution to sustainability in their own lives.

STRATEGIES

- Network of interpretation in the Mundy Wildflower Garden focusing on sustainable land management in the face of climate change
- Enhanced promotion and interpretation for the Sustainable Landscapes Trail
- Interpretation in the Pounder Vegetable Garden
- Highlight solutions and provide ways to learn more during docent tours in the Nevin Welcome Center gardens and arboretum.
- On appropriate interpretation, encourage visitors to go to our website to learn more through videos and staff blogs.
- Highlight in brief temporary signs along frequently used trails with demonstrations of our approaches to natural areas stewardship.
- Offer programs for all ages that provide people with the tools to apply nature-based solutions to sustainability.
- Offer interpretation that shares cultural world views that

OBJECTIVE D

Visitors will recognize and appreciate that traditional/indigenous people and their intimate knowledge of Earth's systems greatly contribute to the conservation and sustainable use of the world's biodiversity.

STRATEGIES

- Incorporate this concept in exhibits in the Nevin Welcome Center and into programming and interpretation of seasonal plant displays focused around a biocultural theme.
- Incorporate this concept into the permanent exhibit in the Nevin Welcome Center.
- Collaborate with the Cayuga community and other Haudenosaunee communities to demonstrate their practices for sustainable agriculture and land stewardship.
- Integrate this message into all interpretation that elevates indigenous voices.
- Offer lectures and other programs that highlight this concept.
- Incorporate this concept into the introductory video.
- Highlight this where appropriate on small signs interpreting the cultural significance of select plants.
- Highlight this where appropriate within outdoor booklets highlighting the cultural significance of select plants.
- Use the discovery cart to create "pop up" engaging interpretation about this concept using activities from past Judy's Days.

OBJECTIVE E

Visitors will feel open to new ideas and perspectives about their relationship with the natural world through exploring other cultures.

STRATEGIES

- Create exhibits in the Nevin Welcome Center and offer programming and interpretation of seasonal plant displays focused around a biocultural theme that provide a variety of cultures' perspectives on their relationship with the natural world.
- Highlight a variety of cultures' perspective on their relationship with the natural world on small signs interpreting the cultural significance of select plants.
- Highlight a variety of cultures' perspective on their relationship with the natural world within outdoor booklets highlighting the cultural significance of select plants.
- Offer lectures and other programs that highlight a variety of cultures' perspective on their relationship with the natural world.
- Seek new art installations that provide a variety of cultural perspectives about their relationship with the natural world.
- Construct a "gratitude wall" that includes the word and translation of the word "gratitude" in different languages around the world.

- Offer opportunities for people to share stories of their personal relationship with nature and share their stories with others.

OBJECTIVE F

Visitors will feel grateful for the beauty of nature and all that it provides for us.

STRATEGIES

- Encourage visitors to take time to be mindful of the beauty around them through appropriate interpretation.
- Construct a "gratitude wall" that encourages people to articulate their personal gratitude for nature.
- Seek new art installations that encourage mindful engagement with the natural world.
- Offer programs such as the mindful botany walks that provide opportunities for people to mindfully engage with nature.
- Emphasize all that nature provides for us through appropriate interpretation.
- Offer opportunities for people to share stories of their personal connections with nature and share their stories with others.

Goal 3: Understand and appreciate Cornell Botanic Gardens' role in advancing Cornell University's mission.

OBJECTIVE A

Visitors will name at least one way that Cornell Botanic Gardens contributes to the University's educational mission and commitment to sustainability.

STRATEGIES

- Showcase in an introductory video ways Cornell Botanic Gardens contributes to the University's mission.
- Showcase and interpret research and educational efforts taking place on site as they are happening.
- Emphasize this concept within the network of interpretation in the Mundy Wildflower Garden focusing on Cornell collaboration.
- Continue to showcase plants that are part of a research program at Cornell (Annual ornamental and vegetable trials, plant breeding initiatives, etc.).
- Incorporate this concept on appropriate introductory and orientation signs (Cascadilla Gorge and Mundy Wildflower Garden path signs).
- Incorporate this concept into docent tours of the Nevin Welcome Center Gardens and Newman Arboretum.
- Add information on our website about how we are contributing to Cornell's climate action plan and the overall mission of Cornell and add a link on the research page to a page highlighting our findings on ecosystem restoration in the face of climate change.
- Enhance promotion and interpretation of the Sustainable Landscapes Trail to visitors.

OBJECTIVE B

Recognize and appreciate that Cornell Botanic Gardens is a living laboratory for learning about, developing, and applying forward-looking approaches to environmental sustainability.

STRATEGIES

- Showcase ways Cornell Botanic Gardens contributes to the University's mission in an introductory video.
- Showcase and interpret research and educational efforts taking place on site as they are happening.
- Incorporate this concept into the permanent exhibit in the Nevin Welcome Center.
- Emphasize this concept within the network of interpretation in the Mundy Wildflower Garden focuses on Cornell collaboration.
- Continue to showcase plants that are part of a research program at Cornell (Annual ornamental and vegetable trials, plant breeding

initiatives, etc.).
- Incorporate this concept on appropriate introductory and orientation signs (Cascadilla Gorge and Mundy Wildflower Garden path signs).
- Incorporate this concept into docent tours of the Nevin Welcome Center Gardens and Newman Arboretum.
- Add information on our website about how we are contributing to Cornell's climate action plan and the overall mission of Cornell and add a link on the research page to a page highlighting our findings on ecosystem restoration in the face of climate change.
- Enhance promotion and interpretation of the Sustainable Landscapes Trail to visitors.
- Incorporate this concept in enhanced Pocketsights tours.
- Include in content on trailhead kiosks within off-campus natural areas.
- Incorporate this concept on brief temporary signs along frequently used trails with demonstrations of our approaches to natural areas stewardship.

OBJECTIVE C

Visitors will appreciate the cultivated and natural areas of Cornell Botanic Gardens on or near campus as places of retreat to find beauty, inspiration, and overall nourishment of their well-being and want to return for that experience.

STRATEGIES

- Complete strategic plan to communicate with students and encourage students to visit for these purposes.
- Incorporate this concept into an introductory video about Cornell Botanic Gardens.
- Incorporate this concept in the permanent exhibits in the welcome center.
- Offer programs that align with this objective such as mindful botany walks and art classes.
- Continue to collaborate with Nature Rx to encourage students to visit to relax and nurture their well-being.
- Emphasize this as appropriate on enhanced Pocketsights Tours.
- Encourage this through signage promoting the use of the Lowi Lawn and where to access the croquet sets.

OBJECTIVE D

Visitors will appreciate that the area's dynamic geological history shaped the diversity within the gardens, arboretum, and natural areas of Cornell Botanic Gardens.

STRATEGIES

- Incorporate this concept within all enhanced Pocketsights Tours.
- Incorporate this concept into trailhead kiosks in off-campus natural areas.
- Incorporate this concept on appropriate introductory signs for gardens around the Nevin Welcome Center.
- Emphasize this concept on docent tours and tours in Fall Creek and Cascadilla Gorge.
- Incorporate this concept in the printed guidebook (passport).
- Incorporate this concept in an introductory video.
- Incorporate this concept in the permanent exhibits in the Nevin Welcome Center.

OBJECTIVE E

Recognize that the vision to preserve the University's scenic and ecologically-diverse landscapes and to develop botanic gardens and arboretum was part of the vision of Cornell leaders from the University's founding in 1865.

APPENDIX D

STRATEGIES

- Incorporate this concept in an introductory video.
- Emphasize this concept on docent tours and tours in Fall Creek and Cascadilla Gorge.
- Incorporate this concept in the permanent exhibits in the Nevin Welcome Center.
- Incorporate this concept into appropriate communications to Cornell students and alumni.

Goal 4: Recognize and appreciate that Cornell Botanic Gardens is involved in local, national, and international alliances to conserve biological and cultural diversity.

OBJECTIVE A

Visitors will name at least one collaboration that Cornell Botanic Gardens is involved in to conserve biological and cultural diversity.

STRATEGIES

- Create exhibits similar to the Ecological Calendar exhibit, which showcases an international collaboration.
- Highlight research collaborations on brief temporary signs along frequently used areas near evidence of that research in our gardens and natural areas.
- Emphasize this as appropriate on enhanced Pocketsights Tours and enhanced interpretation for the Sustainable Landscapes Trail.
- Provide examples of collaborations in appropriate locations during docent tours.
- Introduce this concept on permanent exhibits in the Nevin Welcome Center.
- Introduce this concept on trailhead kiosks in off-campus natural areas as appropriate.
- Provide a staff blog that showcases a collaboration.
- Highlight all collaborations in e-news communications.
- Incorporate this into the network of interpretation within the Mundy Wildflower Garden that showcases approaches to sustainability in the face of climate change.

OBJECTIVE B

Visitors will recognize that Cornell Botanic Gardens stewards over 4,000 acres of natural areas to protect rare plant populations and preserve the full range of ecological habitats of the Finger Lakes Region for education, research, and enjoyment.

STRATEGIES

- Emphasize this concept on trailhead kiosks in off-campus natural areas.
- Emphasize this as appropriate on enhanced Pocketsights Tours and enhanced interpretation for the Sustainable Landscapes Trail.
- Emphasize this concept within permanent exhibits in the Nevin Welcome Center.
- Introduce this concept on an introductory video.
- Emphasize this concept on docent tours and tours or gorges and natural areas.
- Include this concept in our visitor map and rack card.

OBJECTIVE C

Visitors will recognize and appreciate the critical role botanic gardens, including Cornell Botanic Gardens, play in preserving plant species diversity and genetic resources for developing new varieties of plants to meet human needs and enhance well-being.

APPENDIX D

STRATEGIES

- Emphasize this as appropriate on enhanced Pocketsights Tours and enhanced interpretation for the Sustainable Landscapes Trail.
- Emphasize this concept within permanent exhibits in the Nevin Welcome Center.
- Introduce this concept on an introductory video.
- Emphasize this concept on docent tours and tours or gorges and natural areas.
- Incorporate this into appropriate introductory signs to gardens around the Nevin Welcome Center.
- Incorporate this into appropriate signs in the Pounder Vegetable Garden.
- Post staff blogs that emphasize this concept.

OBJECTIVE D

Vistiors will feel hopeful about the efforts toward conserving the world's biological and cultural diversity.

STRATEGIES

- Always provide a hopeful perspective when interpreting our conservation efforts.
- Communicate hopeful information about conservation efforts through our e-newsletter and social media channels.
- Offer art exhibits and performances that convey hope about conserving the world's biological and cultural diversity.

Goal 5: Provide a sense of welcome and hospitality to our visitors.

OBJECTIVE A

Visitors will feel welcomed by accessible and friendly staff.

STRATEGIES

- Provide information about interpretive opportunities to horticulture and welcome center desk staff so they can share with visitors who inquire (self-guided tours, upcoming events, info available on website).
- Provide translation in top languages spoken for interpretive signs and audio tours. Identify, prioritize, and phase over two years. Add a sign in our welcome center with "welcome" in many languages.
- Self-serve orientation area in the Nevin Welcome Center, which includes simple instructions on all ways to explore Cornell Botanic Gardens (self-guided tours, recommended routes, guided tours and events, guidebook). Include passport when completed.

OBJECTIVE B

Visitors will be able to easily navigate to and throughout Cornell Botanic Gardens areas.

STRATEGIES

- Improve accessibility to our gardens and natural areas: Identify areas that could become ADA accessible within our means and prioritize.
- Brief video introducing the Cornell Botanic Gardens experience. Promote on website and other appropriate channels.
- Self-serve orientation area in the Nevin Welcome Center
- Promote the TCAT bus stop # on Judd Falls Road on our website and other promotional materials.
- Review all Google map locations for all areas on our website to make sure they are accurate.
- Add a map on our website that people can download and print easily.
- Evaluate the use of the interactive map on our website and adjust if necessary.

APPENDIX D

- Complete installation of wayfinding signs to connect all of our on-campus gardens/natural areas to each other and key areas on campus. Phase over 2 ½ years.
- Create Pocketsights tours to provide guided routes to Cornell Botanic Gardens from key points on campus.
- Create printed guidebook (passport) to hiking Cornell Botanic Gardens. Identify strategy to promote and distribute.
- Assess the efficacy of trail markers installed in Fall Creek Valley and Identify need for additional markers in other natural areas. Implement if needed.
- Continue to add trailhead kiosks in natural areas.
- Create a prominent gateway at entrances to Cornell Botanic Gardens from campus.
- Connect with planners of the North Campus residential expansion to make sure our areas are integrated to the wayfinding signs around this area.

OBJECTIVE C

Visitors will recognize that the Nevin Welcome Center provides visitor services and a gift shop with light refreshments and know how to get there.

STRATEGIES

- Display NWC hours in the parking lot.
- Provide this information prominently on our website.

OBJECTIVE D

Visitors will recognize that Cornell Botanic Gardens offers plant and nature focused programs and events and know how to find information about them.

STRATEGIES

- Self-serve orientation area in the Nevin Welcome Center, which includes simple instructions on all ways to explore Cornell Botanic Gardens (self-guided tours, recommended routes, guided tours and events, guidebook). Include passport when completed.
- Provide this information prominently on our website.

OBJECTIVE E

Visitors will feel safe during their visit.

STRATEGIES

- Complete installation of more rules of etiquette signs around the gardens.
- Improve accessibility to our gardens and natural areas: Identify areas that could become ADA accessible within our means and prioritize.
- Complete installation of wayfinding signs to connect all of our on-campus gardens/natural areas to each other and key areas on campus. Phase over 2 ½ years.
- Create printed guidebook (passport) to hiking Cornell Botanic Gardens. Identify strategy to promote and distribute.
- Assess the efficacy of trail markers installed in Fall Creek Valley and Identify need for additional markers in other natural areas. Implement if needed.

APPENDIX D

OBJECTIVE F

Follow all rules for safety and etiquette during their visit.

STRATEGIES

- Complete installation of more rules of etiquette signs around the gardens.
- Provide rules of etiquette at a self-serve orientation area in the Nevin Welcome Center.

OBJECTIVE G

Visitors will recognize that they can learn about plants through their labels and be able to easily find a label for each accessioned plant.

STRATEGIES

- Identify which areas need more visible plant labels and create phased implementation and fundraising.
- Add plant lists to our website. Then add signage within gardens for visitors to access them.
- Evaluate the effectiveness of the APGA plant snap app to determine whether we should promote to our visitors. Perhaps a volunteer group could do this.

Goal 6: Feel inspired to provide support to Cornell Botanic Gardens

OBJECTIVE A

Appreciate Cornell Botanic Gardens' role in conserving biological and cultural diversity and inspiring positive change for a sustainable future, as part of Cornell University.

STRATEGIES

- All interpretive opportunities that convey these messages.
- Weave this message in appropriate communications to our supporters.

OBJECTIVE B

Recognize they can support Cornell Botanic Gardens through volunteering, taking a class, or providing financial support through a membership or donation and complete one of those actions within a month of their visit.

STRATEGIES

- Include this message in permanent exhibits in the Nevin Welcome Center.
- This message is currently included in the visitor map.
- Include this message in introductory video.
- Prominently communicate this message on our website.
- Train docents to communicate this at the end of a guided tour.
- Include this message in an automated e-mail sent after they sign up to receive our e-newsletter at the Nevin Welcome Center.
- Include this message at a self-serve orientation area in the Nevin Welcome Center.
- Include this message within all Pocketsights Tours.

APPENDIX D

OBJECTIVE C

Visitors will provide a monetary donation during their visit.

STRATEGIES

- Encourage visitor services desk to notify people they can make a donation on their way out.
- Encourage docents to make people aware of the donation box in the Nevin Welcome Center during their tour.
- Encourage people to donate at a self-serve orientation area in the Nevin Welcome Center.
- Encourage people to donate via the mechanism for signing up for the e-newsletter.

OBJECTIVE D

Visitors will encourage at least one friend or family member to visit the botanic gardens after their visit.

- Include this message in an automated e-mail sent after they sign up to receive our e-newsletter at the Nevin Welcome Center.
- Train staff to encourage visitors to tell others about us.
- Include this message in social media and e-mail communications.

TEAM79