

Longwood
Gardens

Peirce-du
Pont House
Garden
Ambassador
Manual

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Welcome to the Garden Ambassador Team!

Your Role: Garden Ambassadors help ensure our guests have an extraordinary guest experience every time they come to Longwood Gardens. Garden Ambassadors are knowledgeable, enthusiastic people who welcome and help guests to fully enjoy their time at Longwood Gardens. Garden Ambassadors actively engage guests and share knowledge of daily events, the Gardens' activities and Longwood history, heritage and excellence. The Peirce- du Pont House Welcome Desk is the informational hub of the East Gardens. Garden Ambassadors serve an important role connecting guests to the many features of the East Gardens.

Longwood Gardens Mission Statement

Longwood Gardens is the living legacy of Pierre S. du Pont, inspiring people through excellence in garden design, education, horticulture and the arts.

Longwood owes most of its creation to Pierre du Pont. Pierre du Pont purchased the initial 202 acres in 1906 to save a significant collection of beautiful old trees and to create a country home to entertain his family and friends. Starting with a simple Flower Garden Path, he began the spectacular Longwood Gardens we know and enjoy today.

We continue Pierre S. du Pont's passion for excellence through innovation, creativity, experimentation and professional development. We strive to connect our guests with this living legacy.

You, as Garden Ambassadors, are an integral part of sharing his legacy and story with our guests.

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STAFF AND STEERING COMMITTEE CONTACT INFORMATION

Your Staff Contact

Paula Kunkel

pbuterakunkel@longwoodgardens.org

601-388-5354

Paula's office is located upstairs in the Peirce-du Pont House

Garden Ambassador Steering Committee

This team of volunteers coordinates new projects and facilitates questions and answers for the team. You may ask questions or offer suggestions to the Garden Ambassador Steering Committee by emailing giv@longwoodgardens.org or by commenting in the "Questions and Comments" section of the binder at the Welcome Desks.

Members are selected by staff and current steering committee members.

Guest Service Associates (GSAs)

There will always be GSA employees on duty. At the House, one is always stationed in the East Gardens area. By calling Guest Services at ext. 5206, a GSA can be reached and can be at your location within minutes.

Guest Service Associate Staff:

- Enforce and encourage good garden etiquette
- Are your first contact for guest assistance and have basic first aid supplies
- Staff the Welcome Desks at times when volunteers are unavailable Support the Garden Ambassadors and keep you informed of daily updates and Gardens information
- Welcome and inform guests
- Assist with way finding – helping guests to find garden locations and highlights

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Procedures and Policies

COMMUNICATION

Nearly all volunteer communication, updates and important information will occur via email. Please be sure to check your email regularly so you don't miss anything important. Your staff Lead will send you regular emails regarding updates for this team and email you with additional important information or notices about Longwood.

Paula Kunkel

pbuterakunkel@longwoodgardens.org

You may also receive emails from Sally Kutyla, Volunteer Manager

skutyla@longwoodgardens.org

COMMUNICATION FROM YOU

You may email the staff coordinator listed above, call or stop in our office upstairs in the Peirce-du Pont House. You may also email giv@longwoodgardens.org. There is also a section in the sign-In book which can be used to communicate any questions, concerns, comments, or suggestions to the Garden Ambassador Steering Committee team. This section will be checked every two weeks, and responses to the questions will be written and included in this same section for your review the next time you volunteer. Your feedback and suggestions are valuable to our team and Longwood.

TIME COMMITMENT

As a Garden Ambassador, you are expected to volunteer regularly twice per month. You are required to annually volunteer a minimum of 15 shifts per year as a Garden Ambassador, and attend semi-annual training sessions.

SCHEDULING

Volunteer Shift Schedule

The Welcome Desk is staffed by volunteers from 10 -1:30 and 1:30- 5, seven days a week.

During the summer months and the Christmas season, the Gardens are open in the evenings, so evening shifts are added to the schedule.

Please use the online calendar to schedule your volunteer shifts. You are encouraged to sign up for a regularly scheduled time slot via the on-line calendar.

The online calendar links for all volunteer calendars are posted on Longwood's website here: <http://longwoodgardens.org/volunteering/volunteer-calendar> . Be sure to select the correct calendar for your volunteer team.

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Note: you may also bookmark or save the direct link to your computer as a link under favorites on your homepage. The direct link to the Garden Ambassador—Peirce-du Pont House Calendar is here:

http://www.brownbearsw.com/mc/lwg?CalendarName=ga_pduponthouse

Please do not worry about a login, or the buttons on the bottom of the page. If you have additional questions please contact your supervisor.

To view the calendar:

Lagon to www.longwoodgardens.org (or you may also bookmark as noted above)

Scroll to the bottom of the Homepage, and click on VOLUNTEERING

Note: On you cellphone or smart device you need to click the down arrow next to Volunteering to access the calendars link.

Click on Calendar (for registered volunteers) in the left column.

Click on Garden Ambassador – Peirce-du Pont House Calendar

To add your name to the calendar:

Select the date you want to volunteer by clicking on the day #.

In the screen that appears (See image below) look for “**Add New Event**” in the middle of the page.

Always create a new individual entry. Never edit someone else’s entry.

1. Select your times: the first box is the date you have selected. Add the start and end times of your shift by clicking the next two boxes which open a pulldown menu of times.
2. **Volunteer Name:** add just your first name and the initial of your last name
3. Click on **Create Event**
4. Click on **View Calendar** in the upper left corner to see your entry on the Calendar.

The screenshot shows a web form titled "Add New Event" with a pink header. The form contains several input fields: "From:" with a date "08-02-2016" and time "2:00pm", "To:" with a time "3:00pm" and a date "08-02-2016", an "All Day?" checkbox, a "Volunteer name" text box, "Colors: BG:" and "FG:" text boxes, an "Example Text" text box, an "Owner:" dropdown menu with "sysadmin" selected, and a "Calendar:" dropdown menu with "ga_conservatory" selected. There is a green "Create Event" button. Below these fields is a "Special Features" section with a "Target Date:" text box containing "mm/dd/yyyy" and a checkbox labeled "Display the number of days since or until this date?".

If you are unable to make your shift

We depend on you, our Garden Ambassadors, to responsibly fulfill your commitment.

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If you are unable to make your shift due to an emergency and it is the day of or day prior to your shift please call Visitor Center Guest Services at (610) 388-5206. They will notify the GSA team who provide coverage for your shift if possible.

For all other calendar changes and cancellations, please email: giv@longwoodgardens.org and the Calendar Manager will record your changes to the electronic calendar.

WORKING YOUR VOLUNTEER SHIFT

The desk is normally staffed by two volunteers, although at times it may be staffed by one volunteer.

When necessary you may take a short 15 minute break during your shift. Please alternate with your partner, so someone is always on duty during the shift. If only one volunteer is on duty and you need to step away please ask one of the Guest Services Associates (GSAs) to cover the desk.

Starting Your Shift

Be prepared and review your notes and updates before coming in for your shift. Check the website for the *Garden Highlights*, and for any special events occurring on the day of your shift. See the Resource section of your manual

Remember to always wear your nametag. Please arrive early enough so that you have time to orient yourself to what may be new or changed since your last shift. Also, take this time to review the Daily Line-Up sheet found at the Welcome Desk, and connect with a Guest Services Associate (GSA), for the most current information.

Sign In

The Garden Ambassador *Sign-In* book is located at the Garden Ambassador desk. Please remember to sign in so that your volunteer hours are recorded and added to your annual total hours. PLEASE PRINT your name on the sign-in sheet legibly so your hours can be credited and turned into volunteer coordinator Sally Kutyla at the end of the month.

During Your Shift

The Welcome Desks in the Conservatory and Peirce-du Pont House are in highly visible locations. Please keep the top of the desks clear and neat, storing Lost and Found items and personal items below the desk.

Peirce-du Pont House Garden Ambassadors

Procedures and Policies

Roaming

We encourage all Garden Ambassadors working in pairs to take turns and roam away from the desk and engage guests in other parts of the Peirce-du Pont House. When there are two volunteers volunteering together, one volunteer can stay at the desk to provide information, and the other volunteer can roam, walking the areas around the conservatory, library and exit area to engage guests and enhance the guest experience. Garden Ambassadors should walk through the Exhibit regularly to make sure the Exhibit is always neat and guest ready.

During warmer weather you can greet guests outside of the Peirce-du Pont House and direct them to the Heritage Exhibit, different Garden areas or discuss the history of the beautiful house façade.

When there is just one volunteer on duty please stay close to the desk, so guests can easily see you are on duty.

During Quiet Times

Garden Ambassadors should always be ready for guests, even on the slowest days. Between guest visits you may have free time.

We ask that you refrain from using your cell phone, personal computer, knitting, or other personal activities at the desk during your shift. Instead, please use this time to peruse materials relevant to Longwood and your volunteer position and walk through the House displays and exhibits.

You will find a wealth of material at the desk to increase your knowledge of Longwood Gardens' history, plants and current events. There are also several books that provide valuable information on Longwood Gardens, such as *The Heritage of Longwood Gardens*, *Pierre S. du Pont and His Legacy*. Other materials will be added regularly for you to learn from and use as a guest reference. Please leave the books at the desk.

At the end of the shift, please clear the area, putting away all books and binders.

VOLUNTEER RULES AND POLICIES

Attire

We ask that you present a neat, professional appearance at all times while volunteering at Longwood. Attire includes shirt (with sleeves for men); skirt, shorts or slacks; and shoes, sneakers or sandals.

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Remember to wear your Longwood nametag, on the right side lapel area. Longwood logo apparel items such as hats, sweatshirts, and jackets are available for purchase at our Uniform Shop.

Cell Phone Use

Please refrain from using your cell phone to send or receive phone calls or texts during your shift as this is not a welcoming signal to guests. Please set your phone on vibrate if you bring it with you. If you do need to use your phone, please step out of the public eye to take your call. Remember you are an ambassador of Longwood and are “on stage” while volunteering.

Inclement Weather

If you are unable to work your shift due to weather conditions, please be sure to call Visitor Center Guest Services at: 610-388-5206, so they can contact the GSA team and provide for coverage at the Peirce-du Pont House.

Food or Meals

Volunteers should eat before or after their shifts. If for personal reasons you need to eat or have a snack during your shift you should bring a lunch and eat it in the volunteer break room upstairs. Please do not eat out in the public view. Guest Services Associates (GSA's) are not able to provide lunch breaks during your shift.

Anyone who wishes to take advantage of their volunteer benefit of a discounted meal at the Café should do so before or after their shift.

HOUSE LOGISTICS AND INFORMATION

Entry and Exit

The public should enter and exit the Peirce-du Pont House ONLY through the Conservatory doors. Doors in the other rooms that exit to the outside should remain unlocked during hours of operation for use as Emergency Exits only and are labeled as such.

Guests should remain in exhibit spaces. Guests are not allowed behind exhibit railings, upstairs, or in office areas.

Smoking is not allowed in the conservatory or the Peirce-du Pont House. Per Longwood policy, smoking is permitted by guests in any outdoor area.

Emergency AA and AAA batteries and band aids for guests are available at the Welcome Desk in the Peirce du Pont House and the Conservatory.

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Scooters, strollers and wheelchairs

- a. Scooters rented from Longwood Gardens – Guests with Longwood scooters should be asked to leave their rented scooter outside in front of the House.
- b. Scooters owned by the guest - Scooters owned by the guest - Guests using their own personal scooters, motorized wheelchairs, or other mobility device are welcome in the conservatory...However, the old part of the Peirce-du Pont House has several elevation changes and narrow passageways that prevent easy access to the Heritage exhibit.

Note: For guests who are unable to go through the Heritage Exhibit, they can read a synopsis located at the Welcome Desk titled “The Heritage of Longwood Gardens” while relaxing in the Peirce-du Pont House conservatory.

- c. Strollers – Guests with strollers should be encouraged to leave them in the foyer of the Peirce-du Pont House conservatory. If guests with strollers insist on using them in the Heritage Exhibit areas, they may do so, but please explain that there are steps and narrow passageways.
- d. Guests using wheelchairs are welcome in all parts of the Gardens, Conservatory and the Peirce-du Pont House.

Monopod/tripod/easel use by amateur photographers and artists is permitted in the Conservatory and the Peirce-du Pont House from 9:00am- 12:00pm daily.

Food and Drink

Picnicking or bringing in any outside food or beverages (except water and light snacks), is discouraged. Guests may carry a drink or snacks for children or those with medical needs. Meals should be eaten in the Café.

Restrooms closest to the Peirce-du Pont House are located behind the Open Air Theatre, the Restaurant and near the Italian Water Garden. Because of their antiquity the restrooms in the Peirce-du Pont house are not available to the public. The bathrooms are original to the 1914 addition. Any guest that you perceive to be in distress or discomfort can be escorted to the hidden bathroom in the Library.

Drinking Fountains

Year- round drinking fountains are located at the Visitor Center, Terrace Restaurant, and Conservatory.

Outdoor drinking fountains operate seasonally from April through November: The closest drinking fountain is located on the southeast side of the House, at the entrance

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of Peirce's Park. There is also a drinking fountain near the restrooms of the Open Air Theatre.

Exhibit Problems

If you have any problems with the Exhibit (i.e. if you notice something is malfunctioning or needs cleaning), contact Paula Kunkel at 5354. If there is an immediate need to have something corrected please contact Guest Services at ext. 5206 and /or let the GSA team know.

In order to maintain the authenticity of the exhibit please respect the placement of furniture, lamps, etc. Upholstered furniture, which is meant to be used by guests, should remain in their designed locations.

Climate Control

The House is centrally heated in the winter but is not air conditioned in the summer. During the warm months, the doors in the Library, Parlor, Great Hall, and the Flower Room, as well as the windows in the Pantry and Kitchen may be opened for ventilation.

In the spring, the conservatory windows are lowered into the basement for storage and the screens are raised. This process is reversed in the fall. On rainy days, if there is rain coming into the conservatory from the overhead vent, please call Security at ext. 5222, and they will see to it that it is closed. The wicker furniture should be moved to avoid dripping water and should be towed off if wet.

GARDEN ETIQUETTE

If you see guests running, damaging plants, or doing things that might cause harm to themselves or others gently try to redirect their behavior. **You are not responsible for discipline** but sometimes a comment delivered positively can help turn a situation around. Redirect negative behavior in a polite, friendly, firm but non-aggressive manner – make your statements general, not personal, and avoid the use of negative words such as don't and "you". Use your engagement skills to talk about the value of an old tree or beautiful plant, or change behavior by talking to guests and directing their attention to an interesting aspect of the Gardens. The Guest Services Associate (GSA) on duty can be contacted when you feel you need staff assistance

Lost and Found

Lost items can be left at the Garden Ambassador Desk. Please place them in the basket under the desk. The Guest Services Associates Team or to Security Personnel will take the items to the Guest Services Desk in the Visitor Center. Guests may pick up their items there.

If an especially valuable item is turned in please do not leave it on the desk. Please contact the GSA team immediately by calling guest services at ext. 5206 so they can pick it up.

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If a guest is struggling to walk, or appears weak: Help them to a seat if possible. Offer them the use of a wheelchair or scooter. Use the phone to call the GSA team for assistance as needed. They can bring you a wheelchair or (if available) a scooter for the individual. Note: there is a \$25 fee for using a scooter and wheelchairs are free (out in the Gardens, \$4.00 at the VC). Scooters, wheelchairs and strollers are free for members. Please ask the guest to return the wheelchair to Guest Services in the Visitor Center as they leave the Gardens.

Fire Alarm

If the Fire Alarm sounds at the Peirce- du Pont House – please call Security ext. 5222 or the Information Desk in the Visitors Center “0” to advise staff of the situation. Then leave the building. Stay calm and walk with the guests to the closest exit.

Guests may ask you “what is going on?”, and “when can we go back in?” It is best to say you are not sure, but that hopefully everyone can go back into the House in just a few minutes. Remain outside with the guests until the Security Team or GSA Team gives the ‘all-clear’ signal.

SECURITY AND EMERGENCY INFORMATION

Security phone contact from the desk phone call **x5222**

No matter how minor or major a situation may appear, the first and only thing to do is to notify a staff person. Staff will then take over. Do not administer first aid. When you call Security calmly tell them your name, then tell them your location and what the problem is.

GSA staff - Your first contact and they have basic first aid supplies. They enforce and encourage good garden etiquette

Security staff is the next level of emergency assistance for you. They are trained EMTs and can help in more serious situations.

The Garden Ambassador role is to try to comfort or calm the guest(s) until appropriate staff arrives. Any information you can collect from the guest is helpful, but please don't discuss such things as why or how the incident occurred or the frequency of similar incidents.

In a critical emergency such as a suspected heart attack or other serious issue please call 911 and then Security at 610-388-5222. Security will direct the emergency care to the correct location. Please save Security's number to your cell phone also. When you call Security first tell them your name, then tell them your location and what the problem is.

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If you witness a minor incident (for example, a bumped head), politely offer to get assistance for the guest. If they refuse, discreetly contact security so we can document the incident and follow up as necessary. GSA staff can offer a bandage or icepack in a minor injury. Anything beyond that Security must handle. *No volunteers should provide first aid services to a guest.*

Security will respond immediately to the scene. Security staff is trained in basic first aid and will have a portable First Aid kit with all the essentials. If the injury requires more care, they will call an ambulance and have the guest taken to the nearest hospital or appropriate care facility. No matter what level of attention or care is provided, Security staff then complete a full report on the situation.

Missing Persons

If you are told by Longwood staff (or hear over the radio) that a 'Code Adam' (which is a process to follow for lost person) is implemented, your role is to be the eyes of Longwood staff and look for the lost person within your area. If you find the missing guest call security to notify them.

If you are approached by a guest with a missing / lost persons situation

Stay with the guest. Remain calm and reassure the guest that all will be resolved shortly. Contact the GSA staff by phone and notify them of the situation. Once staff arrives, introduce them to the missing guest and then step out of the situation, letting Longwood staff take over.

Your role as a Garden Ambassador is vitally important.

Thank you for participating in this Volunteer Program and representing Longwood Gardens to the thousands of guests with whom you will interact.

Interpretation and Guest Engagement

What is Interpretation?

Simply defined: Interpretation connects minds and hearts to a place

A more in-depth explanation is that interpretation helps guests make emotional and intellectual (hearts and minds) connections to a resource – or in our case, Longwood Gardens. Interpretation is more than talking, answering questions, or exchanging facts. It is an interactive sharing of experience and knowledge between the interpreter and the audience.

The goal of interpretation is to create an environment that changes or enhances a visitor's knowledge, attitude, and perception. This is accomplished by blending a strong, accurate understanding of the topics, a love for Longwood Gardens, and a concern for your audience.

The three main elements of interpretation can be summarized as **ART**:

1. Knowledge of your **Audience**
2. Knowledge of the **Resource**
3. Interpretive **Techniques**

Each of these elements is discussed in the sections that follow.

1. Knowledge of your Audience

One of the key elements of successful engagement is assessing and adapting to your audience. Guests vary greatly in age, geographic origin, knowledge level, perceptions, and expectations. They also vary in their desire for interactions with staff or volunteers. Some guests want to be left alone to experience the Gardens. Others may have just a few questions while others may have numerous questions and enjoy the interaction.

You will want to tailor your information to your audience. Let guests dictate the degree to which you interact with them. Make them feel welcome, but do not overwhelm them. If guests seem to welcome interactions, you can try to assess their interest, capabilities, and knowledge level by asking a few questions about themselves and their interests. Do not overestimate the guests' knowledge nor underestimate their intelligence.

Interpretation and Guest Engagement

Who are our guests? Why do they visit us?

Your audience can be classified in several different ways. One way to look at the guests who come in our doors is to determine why they visit us.

Every guest enters with a set of expectations that can be categorized as falling within one or some combination of five major identity-based categories: Experience Seeker, Professional/ Hobbyist, Spiritual Pilgrim, Facilitator, or Explorer. Research shows that individuals not only choose to visit or not visit based upon these identity-based motivations, but it also shows that these motivations largely determine how guests conduct their visit and strongly influences long-term learning and sense of satisfaction with a visit. © 2007 Association of Zoos and Aquarium

These are the **five distinct categories of guests** and their primary motivation for choosing to visit:

“Experience Seekers” primarily derive satisfaction from the fact of visiting this important site. They may have the least advance knowledge and the lowest expectations for their visit. They may want a picture memory and may not spend a lot of time visiting but head on to the next experience.

Example: A tourist who wants to briefly see, set foot in, and have a photo memory that they were at Longwood Gardens so they can share their travel experiences. They are looking for the simplest of experiences and will excitedly share their discovery of “treasures” at Longwood with others. You should offer to take their photo!

“Explorers” are curiosity-driven and seek to learn more about whatever they might encounter at the Gardens. They are looking for a deeper connection and come with a good base of knowledge.

Example: These are guests who want to understand how Longwood works, its history, and the “hidden” or behind-the-scenes side of the operation. They will readily attend a talk or tour and will want to actively ask you questions.

Interpretation and Guest Engagement

“Facilitators” are focused primarily on enabling the experience and learning of others in their accompanying social group.

Example: Grandparents with grandchildren or parents with children are a fine example. The Grandparents or parents will most likely have a wonderful past experience or memory of Longwood Gardens and want to facilitate a similar experience in the children. You should talk with the adults, ask those questions and provide helpful suggestions on where or how they might forge these emotional connections.

“Professional/Hobbyists” seek a close tie between the Gardens and their professional or hobbyist passions.

Example: The guest who grows an orchid at home, is a historian, or craftsman. They want to understand how Longwood cares for a particular resource and compare this to their own care at home, in the hopes of becoming more proficient with the resource. These guests can be directed to talk with a docent, take an Insider tour or a continuing education class.

“Solitude Seekers” are primarily seeking a contemplative and/or restorative experience. They may wish to be left alone to experience Longwood in their own way.

Example: This is the guest who may sit on a bench and be transfixed by the beauty around them, or very slowly stroll through the Conservatory gently brushing plants and deeply inhaling the wonderful scents. Eye contact and a smile is all you need to provide, letting this guest know you are available for conversation if they so wish.

What type of guest are you? _____

Special Groups of Guests - families, tour groups and foreign language speakers

Some special groups of guests are families, teenagers, tour groups and foreign speaking adults. Families can be broken down into two groups: families with children under five, and families with school-age children. Here are some tips for interacting with these types of guests.

Interpretation and Guest Engagement

- **Families with children under five** – in general, they spend less time in any one place due to the short attention spans of their young children. Keep this in mind when engaging with them. Offer them a Seek and Find card. Point out interesting features attractive to children. Young children will also welcome an opportunity to touch and examine objects.
- **Families with school-age children** – should be encouraged to work together and discuss possible answers amongst themselves. Also, try to find ways for the family to work together and share their awe and discoveries. Remember that children often like to be challenged, to brainstorm ideas, and make discoveries. They rarely like to be quizzed!
- **Teenagers** – in general, like to travel in peer groups. If you are not used to being around or working with teenagers, you may feel a bit uncomfortable interacting with them. The only way to get to know this group better is to just start talking to them. They like to be treated as adults, not kids, so ask higher-level questions that will force them to think. This age group is fascinated with bizarre and unusual facts. Though certainly an interpretive challenge, working with teenagers can be a very rewarding experience.
- **Groups** –Visits by school groups are frequent on weekdays during the school year. These and other groups vary widely in age, purpose, and expectations. Be sensitive to the group dynamic and aware that group members may often be pre-occupied interacting with one another as well as with you. Use the teacher, or chaperone as your aide if the group is largely composed of children. Adults can encourage proper group behavior and can repeat and emphasize important information to younger children.
- **Foreign language speakers** – don't assume that everyone who looks foreign only speaks a foreign language. Take cues from the language they are speaking and how they interact with your first greeting. Often if they truly don't speak much English they will tell you or nod their head no. See if there is a leader of the group who is acting as translator. Slow your conversation and simplify it to fit their comprehension. Even those who speak no English may appreciate an offer to take their picture. Just mime clicking a camera and ask photo? And they may say yes.

Interpretation and Guest Engagement

2. Knowledge of Resources

Garden Ambassadors are expected to develop and share their knowledge about the history of Longwood and the unique elements of their various volunteer locations. Knowledge comes from your experience, personal background, and education as well as training and refresher classes. Garden Ambassador trainings are a great place to extend your Knowledge of the Resource, receive updates about Longwood Gardens, and get to know your fellow volunteers and staff.

You should develop a professional attitude about your volunteer work and have a respect for accuracy. Learn the information and facts and don't be afraid to say, "I don't know," to a question beyond your knowledge. Guests will appreciate an honest, "I don't know," over a guess. Make sure to try to find out the answer that will allow you to provide the information the next time you are asked.

Choose your sources of information with care. Books in Longwood's library are accurate and up-to-date, but some sources on the internet may not be correct. Staff members are an excellent source of information. However, remember the expertise of individual staff members does not extend to all topics.

See the Resource section of your manual for a list of useful resources.

3. Interpretive Techniques

Conversation is the primary interpretive technique used by Garden Ambassadors and allows personalized interaction with guests. It is a give and take flow of communication which is a positive learning experience for both guests and Garden Ambassador. When done well, this personal interaction leads to deeper connections between the guests and Longwood.

Interpretation and Guest Engagement

How We Communicate

Great personal communication is made up of three important elements: **words, voice, and body signals.**

- **Words** - Effective communication involves choosing appropriate words. Words can make a person feel great or terrible, and can make a huge difference in shaping the attitudes of your audience. Choose words carefully. Consider the difference between telling someone they are “wrong” versus saying “Actually, a lot of people think that but ...,” or the difference between describing a gardening task like weeding as, “grunt work,” versus, “An effort that results in a beautiful display...”
- **Voice** - this is a vital tool in spoken personal communication. The volume of your voice should be loud enough for guests to hear you clearly. Speak with enthusiasm and vary the tone of your voice. Avoid speaking too slowly or too quickly. Speak clearly without slurring or mumbling.
- **Body signals** - these are important nonverbal cues that are part of the communication repertoire.

Greeting guests eye to eye

Garden Ambassadors should be sure to stand and greet guests as they come through the door. Eye contact is thought by some to be the **most important body signal**. Eye contact shows your audiences that you are interested in them and helps you gauge their interest level. Maintain eye contact throughout the group without focusing on just one person.

Facial expressions - for example, lowered eyebrows convey anger whereas a smile and raised eyebrows express enthusiasm

Gestures - too many can be distracting but a few for emphasis are effective

Posture - reveals what you think of yourself and of your listener

For example, slouching conveys indifference to the world, crossed arms places a barrier between you and the guests. Try for the happy medium of poised and comfortably relaxed.

Interesting note: Research indicates that only seven percent of our verbal message is communicated through words; 23 percent of our message is communicated through voice; and amazingly, body signals account for 70 percent of our message!

Interpretation and Guest Engagement

Parts of the Conversation

The Introduction/Conversation starters

It is often up to the interpreter to initiate the conversation:

- Simply greet the guests. A warm, "Hi! Welcome to Longwood Gardens!" may open the way to conversations and interactions. Once guests realize they can talk with you, they usually will.
- Open with a question. This is perhaps the best conversation starter of all. Questions are excellent tools for initiating conversations because they ask the other person to respond. There are several levels of questions; from simple yes or no questions to open-ended questions. Questions help you "read" your audience to determine at which level to aim your conversations and what their interests are. Asking someone what they know about Longwood Gardens will help you determine what interests them and what to talk about.
- Try a self-disclosing statement such as, "I love the Italian Water Garden. It's so serene and beautiful." This is a way to equal out roles. Someone who is viewed as an "expert" may intimidate guests.
- Try a positive, personal statement like, "Great T-shirt!" This type of compliment makes the visitor feel special and recognized. It can often lead into a conversation because, like the greeting, an opportunity has been created.
- Listen for a visitor's comment that might provide you an entry into a conversation. If you approach them in an unassuming, unobtrusive manner, most guests will welcome an answer to the questions asked amongst them. "Excuse me, but I overheard you wondering how old the fountains are ..."
Guests who are having difficulty with a display, appear confused, or perhaps are just having trouble locating something on the map, will definitely welcome your input!

Interpretation and Guest Engagement

The Body of the conversation

This is your time to share information. Try to keep the information exciting for yourself and your audience. **Don't reveal all the answers right away.** Get your audience to examine objects, make observations, and ask you questions. Having guests discover information for themselves will greatly enhance the impact of your interactions.

The middle of a conversation involves two activities, **talking AND listening.** You and the guests should share these activities equally or the conversation may end quickly. For example, if one person does all the talking, the other person may feel he/she is being lectured to; or if one person only listens and doesn't join in, the other participant may believe there is a lack of interest. **Try not to do all the talking, and ask questions to keep your audience involved.**

Remember to use the all-important **pause** in your conversation. It can signal the end of a thought, give an idea time to sink in, and also provide impact to a statement.

Tap their emotions. Explore the emotions and opinions of the audience. "What do you think about our beautiful House? Isn't that a wonderful old tree?" Emotions and attitudes shape our perceptions. By helping guests understand this we can positively influence them.

Share an anecdote or story. Kept short, a personal, positive, and relevant story can be an entertaining and effective way to convey information. As you volunteer, you will have many unique experiences that can be used as interpretive anecdotes.

Share a sense of wonder

Wow your guests with

- A good story
- Neat facts about amazing, unusual, surprising, wondrous or shocking things
- Cool technical information shared in an easy to understand manner using simple language and easy to understand metaphors

What they could care less about

- Lots of numbers and lists of facts
- Did you know that quoting numbers turns on the analytical part of the brain and turn off the creative side of your brain?
- Longwinded stories

Interpretation and Guest Engagement

Remember we don't have to share all our great stories at once. Let the visitor lead the way; ask them questions and let them answer, and give them the opportunity to ask for more! Inspire wonder and curiosity and hopefully they will be back again!

Remember to also be aware of other guests around you. They may be following your conversation and want to join in. Do you remember the old idiom 'Eyes In the back of your head'? It usually applied to your mother, a teacher or someone else who always knew what was going on behind them. That's a good skill for a Garden Ambassador to develop!

The conclusion/ Ending the engagement

The best endings encourage guests to see another display, like the Italian Water Gardens, or areas that build on the topic or interest of the visitor. Another simple method to ending a conversation might be, "I, hope you enjoy the rest of your day at the Longwood Gardens" or "Please come back again for a future display". Let people know that you enjoyed conversing with them.

Be mindful that many guests have limited time to spend in any one space. Most of the time your connection will be short, engaging and over! Some guests will really engage with you and you will have a longer interaction with them. Just take your cue from the guests. Wish them a wonderful visit or help them find another highlight of Longwood before thanking them for visiting.

Roving away from the desk

As members of the Garden Ambassador team your opportunities for interaction with guests can occur at or near the Garden Ambassador Information desk or in nearby spaces. We encourage team members to take turns stepping away from the desk and engaging guests at various locations. Greeting guests in front of the desk, helping them find a certain room or garden highlight enhances their visit. It is also wonderful to greet guests on their way out of the Peirce-du Pont House and help them find their way to their next destination.

Interpretation and Guest Engagement

Interpretive and Engagement Tips

Tips for assisting guests on arrival to the Peirce-du Pont House – based on guest interest you can suggest the following

- On arrival welcome guests to the Peirce-du Pont House and the East Gardens, and ask guests if this is their first visit to the House. Offer to orient them to the Peirce-du Pont House.
- Guests often arrive at the Peirce-du Pont House without a map. You also have non-English speaking guests who may need a map in their language of choice. Take the time to make sure they know where they are and orient them to the map and their current location.
- The Peirce-du Pont House has several nice spots for a photo opportunity inside and outside the conservatory. Ask guests if they would like you to take a photo.
- For guests interested finding out more history, offer one of the books at the desk for them to browse while relaxing in a chair in the conservatory, or in one of the rooms in the Heritage Exhibit. In good weather encourage guests to relax on the porch.
- Everyone who visits the Peirce-du Pont House looks forward to meeting Belin, the most outstanding Garden Ambassador at Longwood. Explain that Belin is named after Alice Belin du Pont although he is a male cat. You can also mention that Longwood has about 14 cats on the property, all designated to a certain area of the gardens. They are part of the Integrated Pest Management program. Encourage them to be very gentle if they feel the need to pet Belin as he gets a lot of touching all day long.

Tips for assisting Guests as they depart the Peirce-du Pont House

- Help guests to understand the many ways to explore Longwood. Encourage guests to visit the other areas of the east Gardens as well as the Meadow Garden, Conservatory and the west garden spaces. Direct them to an area that suits their interests.
- Fountains in the Open Air Theatre go off at 10:00, 11:00, 1:00, 3:00, 5:00 and 5:55pm for five minutes, along with music. Encourage guests to watch the fountain show. (Schedules change seasonally and fountains may not run at times due to special events or weather.)
- Guests seeking new and unusual plants for their home gardens can stroll through the Flower Garden Walk and the Idea Garden for inspiration.

Interpretation and Guest Engagement

- For the fountain and engineer fanatic, suggest touring the Italian Water Garden and the Main Fountain Garden, The Main Fountain shows go off on the even hour at noon, 2 and 4pm.
- For the native plant collector, a walk through Pierce's Woods in early spring when the early blooming spring wildflowers bloom cannot be missed. The drama of fiery autumn foliage is a spectacular effect as well.
- Encourage guests who seek peacefulness and serenity to take to hike through the Meadow Garden
- It's always sunny and warm in the 4 acre Conservatory. Encourage guests to give themselves at least an hour to discover all the beauty and history found in the many rooms of the Conservatory.
- The Terrace Café and the 1906 Restaurant is a certified green restaurant. Remind guests that they will need reservations for the 1906, which can be made from the telephone at the desk. The extension is: x1000
- For kids young and old, suggest visiting the treehouses. The Birdhouse Treehouse and the Lookout Loft are both located behind the Peirce-du Pont House, and the Canopy Cathedral overlooks the Large Lake at the end of Flower Garden Drive.
- Guests are always intrigued with Longwood's Performing Arts program. Share with guests Mr. du Pont's passion for the performing arts and how the program has been a vital element at Longwood since the early 1900's. Encourage them to visit room 4 and 5 to learn more about the history of the Performing Arts.

Be sure to tell them to check the website for upcoming concerts and performances. Talk about the different performance venues - the Open Air Theatre, Ballroom.

- Continuing Education – For guests interested in furthering their knowledge of horticulture and other related fields, share the current course catalog, located in the desk and found on our website. The diversity of programs offers something for all ages and interests.
- For the tree lovers, a walk around the Peirce-du Pont House and through Peirce's Park should satisfy their interests. Many of the trees are Pennsylvania Champions and the Cucumber magnolia, *Magnolia acuminata* on the front lawn is the National champion tree

You will find more great guest engagement tips in the Peirce-du Pont and Heritage Exhibit documents.

Interpretation and Guest Engagement

How to be a Great Garden Ambassador

1. Be enthusiastic- your passion for Longwood can inspire your guests
2. “Leave your problems at home” – Many of you have expressed the idea that volunteering is a get away from our daily stress. Carry that thought a little further and remember that this is a getaway for our guests too. Make sure that your interaction with guests is always a positive one whether talking about Longwood Gardens, staff or what a guest shares with you helps you and them get away from it all and have a really positive experience.
3. The guest **always** comes first. Never carry on a personal conversation when a guest is nearby. The guest should be your guest and your first focus.
4. Know your stuff. The more you know about the topic, the more your confidence will grow.
5. Know when to say I don’t know. Do your best to find an answer but remember, unanswered questions can be a positive way to lead guests toward further inquiry and research.
6. Know your audience – tailor your comments to the guest’s interest and background
7. Know the art of asking good questions.....and waiting for an answer!
8. Be a good listener
9. Be confident– smile and make eye contact
10. Take pride in what you do and the important role you play.
11. So many times the person taking photos doesn’t get in the photos. Always ask, “Would you like me to take your picture?” You will put a big smile over their face allowing them to appear in a photo taken at beautiful Longwood Gardens
12. Send guests on their way with smiles – on your face and theirs and encourage guests to enjoy other parts of Longwood.

Peirce-du Pont House

Introduction

Built in 1730 by Joshua Peirce, this historic home has been greatly enlarged over the years by successive generations of Peirce's and later by Pierre du Pont, who purchased the property in 1906 and used it as his summer residence. The Peirce-du Pont House was opened to the public in 1976 and now contains the Longwood Heritage Exhibit. A collection of historic photos, artifacts, home movies, and video tells the story of the stewards of the land who preserved and developed the property.

Highlights

- Built in 1730, the Peirce-du Pont House is the oldest structure at Longwood. It was the homestead of the Peirce family until 1905. It borders the arboretum known as Peirce's Park, founded in 1798 by Joshua and Samuel Peirce.
- Pierre du Pont purchased the house in 1906, and personally directed the renovation of the house and the installation of numerous improvements. An avid problem solver, he designed several inventions to make the house more comfortable and modern.
- Pierre further enhanced the domestic comforts of Longwood by doubling its size 1914. The inclusion of the conservatory was Longwood's first 'winter garden', and introduced Pierre to the aesthetics of greenhouse gardening.
- The core of the original brick house is an outstanding example of Federal-style architecture.
- Subsequent to Mr. du Pont's death in 1954, the rooms upstairs were converted into administrative offices. After a decade of planning and research the Heritage Exhibit was installed in the Peirce wing of the House, detailing Longwood's history and horticultural legacy.
- Many of the featured species of plants in the conservatory were originally displayed during du Pont's lifetime. There is one plant remaining from that time, *Monstera deliciosa* – Swiss cheese plant. It is the tall vine with very large leaves, growing up the wall by the exit from the Heritage Exhibit.

Peirce-du Pont House

Interpretive Stories and Tips

- For those interested in architecture, encourage guests to look at the brick on the outside of the two “wings” of the Peirce-du Pont House. Do they see any differences? The core of the original wing is laid with the brick pattern known as Flemish bond, a traditional style characteristic of brick masonry in Philadelphia. Stretchers (unglazed bricks), faced horizontally on the long side, and are alternated by glazed headers (painted black on the short end of the bricks). Brick was the most expensive material to build with, and arranging the bricks in the Flemish bond pattern was a more refined method. This suggests that the Peirce family was a Quaker family of prominence or had some strong ties to city society.
- Point out to guests how the spacious home resulted from several periods of construction during the Peirce era. In 1764, a two story addition was made to the east end of the Peirce-du Pont House and included a new dining room. The Peirce-du Pont House was again enlarged in 1824, with an addition to the north of the original structure. Show guests the display of the construction of the Peirce-du Pont House, located in the Butler’s Room.
- Guests often ask how Longwood got its name. It’s an adopted name. In 1829, an adjoining farm to the Peirce property owned by John Cox (a relative of the Peirce family through marriage), was called Longwood Farm. Cox sold a small tract to a group of Quakers from Kennett Square who named it the Longwood Meeting of Progressive Friends. Eventually, Pierre purchased this tract of land with the meeting house and the farm and used the name “Longwood” for his gardens. This region was heavily forested with tulip poplars (*Liriodendron tulipifera*), which grow long and tall before branching out. Some historians believe this is how the meeting house adopted its name, “Longwood”.
- Share with guests that they are seeing the Peirce-du Pont House as it was completed in 1914. There have been no architectural alterations since then. The du Pont’s enjoyed their summer residence for 40 years, and it was the only house they ever owned. Their permanent residence was the Hotel du Pont in Wilmington, Delaware.

Innovative Features

- Talk about the elaborate fire protection system that was installed in the 1914 addition. Sliding fireproof doors could be closed to seal off the rooms and hallways on all levels. Pierre du Pont’s experiences working around gunpowder most likely influenced his desire for fire protection.
- The tunnel systems at Longwood are an interesting topic of conversation. An underground passage connects the residence with the adjoining garage. Pierre had these built to further reduce the risk of injury in case of a fire. Utilities are

Peirce-du Pont House

routed through the tunnels as well. A similar complex exists below the Longwood Conservatory.

- Show guests the floor plan of the basement displayed in the library near the Miniature Room, to further demonstrate how innovative Mr. du Pont was during his life.
- Guests might be interested in hearing about the bowling alley that was constructed directly below the library in the basement.
- There was also a large aquarium that was suspended from the ceiling of the basement room. The top of the aquarium was made of glass block and was level with the ground just outside the southwest library window, creating a skylight effect.
- Share the story of Pierre's electric rug roller. It was located in front of the map case in the floor on the west end of the library. Each spring their huge oriental rug was rolled up and stored on this device; while straw mats were put down to cover the floor. During the winter months they needed a wool rug to help keep the room warm, but in the spring and summer straw mats which were cooler could stand up to the summer dirt and dust.

History of the Peirce-du Pont House

Early History

Longwood's recorded history dates from 1700, when George Peirce (1646-1734), a Quaker farmer, purchased from William Penn a 402-acre tract of land in the township of East Marlborough. George Peirce and his wife, Ann Gaynor Peirce, emigrated in 1684 from Bristol, England.

In 1703, George Peirce divided his property, giving half of his acreage to his daughter, Betty when she married. In 1709, George's son Joshua built a log dwelling on the remaining acreage and cleared land for farming. In 1730, Joshua joined the log dwelling with the brick farmhouse that became the Peirce family homestead.

The property remained in the Peirce family until 1905, and then became the country residence of Pierre du Pont from 1906 to 1954. Today, the entire 402 acre tract from the original Peirce land grant is part of Longwood Gardens.

Pierce's Park

Botanical study and exploration thrived in the late 18th century when twins Joshua (1766-1851), and Samuel Peirce (1766-1838), inherited the property. Fascinated by botany, the twins started a tree collection. In 1798, they started creating an arboretum

Peirce-du Pont House

on the east side of the Peirce-du Pont House. Although the arboretum had many deciduous trees, its most stunning feature was an evergreen tree collection laid out in parallel rows. In addition to trees, the brothers collected native plants from New York, western Pennsylvania and Maryland and acquired exotic plants from nurseries through exchanges with fellow botanists. By 1830, the Peirce brothers had developed one of the finest collections of trees and shrubs in the nation.

After their deaths Joshua's son George Washington Peirce (1814-1880), inherited the farm. He operated the property as a working farm, while taking on the responsibility for the arboretum and continuing to add to the plant collection. He developed the property into a pleasure ground, adding a croquet court and rowboats for guests' enjoyment. The arboretum became known as "Peirce's Park". When George died, Peirce's Park was in its prime, both as an arboretum and as a pleasure ground.

1906 – Present

After a series of absentee owners, Peirce's Park was sold in 1906 to an individual who signed an agreement with a lumber company to cut and saw many of the trees on the property. When Pierre du Pont learned of the presence of a saw mill on the property, he immediately purchased the farm with the house and its buildings for \$15,500, primarily to save the stand of historic trees.

Pierre du Pont's main residence continued to be the Hotel du Pont in Wilmington. Initially, he visited his country estate on weekends. He hired a caretaker to live in the house and clean up the property. In 1909, Pierre modernized the house by building a small two story annex on the north side of the dwelling for the purpose of adding bathrooms, and installing plumbing, electricity and heating throughout the interior.

In 1914, Pierre more than doubled his country home by building a brick wing on the north side of the property, and connecting the two structures with his first conservatory. The architects for the conservatory and the north wing of the House were Brown and Whiteside of Wilmington, DE. Included in the addition were the staircase and hall, library and rooms directly east of it (now offices), a conservatory, basement and the rooms on the second and third floors (also offices). The total cost in 1914 was more than \$115,000. The architects proposed drawing is in the Den over the fireplace, with a copy on display in the Butler's Room on the panel of the house construction. The design incorporated many of Pierre's ideas such as the elliptical stairway, and in the Library, the use of closets (all with lights), a map drawer, rug rolling device and the electrical floor outlets.

After Pierre du Pont's passing in 1954, several of the 1914 rooms were converted into administrative offices. Most of the du Pont's possessions were distributed to the du Pont family, although his garden book collection was retained and has since formed the basis for Longwood's horticultural library. The last person to live in the house was Elizabeth McPherson. She was the du Pont's housekeeper and lived on the third floor until 1969.

The Peirce-du Pont House was opened to the public in 1976 and contains the

Peirce-du Pont House

Longwood Heritage Exhibit, detailing Longwood's historical and horticultural legacy. It draws upon the extensive photographic and manuscript resources now stored at Hagley Museum and Library to show the entire 300-year history of the property. Although the rooms that house the exhibit no longer appear residential, the architectural features have been preserved intact and are visible to guests as are the photographs in some of the rooms displaying the décor during Pierre du Pont's occupancy.

Interesting Plants In and Around the Peirce-du Pont House

In the conservatory

- There is one plant remaining from Pierre du Pont's time, ***Monstera deliciosa*** – Swiss cheese plant. It is the tall epiphytic vine with very large leaves, growing up the wall by the exit from the Heritage Exhibit. *Monstera* is native to Mexico and Central America. It grows best in bright, indirect light, but can tolerate a fair amount of shade. The plant should never dry out entirely.
- ***Hyophorbe verschaffeltii***, spindle palm
The spindle palm is an elegant palm prized in the tropical landscape. Native to Rodrigues Island, off the coast of Australia, it is threatened in its native habitat, with only about 50 specimens in existence.
- The vines growing up the north and west walls are ***Tetrastigma voinierianum***. Native to Southeast Asia, these vigorous plants can climb up to 50 feet by means of tendrils. The tendrils look like lizard tails; hence one of its common names - lizards tail. Another common name is chestnut vine.
- *Cananga odorata var. fruticosa*, Madcassar-oil tree
Small tree or compact shrub with highly scented yellowish flowers used in perfumery. Blooms profusely during spring and summer, but will also bloom on and off year round. This plant is native Indonesia, Malaysia and Thailand
- The ***Wisteria*** planted on the exterior balustrade was planted sometime after 1914. Encourage guests to visit around Mother's Day to see the vine in full bloom.

Outside around the Peirce-du Pont House

- The ***Magnolia acuminata ssp. subcordata*** '**Peirce's Park**', also known as **yellow cucumber magnolia**, is located on the southwest lawn of the House. The tree was procured by the Peirce brothers from French explorer Andre Michaux, who discovered it in South Carolina in 1788. Its age is unknown. The yellow cucumber magnolia was the first tree from Longwood to be nominated as a state champion, in 1970. The tree has been deemed the largest tree of its kind in

Peirce-du Pont House

Pennsylvania, and actually holds the record for the largest in the nation. The tree is 100 feet tall (33 m), and is noted for its lovely yellow flower which blooms in April.

- There are magnificent specimens of ***Ginkgo biloba***, or maidenhair tree growing on the north lawn, in front of the Peirce du Pont House. The ginkgo growing next to the cucumber magnolia is the sixth largest recorded ginkgo in the state of Pennsylvania. Today, ginkgo is native only to China; fossil records indicate that at one time the ginkgo was a native tree in this region of the world. It is very primitive, and is actually called the 'dinosaur' tree, as geological records indicate it grew 150 million years ago on Earth. It is valued for its lovely fan-shaped foliage that turns yellow-gold in fall. The female trees bear the seed that was used to make the supplement *Ginkgo biloba*. The fruit on the female plant emits an unpleasant odor when decomposing.
- The large trees across from the Pierce-du Pont House entrance are ***Pseudolarix amabilis***, Golden-larch trees. One is the state champion. This Chinese species was discovered and introduced into cultivation in Europe in 1854. This tree is a deciduous conifer and loses its needles in the fall. In autumn, the needles turn burnt orange before dropping. The larch bears cones which fall apart when mature.
- The small grove of native trees planted on the west side of the Peirce-du Pont House is ***Franklinia alatamaha*** trees, commonly known as Franklinia. The camellia-like fragrant flowers bloom in late summer to early fall. It has smooth, glossy dark green leaves that turn shades of orange, red and purple. This tree is extinct in the wild. It was first discovered by John Bartram, in 1765 along the banks of the Altamaha River in southeastern Georgia. This tree has been extinct in the wild since 1803, and all plants derive from the seed collected by Bartram. It is not known why this tree disappeared in the wild. The genus name honors Benjamin Franklin who was a good friend of Bartram.

The Heritage Exhibit

HERITAGE EXHIBIT

The Heritage Exhibit details Longwood's historical and horticultural legacy. It draws upon the extensive collection of manuscripts and photographic resources, stored at the Hagley Museum and Library, to depict the entire 300-year history of the property. Although rooms housing the exhibit no longer appear residential, their architectural features have been preserved intact and are visible to guests, as are photos in many rooms showing the décor during Pierre and Alice du Pont's occupancy.

Heritage Exhibit Highlights

- The Heritage Exhibit interprets the evolution of Longwood Gardens telling the story of the stewards of this land who preserved and developed the property and the creation of the Gardens we enjoy today. Each room has a specific theme that portrays a significant part of the history.
- The Exhibit uses 11 rooms on the first floor of the Peirce-du Pont House.
- Guests enter the historic residence and the Heritage Exhibit by way of the 1914 conservatory.
- The Library is the largest room in the house apart from the conservatory. It is the setting for a 12-minute video that showcases the life and accomplishments of Pierre du Pont.
- The Miniature Room is located in a glass case in the north wall of the Library. It was a present from Pierre to his wife, Alice Belin du Pont in 1938. The Crown Derby china set purchased in 1934 is a one sixth-scale copy of a set owned by the du Pont's.
- The flags in the conservatory, left to right: Great Britain (Peirce family origins), USA (where Longwood Gardens is located), Delaware (Pierre du Pont's primary residence) and France (du Pont's origins), hang above the entrance of the historic wing of the House and the Heritage Exhibit.
- The front porch that wraps around the south and west ends of the original part of the house was added by the Peirce family. Guests can relax in the wicker chairs and imagine what life would have been like during the du Pont era.

Interpretive Tips

- Familiarize yourself with the Heritage Exhibit in order to be able describe and direct guests towards an area of the exhibit that might be of particular interest to them. Ask guests open-ended questions to pick up clues as to their previous knowledge and to where their interests might lie.
- At the Information desk offer guests the photo albums of the du Pont Family and of the Meadow Garden. You can also share other books found in the hutch cabinet.
- Explain to guests that the Heritage Exhibit is a self-guided tour, but you are happy to escort them through it.

The Heritage Exhibit

- Suggest that guests begin their visit in the Library by watching the 12-minute video on the life and accomplishments of Pierre du Pont.
- Once guests have watched the video, you may guide them to the entrance of the Heritage Exhibit. Often unknowingly, guests enter the exhibit by way of the Exit. Help steer them to the stairs and entrance under the four flags so they can view the Exhibit in chronological order. Especially when it is busy and there are two Garden Ambassadors, one volunteer can station him or herself near the staircase to help the flow of activity.
- Let guests know that the upholstered furniture found throughout the Heritage Exhibit is meant to be used by guests. Also share that the room settings (east end of the Library, Den and the Pantry), were designed to provide a glimpse of how the rooms looked when the du Pont's lived here.
- For **children**, the laminated Seek and Find cards are a great tool to help them enjoy the exhibit. Also, offer kids a bookmark if they don't already have one.
- When large groups or classes of children visit the Peirce-du Pont House, suggest to their leader that they break off into small groups so they can view the Exhibit better. Offer them the laminated "Fun Finds" Seek and Find cards to use in teams of two or three.

Heritage Exhibit Rooms

Conservatory and Foyer (1914)

The Peirce-du Pont House conservatory was Pierre du Pont's first "winter garden". His inspiration developed when he was nine years old and saw an extravagant private greenhouse attached to the Baldwin mansion on Chestnut Street in Philadelphia. He made a vow at that time that if he ever built his own greenhouse, he would always keep it open for public view.

Off the east Library entrance is the foyer. The elliptical stairway rises above a display of Mr. and Mrs. Du Pont's steamer trunks set as if a European trip via steamship was imminent. Story labels detail the many travels that influenced Pierre as he continued to develop Longwood Gardens.

Stories and Tips

- Show guests the beautiful Palladian arched windows in the conservatory and describe how they can be lowered to the basement using a pulley system and replaced with screens in the warm season. Guests can see the pulley chains next to the windows. When night temperatures are reliably above 50 degrees, the glass windows are shifted with the screens.
- Imagine Pierre and Alice du Pont entertaining in this lovely setting, especially in the winter. Share the childhood memory of Pierre, strolling the streets of Philadelphia with his father, when they came upon the Mathias Baldwin mansion, which had a greenhouse facing Chestnut Street. Pierre resolved that "if ever I built a greenhouse it would be open to public view from within as well as from without".

The Heritage Exhibit

- The story of the iron snakes intrigues young guests. George Washington Peirce (1814-1880) forged realistic snakes and frogs in iron and placed them in obscure locations on the grounds to startle visitors. Pierre found them in Peirce's Park when he purchased the property. Since the originals had rusted beyond repair, Pierre had duplicates made. One "snake" is almost 100 years old and the other, which is a replica, is about 60 years old. The gardeners move the snakes around in the garden beds in the conservatory. Be sure you know where they are when you start your shift so you can encourage all age groups to look for and find them.
- Guests often ask how old is the wisteria planted above the doors and windows of the conservatory. There is no evidence of the wisteria in photographs of the house taken in 1919, but a series of photographs taken in 1928 show the plant.
- Share the stories of the du Pont's trips abroad and point out the large trunks, suitcases and hatboxes. Ask if the hatboxes are reminiscent of anything, maybe a cake box from the bakery? Pierre stored his silk top hat in the square leather hatbox. Can guests imagine traveling that way today?
- Point out the groove along the banister rail on the wall of the elegant staircase. Ask kids if they know what it might be used for. Pierre du Pont's nieces and nephews would roll marbles from the top to the bottom of the banister. Sharing the story of how the nieces and nephews would race down the steps trying to get to the bottom before the marbles triggers thoughts of a simpler time in life and leaves kids wishing they could play the game.
- The antlers that hang on the wall in the foyer are from elk and most likely date from the Peirce's era when elk were abundant in this area. Pierre hung the antlers in their current location, but you let can let guests know they used to hang over one of the fireplaces in the older section of the House.
- The lovely marble fountain on the south side of the conservatory was a wedding present from Louisa Copeland, Pierre's sister, to Pierre and Alice Belin in 1915. Children are generally drawn to the fountain. Pointing out the fish sculptures on the base of the fountain is a way to distract children from leaning on the delicate fountain edge.
- Kids of all ages love hearing endearing tales of the du Pont family and the balcony story is a good one to share. Off the second floor balcony above the flags in the Conservatory, Pierre installed a pulley system for the nieces and nephews to hoist all kinds of toys and objects in a basket from the ground level to the balcony. This invention worked like an elevator and provided hours of fun for the children until one of them decided to tie a rope around the waist of one of their two year old cousins. Evidently, Pierre entered the room just in time to rescue the baby and put an end to such ingenuity.

Library (1914)

The Library is the largest room in the Peirce-du Pont house, apart from the conservatory, and is the setting for a 12-minute video which blends old home movies with life accomplishments of Pierre du Pont. Exhibit panels explore the novel features of the room and its basement;

The Heritage Exhibit

including hidden closets, sliding fire doors, a rug-rolling machine, underground tunnels with safes, a bowling alley, and an aquarium skylight.

Decorative Features to Share with Guests:

- The clock on the piano in the library of the Peirce-du Pont House belonged to Pierre du Pont and was made by the Lalique Company, a French glass company, in the early 1900s.
- The portrait over the east end fireplace is a copy of an original painting. It is of Pierre du Pont's great-grandfather, Eleuthere Irenee du Pont. Eleuthere Irenee du Pont arrived in the United States on January 1, 1800. It was Eleuthere Irenee du Pont who established the DuPont Powder Works in July 1802 at what is now the Hagley Museum and Library in Wilmington, DE. The portrait over the piano is Pierre du Pont's wife, Alice Belin du Pont. The original painting of Alice Belin du Pont is at Chateau d'Andelot, a Belin family residence in France.
- The charcoal sketch drawing of Pierre du Pont was sketched by John Singer Sargent.
- The Miniature Room was designed by Maurice de Vaux for Alice du Pont as a present from Pierre, in 1938. Complete in every detail, the room and its custom-made furnishings are one-sixth actual size and were designed around the chandelier, the first piece to be acquired. The du Pont's shared an interest in collecting miniature reproductions of American and European house furnishings.
- The piano in the Library of the Peirce-du Pont House is dated 1861 according to the Steinway Company records. When he was alive, Pierre du Pont kept the piano in the parlor. The piano is a rosewood square case piano originally belonging to Pierre du Pont's grandmother. The piano is 'playable', but it has not been tuned in a long time.
- Pierre du Pont collected many books during his lifetime and a large number of those books are in Longwood Garden's horticultural library which is currently not available to guests. A small collection of Mr. du Pont's books can be found on the top five shelves, on the left side of the fireplace in the Library of the Peirce-du Pont House. The remainders of the books were purchased to use as 'props' in the Library exhibit of the Peirce-du Pont House.

Stories and Tips

- The Miniature Room is a favorite for all guests. For the children, point out the two little dogs that came from Staffordshire, England. Especially for small children, suggest they use the stool to view the display.

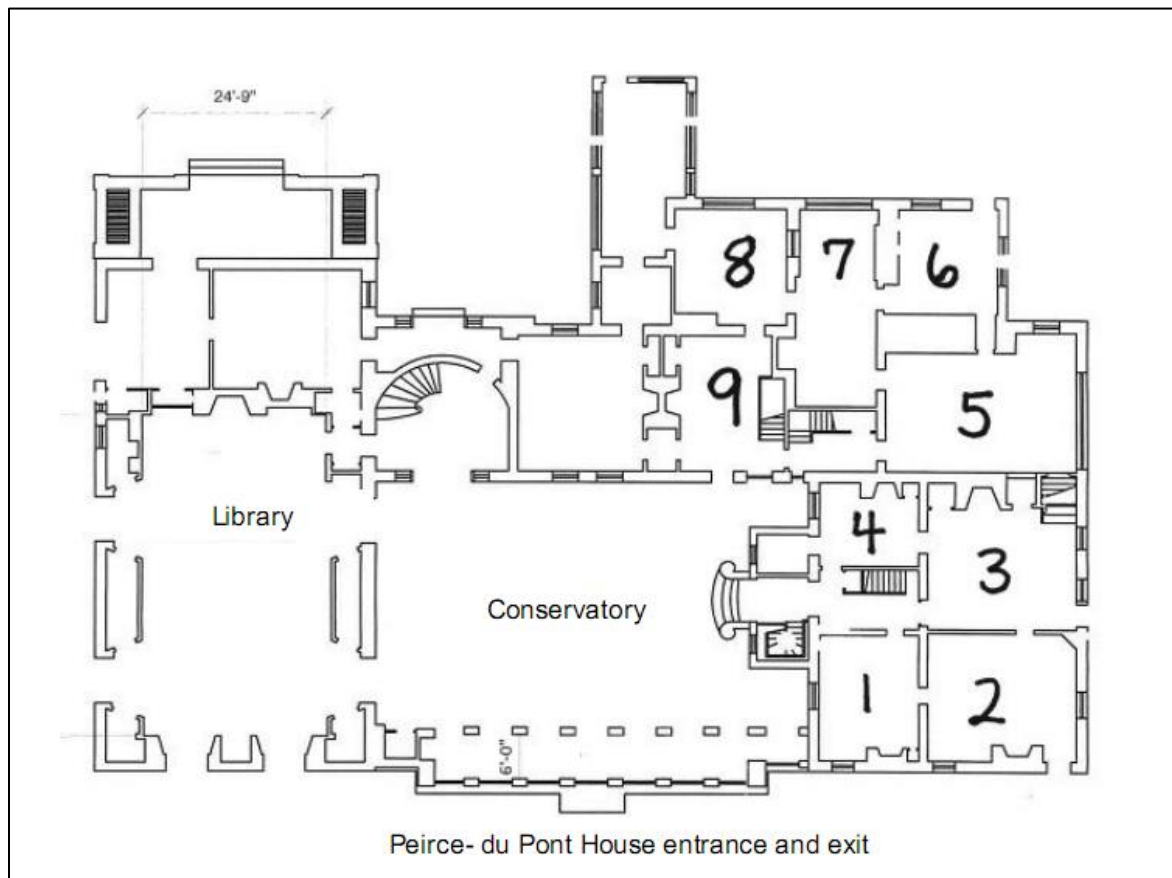
Hallway Entrance into the Original Section of the Peirce-du Pont House

- The portrait of Pierre du Pont that hangs above the stairwell landing attracts the attention of many guests. Some guests are curious as to where the steps lead. Let them know they lead down to one of the oldest sections of the basement and that the upstairs rooms have been converted into offices.
- Discuss the photograph, from 1910, of the Avenue of the Trees in Peirce's Park. You can

The Heritage Exhibit

quote Pierre du Pont's intent for purchasing the property; "The purpose was to save the collection of old trees, which had been accumulated by the Peirce family over a period of more than one hundred years, many of them of extraordinary growth and arresting appearance".

Diagram of the Heritage Exhibit Rooms



The Heritage Exhibit

Den – Room 1

The Den was Pierre du Pont's office where he designed much of Longwood. Its appearance has been preserved. As one enters the room, Pierre (not Pierre's actual voice), is heard explaining his reason for purchasing the property. The drafting board displays his drawing instruments and the desk is filled with reproduction documents. Pierre was an avid book collector, and the shelves are filled with books on gardening.

Stories and Tips

- This area tends to bottleneck during busy times. Try to be aware when engaging guests so you don't block the flow of traffic while talking with them.
- Show guests the reproduction of the deed transferring ownership of the Peirce's Park to Pierre du Pont on July 20, 1906.
- Also on the desk-top, a silver bookplate with the name "Longwood." This is a good opportunity to tell the story of how Longwood acquired its name. (Find this story in the Peirce-du Pont House document of your manual).
- Guests often want to know the story behind the blanket with Pierre's initials, folded over the back of the chair at Pierre's desk. This is one of several that were used by the du Pont's and their guests while taking in a performance at the Open Air Theatre. They most likely were made in Ireland.
- Share with guests the story of the hangman. Pierre was against prohibition and worked to repeal the amendment. The little man in the den was made for Pierre by a staff member. Apparently Pierre was very pleased with the little figure.

The Heritage Exhibit

The Parlor – Room 2

The Parlor documents the early years of the property and the origins of Delaware Valley horticulture. Native American settlements in the Longwood area are highlighted, along with reproductions of the original 1700 Penn land grant to George Peirce, artifacts from the Peirce family, and illustrations from early botanists from the Philadelphia region.

Stories and Tips

- For guests interested in the early history, the Parlor is an informative introduction. For those seeking to learn more suggest, visiting the Chester County Historical Society in downtown West Chester, PA. (see the Resources section of your manual).
- Photographers will appreciate the daguerreotype (photographic image printed on copper), of Joshua Peirce, taken around 1835. There is also the photograph of George Washington Peirce from 1862.
- Many guests are familiar with John Bartram, who was the 13 colonies first botanist to the King. Guide them to the panels displaying the early American botanists and share with them the story of the Peirce's development of the arboretum. The story and development of Peirce's Park as one of the country's finest arboretums in the 19th century will help connect guests to why this property was so significant to Pierre du Pont.
- Show guests the Native American arrowheads. Discuss how they were found on the Longwood property and belonged to the Lenni Lenape natives. You can encourage **kids** to look for arrowheads when they're in natural woodland and meadow areas.
- Share the story of Indian Hannah, found below the arrowheads. Indian Hannah is considered the last of the Lenni Lenape tribe in Chester County, although tribe descendants are still in this area. Longwood maintains a symbolic marker to her located in Pierce's Park beyond the fountain. Let guests know they can stop and see a large stone marker commemorating her at the Chester County Visitor Center just outside the Gardens gate.
- Guests can look for the linen and cotton cap and gown that belonged to one of the Peirce children in 1766. Ask **children** if they are familiar with the Declaration of Independence which was signed in 1776. Explain that these articles of clothing are older than the document. Kids can also identify this time period with George Washington who would have been 34 years old. This was also the same year the Stamp Act was repealed.

Great Hall – Room 3

The Great Hall introduces guests to the du Pont family. Pierre's early years are explored, including the first fountain to which he was introduced, trips to the 1876 Centennial and 1889 Paris Exposition, and his schooling at the Massachusetts Institute of Technology. The first

The Heritage Exhibit

garden books he purchased are displayed, along with photos and plans showing the first gardens he designed at Longwood. Video clips show old movies of Mr. and Mrs. du Pont walking through the gardens.

Stories and Tips

- Guests are frequently under the impression that Longwood was the residence of Pierre du Pont. However, his primary residence was in the Hotel DuPont in Wilmington, Delaware.
- Guests may not be aware that the founder of Longwood Gardens also served as president of the DuPont Company from 1915 to 1919, and served on its Board of Directors until 1940. He was also director and chairman of the Board of Directors of the General Motors Corporation from 1915 – 1920, and served on GM's Board of Directors until 1928. Discuss with guests about what a genius and accomplished individual du Pont was. For guests seeking more information, suggest they stop in the Garden Shop for books on Pierre du Pont and the du Pont history.
- Share how horticulture ran deep in the du Pont blood. Eleuthere Irenee du Pont made his livelihood producing black gunpowder explosives, but considered himself a botanist. He was trained in botany and took an immediate interest in the plants he found growing in the Brandywine Valley. He created a large formal flower and vegetable garden at his home, Eleutherian Mills, which is now part of the Hagley Museum and Library.
- Show **kids** the photograph of Pierre du Pont at age five. Pierre was born five years after the end of the Civil War in 1870, at the family home, Nemours, near Wilmington, Delaware.
- For the engineer-minded guest, explain that Pierre graduated from MIT at age 20. Discuss his fascination for hydraulics and the impact it would have in the development of the gardens at Longwood.
- Point out the photograph of the nieces and nephews playing in the Round Fountain and share how they used this fountain as a swimming pool. Explain that after visiting the House, they can go see that Round Fountain on the Flower Garden Walk.
- Share the impressive fact that due to Pierre du Pont's fascination for fountains, Longwood Gardens has more fountains than any other public garden in the country.

Resting Room – Room 4

The Resting Room, appropriately named, was a favorite napping retreat of Pierre du Pont. It chronicles the story of the Open Air Theatre. Photographs show Pierre in Italy on stage of the outdoor theatre at the Villa Gori in Siena (where he was inspired) and also show Longwood's theatre in use. Displayed as well are programs collected over the decades and video clips of old and new performances. The original Open Air Theatre fountain control board, with dozens of switches and glowing pilot lights, has been preserved and is on view.

Stories and Tips

The Heritage Exhibit

- Show guests the folk art portrait of Pierre and Alice du Pont at Longwood Gardens. Point out that Mr. and Mrs. du Pont are shown in front of their home and gardens and are holding a plan representing their involvement in designing Longwood. The painting was done in 1936, by N. de Molas, a Russian artist who traveled from estate to estate painting landscapes.
- Guests often are unaware of Pierre's passion for the Performing Arts. He was interested in performing arts since childhood, and built the Open Air Theatre to house theatrical performances, concerts and garden parties. Longwood continues to celebrate his passion with concerts and performances throughout summer. This is a great opportunity to show guests the Summer Performance Series brochure and interest them with this summer's schedule of events.
- Mention to guests that the Savoy Company, the oldest amateur performing arts company in the country, has continuously performed here since 1915, as well as the Brandywiners, since 1936.
- Suggest guests take the Open Air Theatre Insider Tour, where they will go behind the scenes and into the dressing rooms (below the stage), into the control tower, and visit the "Green Room". These tours are offered in summer and fall. The website has the schedule for all Insider tours.
- Remind guests of the Open Air Fountain Shows, often accompanied by the music of John Phillip Sousa's *Stars and Stripes Forever*.
- Displayed in the Resting Room are programs collected over the decades and video clips of old and new performances. Children involved in Performing Arts will enjoy watching these videos from past times. Discuss how Pierre was interested in Performing Arts from the time he was a child, and along with his childhood friend Maxfield Parrish enjoyed building stage sets and putting on performances. Parrish became a renowned painter and illustrator.

Dining Room – Room 5

The history of Longwood's Conservatory is chronicled in photographs dating back to its 1919 construction, with behind-the-scenes look at the boiler room and greenhouse rail system, among other highlights. Longwood's 10,010-pipe organ is depicted in photos and in a video clip of an organ performance. Displays also detail the construction of the Main Fountain Garden, Waterfall, and Chimes Tower, with video clips of the fountains, and of moving mature trees in the 1930s.

Stories and Tips

- Soon after completing the Peirce-du Pont House conservatory in 1915, Pierre du Pont considered building a much larger greenhouse. He was not able to implement his plan until after World War I. Share this wonderful quote by Pierre du Pont: Pierre wrote to his first architect – "The buildings are to be quite beyond ordinary greenhouses. They are to be monumental in character and designed to exploit the sentiments and ideas associated with flowers and plants in a large way."

The Heritage Exhibit

- Be able to share knowledge about the Longwood Organ and the variety of performances that take place in the Ballroom. Encourage guests to go to our website to learn about upcoming concerts. Also be aware of the daily organ and piano performances.
- If Guests haven't visited the Conservatory prior to visiting the Peirce-du Pont House, interest them by describing the extraordinary beauty of the displays and the variety of tropical plants. Share with them that there are 4.5 acres of glass covered displays and 20 indoor garden rooms.
- Guests will be curious and some perhaps dismayed at the appearance of the 80 year old Main Fountain Garden. A revitalization of this magnificent Garden started in autumn of 2014, and will be completed by spring of 2017. Assure guests that the revitalization preserves the original components of the Garden, while adding new areas for guests to explore. Central to the revitalization is conserving the architectural features, upgrading the aging systems and enhancing the landscape, site and fountain design. Encourage guests to discover even about the revitalization of our beloved Main Fountain Garden in the online exhibit.

Flower Room – Room 6

In a brick-floored room overlooking the ancient trees of Peirce's Park, the Italian Water Garden is explored with 1925 construction photos, plans and calculations. An enormous frog sculpture from the garden dominates, and other carved stonework glows in a jewel-box-like cabinet. Video clips show the Water Gardens' 600 jets in action in the 1920s as well as today.

Stories and Tips

- In the warm season when the fountains are running, encourage guests to visit the Italian Water Garden.
- Express to guests how the setting of the Italian Water Garden is one of the most peaceful and tranquil places to visit at Longwood.
- Ask guests if they have ever visited the great gardens of Europe. Explain how Pierre du Pont traveled extensively through France and Italy visiting gardens and villas. One in particular, the Villa Gamberaia outside Florence, Italia, provided the most inspiration for the design of this water garden.
- Let guests know that Italian Water Garden Insider tours are offered in the warm season and are a wonderful way of observing the Garden from different perspectives.
- Discuss with guests how Alice du Pont would have garden parties in the Flower Room. Share the story of how Pierre installed a switch in the House so she could turn on the Sylvan Fountain (the fountain on the east end of Peirce's Park), while entertaining her guests.

The Heritage Exhibit

Pantry (1909) – Room 7

Longwood's domestic side is explored in the Pantry. Modern conveniences of the du Pont era include an electric warming oven, towel dryer, servants' call bell, and silver safe. One wall displays photos and videos of the fabled Garden Parties and Christmas Parties as well as of John Philip Sousa's band concerts at Longwood.

Stories and Tips

- Be sure that the towel dryer cabinet is open, and ask guests if they have ever seen a towel dryer cabinet like this one. Explain that this predates dryers, so it was a simple luxury to have this appliance in the kitchen. Ask if they'd like this type of gadget in their own home!
- Show guests the large safe that holds silver pieces. Have fun talking about the task it might have been to have so much silver to shine.
- Share with guests the du Pont's passion for entertaining. Show them the panels displaying the different garden parties, and point out the different clothing attire.
- You can also describe what Christmas was like at Longwood in the du Pont era, while showing guests photos of the holiday.
- Guests may inquire if this room was the kitchen during the du Pont era. The kitchen was located in the room that explores Pierre du Pont's philanthropic and business interests.
- Guests are often curious about the fan on the butcher table. It is called a Fly Fan. It winds up like a music box and the blades rotate very slowly creating a slight breeze. It was probably used to keep flies off of food.
- Point out to guests the call box that is above the door that leads into the kitchen. There were buttons throughout the house that sounded in the Pantry. There are still a few in the house that can be seen. There is on the dining room floor so whoever was 'in charge' of the meal, could summon help from the kitchen or pantry. Most of the buttons were removed and the one in the dining room is covered by the carpet.

Kitchen (1909) Room 8

This display highlights Mr. du Pont's philanthropic and business interests. A display of trophies and ceremonial photographs commemorate Mr. and Mrs. du Pont's community contributions.

The history of the DuPont Company is shown through a chronology of its product line which began in 1802 with black powder (explosives) and then diversified into many different chemical products.

Stories and Tips

- For guests who want to know more about the extraordinary life and accomplishments of Pierre du Pont, guide them to this part of the exhibit. Besides being a true Renaissance man, it is in this part of the Exhibit that guests can grasp Pierre's energy level and the

The Heritage Exhibit

many projects and organizations with which he was involved. Visitors of all ages and from different cultures will find something that will connect them to Pierre du Pont.

- Also in this room guests can explore all of Pierre's philanthropic efforts. Share some of these accomplishments like his support for the Civil Rights Movement in the state of Delaware and the building of the Chester County Hospital in West Chester, PA.
- Share with guests the model of Pierre's analemmatic sundial. This was his final project. He based its configuration on the design of a historic sundial at Brou Cathedral in France.
- Pierre had great interest in tracing his family ancestry. Alice and he traveled to France several times to research the family history. After the death of Alice in 1944, he directed his energies towards collecting and translating hundreds of old family documents from French to English. He compiled a detailed family genealogy reaching back to 1500. Point out the chart displaying his direct lineage to his great great-grandfather, Pierre Samuel du Pont de Nemours.
- Show **kids** the perpetual calendar developed by Pierre. Understand the instructions so you can explain how to work the calendar.
- Point out the photograph of Pierre in his garden. It has been expressed by those close to him and through stories written about him that Pierre had a twinkle in his eye. Talk about his passion and joy for life and how this photograph captures these emotions of Pierre in his favorite place, the garden.

Butler's Room (1909) Room 9

The Butler's Room features a photographic timeline showing the transformation and development of Longwood from 1954 to 2002. Education and performing arts programs are also highlighted.

Stories and Tips

- When Pierre du Pont died in 1954, he left Longwood with a well- established horticultural tradition, experienced businessmen as trustees and a sizable endowment. Explain to guests that today a professional management team oversees the constantly evolving Gardens.
- Share how Pierre's remarkable vision combines horticulture, architecture, theater and music into such a unique garden experience; and it is why Longwood can be considered perhaps the ultimate garden treasure.
- Although this exhibit doesn't include the updates to the Gardens since 2002, you can talk with guests about the many ways Longwood continues to grow with the updated Children's Garden, Student exhibition Garden, Green Wall and East Entry Plaza, Meadow Garden and the revitalization of the Main Fountain Garden.
- Engage kids of all ages by showing them all the exciting facets to Longwood Gardens. There are a variety of opportunities available for kids, including onsite lessons and

The Heritage Exhibit

activities, online lessons, home school programs, summer camps and scout programs. Parents can find an extensive list of activities on the website.

- Encourage guests to visit our website and learn more about how we are preserving Longwood's heritage.

Longwood's East Gardens Highlights

East Garden Highlights

The East Gardens are considered to include the following areas:

Flower Garden Walk, Flower Garden Drive, Square Fountain, Compartment Gardens, Theatre Garden, Flower Garden Drive (or Allée), Peirce's Woods, Italian Water Garden, the areas surrounding the Small and Large Lakes, the Visitor Center, Terrace Restaurant, Peirce du Pont House Conservatory and the grounds surrounding the house.

Horticulture staff – These areas are cared for by the staff and volunteers listed below. Gardeners can be moved to areas as needed. When seasonal displays need to be planted, for example planting over 100,000 spring bulbs, many extra hands come to help.

8 full time employees

9 part time/ seasonal employees

Approximately 20-24 volunteers

1-2 interns or other students/week most of the year

Open Air Theatre

This historic Theatre has inspired guests since it opened in 1914.

- The Open Air Theatre was built to house theatrical performances, concerts and garden parties. Performances have varied throughout the years, but the Open Air Theater is an active and vibrant performing venue hosting world class performances each summer. 1500 guests can be seated in the Open Air Theater.
- Daily fountain shows with recorded musical accompaniment occur regularly on the 'odd' hour all season long.
- Historical note: Originally, the sloped lawn was flat and tables filled the space. In 1925, Pierre renovated the Open Air Theater, adding dressing rooms under the stage for 100 performers, as well as colored fountains and lights installed in the stage floor. The excavated soil was used to create the seating area.

Longwood's East Gardens Highlights

Flower Garden Drive and Taxodium Allee

- This 600-foot-long avenue runs parallel to the Flower Garden Walk.
- A magnificent allée of 27 huge bald-cypresses fronted by an arborvitae hedge provides a stately backdrop for a double flower border whose planting plan is redesigned each year.
- The bald-cypresses on the north side of the drive were planted by the Peirce family in the 19th century. Over time trees were lost. Pierre du Pont had mature specimens, approximately 70 feet high in height, transported to Longwood and planted to create a double row of these majestic trees.

Flower Garden Walk

- The Flower Garden Walk was founder Pierre du Pont's first garden, planned and designed just after the property was purchased in 1906.
- The plantings bordering the 600-foot-long brick walk are a mixture of annual and perennial flowers, spring bulbs, woody shrubs and ornamental grasses. Hundreds of thousands of spring bulbs are followed by vibrant summer annuals, then fall mums and late blooming flowers.
- Color plays an important role in the borders, starting with cool blues and lavenders to fresh pinks, and progressing to reds, oranges and warm yellows, before ending with the white palette.
- The garden is planted with new seasonal designs two times a year with plant substitutions in the spring and late summer.
- Over a hundred thousand spring flowering bulbs are planted each October.
- The Round Fountain at the center of the Flower Garden Walk was the first fountain to be built at Longwood Gardens. In the summer months, Mr. du Pont's nieces and nephews used to put on their 'bathing costumes' and splash around in the Round Fountain.
- At the end of the Flower Garden Walk, there is a semi-circular stone "whispering bench". Encourage guests to sit on one end of the bench and have a friend sit at the other end. Then, have them whisper towards the center of the bench, and listen to how their voice travels around the curve! The phenomenon works because the bench is a perfect semi-circle.

Longwood's East Gardens Highlights

Peirce's Woods

- Pierre du Pont purchased the property in 1906 to save the trees from being cut down for use as timber. It is named after the Peirce family who originally owned the property.
- Peirce's Woods was formally designed in the 1990's, by landscape designer, Gary Smith. Smith designed it to be an "art form" garden with a series of nine informal garden rooms, separated from one another by "walls" of shrubs and featuring the most ornamental characteristics of the eastern deciduous forest.
- Peirce's Woods Plaza - This entry courtyard transitions from the formal Flower Garden Walk to the lush woodland of Peirce's Woods. Interesting containers including bog gardens and unique combinations fill the space.
- Seasonal change is dramatized in Peirce's Wood's. Spring offers the greatest display of flowers while summer is mostly green. In the fall Peirce's Woods is ablaze with color.
- The major goal of Peirce's Woods is to attract attention to the value of native plants simply by getting guests "turned on" about their beauty.
- In May flowering shrubs and trees and spring ephemerals (woodland plants that take advantage of the full sun before the canopy fully leafs out in spring to flower) are a highlight of the season.
- Scale is a primary element of Peirce's Woods, so protecting the mature trees was essential. All the paths and irrigation lines added in the 1990s were hand dug to protect the mature tree roots.

Small Lake

- This manmade lake is a habitat home to a diverse animal population that includes ducks, green and blue heron, frogs and bluegills.
- The shallow lake is no more than six feet deep.
- Spring House: Connecting the Small and Large lakes is a picturesque stream that meanders down the slope into a grove of pond-cypress. Installed in 1964 with a spring house added the following year, the stream was broadened in 1997 with numerous weirs, and redesigned landscape in 1998.
- The Bald-cypress *Taxodium distichum* "knees" are knobby protrusions of the root structure above the wet soil they live in. The function of these knees is unknown.

Large Lake

- The Lake is home to a diverse animal population including ducks, green and blue heron, frogs, bluegills, golden orfe fish, catfish, bass and sunfish.
- The Lake is approximately 15 feet deep at its center.
- A love temple, or gazebo, can be found at the Large Lake. It was donated to Longwood in 1967.
- Noteworthy plants: Bottlebrush buckeye; *Aesculus parviflora*, and large plantings of herbaceous native shrubs border the south side of the lake.

Longwood's East Gardens Highlights

Canopy Cathedral Treehouse

- Inspired in design by the traditional wood-frame stave churches found in Norway, Canopy Cathedral is one of three tree houses built in 2008 to celebrate the importance of trees to the Garden's past, present and future.
- The sentinel dragons which stand guard outside the treehouse were designed and carved by the treehouse builders; Treehouse Workshop. The Douglas-fir timbers that make up the columns, beams, rafters and ties of the timber frame and reclaimed Douglas-fir flooring were milled from salvaged logs from older buildings. The carvings and siding of the Canopy Cathedral are all western red cedar.

Italian Water Garden

Pierre du Pont's love of water and fountains is embodied in this formal garden.

- The Garden features six large and twelve small blue-tiled pools with 600 jets of water and a water staircase that recirculates 4,500 gallons of water each minute.
- The Italian Water Garden was built from 1925 -1927 after an inspirational trip to Europe by Pierre and his wife Alice. Originally, this area was a swamp.
- Two rows of specially pruned or "pollarded" little leaf linden trees frame the Garden. The formal pattern of the rectangular pools surrounds the central round fountain with the green lawn as a backdrop.
- The larger main fountain at the rear has the highest spray of water. Guests might note that even the jets of water within the pools are carefully aligned.
- The four pools look equal in size from the overlook but when viewed from the side the two rear pools are actually longer in length.
- Pierre's own plans – including 50 pages of hydraulic calculations – were the driving force behind this garden. When it was renovated in the early 90s, his handwritten calculations were found to be perfectly accurate.

Peirce's Park

- Peirce's Park, located just east of the Peirce du Pont House, was one of the first collections of trees in the nation. Some of the trees found here are approximately 200 years old. All are labeled with small brass tags on the north side of the trunks.
- The Sylvan Fountain was originally controlled by a switch in the Peirce-du Pont House. It was built at the same time as the Italian Water Garden, a gift from Pierre to his wife Alice du Pont.
- Many valuable trees have metal lightning protection systems. They consist of a terminal, commonly referred to as a lightning rod, a grounding rod and a large copper cable that connects them. The copper cables are often visible to guests.

Longwood's East Gardens Highlights

Managed Native Meadow

- Once the site of a planted field, orchard and pasture, this area was recreated as a meadow to add a new dimension to the horticultural display of Longwood Gardens.
- The meadow represents the first stage in the natural succession process: the progressive replacement of one plant community by another, from field to forest.
- The native wildflowers found there have either been planted by Longwood horticulturists or independently established from seed dispersed by wind or animals.
- In 2014 the Meadow was expanded to 86 acres. Interpretive shelters, additional walking paths, and an enlarged meadow and wetland habitat were added along with other interpretive elements.

A Short History of Longwood Gardens

General Longwood Garden Facts

Longwood Gardens is one of the great gardens of the world. We strive for innovation in horticulture and display. We present the arts in an unparalleled setting to bring pleasure and inspire the imagination of our guests. We contribute to society through excellent and diverse education programs, horticulture research, environmental stewardship, and cultural and community engagement.

Longwood Gardens encompasses 1077 acres; over 300 acres are open to the public. Pierre du Pont's original purchase from the Peirce family in 1906 included 202 acres. Other properties were added later.

Early History

Many generations helped create Longwood Gardens, but one individual—Pierre S. du Pont (1870-1954), industrialist, conservationist, farmer, designer, impresario, and philanthropist—made the most enduring contribution.

Pierre du Pont was the great-grandson of Eleuthère Irénée du Pont (1771-1834), who arrived from France in 1800 and founded the E. I. du Pont de Nemours and Company gunpowder works. Pierre turned the family business into a corporate empire in the early 20th century and used his resulting fortune to develop the Longwood property.

More than 200 years earlier, the land had been inhabited by the native Lenni-Lenape tribe who hunted, fished, and farmed the productive wilderness. In 1700, a Quaker family named Peirce purchased the property from William Penn and soon established a working farm. In 1798, Joshua and Samuel Peirce began planting an arboretum on the farm. By 1850, the arboretum was well known as Peirce's Park, and contained one of the finest collections of trees in the nation. For the following decades, Peirce's Park thrived as a pleasure ground for the community. However, eventually it fell into disrepair and was sold.

In 1906, at the age of 36, Pierre du Pont purchased the farm in order to save the trees. Pierre inherited a strong sense of entrepreneurship, love of horticulture and the drive to leave a personal legacy; traits that reflected his family's philosophies. Soon, Pierre was dedicating great amounts of his personal fortune to transform his property and took great pride in delighting guests with its' growing beauty.

He followed no grand plan; instead he built the gardens piecemeal, beginning with the 600-foot-long Flower Garden Walk in 1907. Although his later gardens would draw heavily on Italian and French persuasion, this early effort reflected what he termed an "old-fashioned" influence, with nostalgic cottage-garden flowers, exuberant shrubs, rose-laden trellises, and even a shiny gazing ball. The scale was grand, the accessories quaint.

Five years later was the debut of the new Open Air Theatre. His inspiration was an outdoor theatre at the Villa Gori, near Siena, Italy, although his version was much larger.

A Short History of Longwood Gardens

Within a year, he equipped it with secret fountains that shot out of the stage floor to drench visiting nieces and nephews.

Pierre enhanced the domestic comforts of Longwood by enlarging the original Peirce farm house, notably in 1914 when he doubled its size. The attached conservatory was Longwood's first "winter garden" and Pierre's first experience with the aesthetics of greenhouse gardening.

The massive Conservatory opened in 1921. It would be hard to imagine a more theatrical setting for the indoor display of plants.

With the Conservatory a reality, Pierre turned his attention to another great love—fountains. He based his Italian Water Garden on the Villa Gamberaia near Florence, but he added 600 jets of recirculating water. At the Open Air Theatre, he replaced the old waterworks with 750 illuminated jets. His hydraulic masterpiece was the Main Fountain Garden in front of the Conservatory: 10,000 gallons a minute shot as high as 130 feet and illuminated in every imaginable color.

As early as 1914 with the formation of Longwood, Inc., Pierre was thinking about the eventual fate of the property after his death. In 1937 the Longwood Foundation was created to handle his charitable giving. When Pierre died in 1954 at the age of 84, he left Longwood with a well-established horticultural tradition, experienced businessmen (his nephews) as trustees, and a sizeable endowment.

After his death in 1954 Longwood's first director was hired. Since that time Longwood Gardens has matured into a magnificent horticultural showplace filled with countless opportunities for enjoyment and learning.

A Short History of Longwood Gardens

The Longwood Foundation

In 1937 Pierre du Pont created the Longwood Foundation to manage his charitable giving.

The foundation was split in two in 1970 becoming two foundations – Longwood Gardens, Inc. and the Longwood Foundation. Longwood Gardens, Inc. is the foundation which operates Longwood Gardens. About half of the money required to run Longwood Gardens comes from onsite revenue - ticket sales, special events, the restaurant, Gardens Shop, classes and members. The other half comes from the Longwood Gardens, Inc. endowment.

The Longwood Foundation has made grants to non-profits of over 2 billion dollars since 1937. Historically, investments and grants have been made primarily in education, health care, environmental, housing, arts, social services, and civic sectors. Funds are also provided to Longwood Gardens, Inc. for some large capital projects.

Longwood Staff (as of February 10, 2016)

Please know these numbers change frequently.

210 Full-time employees

259 Part-time employees

701 Volunteers

50 Students

50 Seasonals

PIERRE DU PONT'S STEWARDSHIP – LONGWOOD GARDENS

- 1870 – Pierre du Pont born in Wilmington, DE at family home, Nemours, on January 15th.
- 1890 – He graduates from MIT with a degree in chemistry
- 1902 – He becomes treasurer of the DuPont Company, incorporates the company with two cousins, Thomas Coleman (TC) and Alfred I.
- 1906 – Pierre du Pont purchases Peirce's Park in Kennett Square, PA to save the century old Peirce arboretum.
- 1907 – He plans and plants first garden at his PA property, which he names 'Longwood'
- 1909 – Pierre du Pont appointed acting president of Du Pont Company during TC's illness. First addition to house at Longwood to modernize adds heat, electricity and plumbing. First Garden Party held at Longwood.
- 1913 – He adds a large addition and glass house to existing house at Longwood.
- 1913 – He builds Open Air Theatre at Longwood.
- 1914 – Longwood is incorporated.
- 1915 – Pierre marries first cousin Alice Belin.
He becomes president of DuPont Company.
- 1917 – Pierre du Pont begins building Kennett Pike (Rt. 52) between Wilmington and Hamorton, PA.
- 1919 – Construction starts on the main conservatory complex at Longwood.
- 1921 – Conservatories open in November.
- 1924 – He adds the Music Room onto the Conservatory.
- 1925 – Pierre du Pont builds the Water Garden, now called the Italian Water Garden.
- 1927 – Pierre reconstructs the Open Air Theatre.
- 1928 – Azalea House (now known as the East Conservatory) constructed.
- 1929 – Work begins on the Ballroom and the Main Fountain Garden (Pierre Du Pont's term was the Electric Fountains).
Firmen Swinnen supervised the building of the Aeolian Organ.
- 1937 – The Longwood Foundation is incorporated.
- 1950 – Pierre hosts the 150th family reunion at Longwood.
- 1954 - Pierre du Pont dies in a Wilmington hospital at the age of 84 on April 5th.

LONGWOOD GARDENS AS A PUBLIC GARDEN

- 1956 – Longwood's first Visitor Center and picnic area open.
- 1957 – Desert House and first Waterlily Display constructed.
- 1958 – Cascade Garden and Tropical Terrace House constructed for better Guest traffic flow.
- 1960 – Rock Garden (now Hillside Garden) constructed.
- 1962 – New Visitor Center opens.
The first Christmas Tree Lane lighting display occurs.
- 1966 – Palm House opens on Palm Sunday.
- 1967 – Horticulture Building constructed.
The Longwood Graduate Program hosts its first graduate student class.
- 1968 – Eye of Water constructed.
- 1970 – Longwood Gardens, Inc. is created as a separate foundation with tax-exempt status.
The Professional Gardener Training Program hosts its first class.
- 1973 – Azalea House reopens after undergoing renovations.
- 1976 – Peirce-du Pont House Heritage Exhibit opens.
- 1981 – First Chrysanthemum Festival held in November.
- 1982 – Internship Program begins.
- 1983 – Terrace Restaurant opens.
- 1987 – First Children's Garden constructed.
- 1989 – Silver Garden designed and installed
- 1993 –Mediterranean House redesigned and reopens. Cascade Garden replaces Desert House
- 1995 – Orangery and Exhibition Hall undergo renovations.
- 2001 – Chimes Tower, Music Room and Ballroom undergo renovations.
- 2005 – East Conservatory reopens after undergoing renovations and redesign.
- 2006 – Longwood celebrates its Centennial.
- 2007 – Indoor Children's Garden constructed.
- 2010 – East Conservatory Plaza and Green Wall design is completed.
- 2011 – Organ plays once again. Formal rededication after undergoing restorations

Plant Production, Research and Sustainability

Longwood takes ordinary plants and makes them extraordinary. To provide these extraordinary plants we produce many of them in our production facilities. We also grow rare and unusual specimen plants. Longwood's standard of excellence and desire for beautiful and unique displays of specimen plants creates a need for unique display forms and larger scale plants to fit the soaring Conservatory. Our production team is responsible for growing and creating most of these plants and display forms. The production staff is dedicated to quality plant production. They take plants and through exceptional care, pinching and disbudding create huge blooming plants which are all of the highest quality.

Highlights

- We produce 65% of the plants used for display – 80,000 pots ranging from small peat pots to large topiary standards. We use 120,000 pots in display each year – produced in house and by select commercial producers.
- Our production space comprises 80,000 square feet (two acres) of total greenhouse production space – more space than most other public gardens.
- There is an additional 100,000 square feet (2 ½ acres) of field production. This does not include nursery and field grown plants.
- Our research division has introduced more than 130 new cultivars including garden standbys such as new guinea impatiens, or exotics like our gigantic waterplatters
- We mix our own potting medium and have over 50 different types of specialized potting media we create.
- Longwood's Integrated Pest Management (IPM) team leads the field in applying IPM techniques to achieve horticultural excellence while preserving environmental quality.
- There are just 11 production growers and one inventory specialist. Additionally we use part time staff and volunteers.
- Some plants are added into production planning 5 or more years out – especially when we need something quite large such as our lantana standards.

Plant Production, Research and Sustainability

Interpretive Tips

When guests admire plants and ask where we grow these gorgeous plants it is a perfect opportunity to talk about our facilities and how the plants are grown.

One talking point is the plant production staff's dedication to excellence – every plant is a specimen vs. a standard potted plant. The excellence of our displays is directly related to the dedication of the production staff - pinching, disbudding, and tying up each plant. Most commercial growers can't put that time into each plant. Our growers at times will come in after hours to make sure their plants get the best care.

Encourage guests to return for one of our behind the scenes production tours which occur Thursdays through Saturdays on selected weeks and takes them to our newest growing facility.

When talking about the size of the plants or blooms point out that you can't buy plants of this size easily. We grow them to fit the scale of our soaring Conservatory not the average home.

Research – This is a great topic on Flower Garden Walk. Cannas are just one example of research focus plants. Any time you are near a research plant that gives you an opportunity to talk about our leadership in research. (See more p. 10)

IPM – When guests ask about disease or insects point out that Longwood uses many low impact treatments such as spraying plants with water or using beneficial insects to keep our plants and environment healthy.
You can point out the sticky yellow cards which are used to collect and identify insects. (See p. 7)

Plant Production, Research and Sustainability

History

The first production greenhouses were built in 1921 at the west end of the conservatory during the original construction by Pierre du Pont.

The nursery was constructed originally as a temporary production facility in 1956.

There have been steady additions of new hoop houses added to the nursery area throughout the years.

Research greenhouses north of the conservatory were added in 1956 and remodeled in 1999 as well also adding nine more state of the art greenhouses. Sophisticated computerized systems in the new houses mark Longwood Gardens as one of the leading users of technology in growing plants in a public garden.

Production Facilities

80,000 square feet (two acres) of total greenhouse production space includes a nursery, hoop houses, the original estate greenhouses and nine newer production greenhouses. An additional 100,000 square feet (2 ½ acres) of field production adds more capability.

Nursery

Sixteen hoop houses (half round, poly covered greenhouses) used for outdoor bedding plants, propagation, specialty chrysanthemums and research

100,000 square feet (2 ½ acres) of field production including chrysanthemums, outdoor bedding plants, replacement ornamental plants, research plantings

Conservatory Complex – original growing houses and hoop house – There are dedicated areas for plant holding areas for different indoor display areas as well as production of seasonal indoor plantings. It includes 5 orchid houses, and two small offseason waterlily tanks for early plant production and preparation.

Newest Production Facility

The facility behind our Conservatory contains 30,000 square feet of state of the art production greenhouse space and 5000 square feet of research greenhouses.

In 1999 nine new greenhouses were added behind the Conservatory. Argus computers are used by growers in the range of nine greenhouses, making it possible to produce exquisite plants year round under all conditions. Each greenhouse is equipped with its own computerized system that automatically controls temperature, bench and perimeter heat, snow melters, and devices for cooling and shading. Unlike many production facilities, most of our mechanical systems are located beneath the greenhouses in a complex tunnel system. The production facility includes a soil mixing room and four large cooler rooms for forcing bulbs. The building also houses our research division where they trial new plants and develop new cultivars.

Plant Production, Research and Sustainability

Production Practices and Techniques

Everything is grown on a specific schedule to ensure plants are produced for display when needed. Of course Mother Nature can interfere with that at times and, despite all efforts from a dedicated staff, plants will bloom too early or too late.

We can produce 65% of the plants used for display – 120,000 pots ranging from small peat pots to large topiary standards. Many large specimen plants are grown which take up a lot of space in the production houses and limit the ability to produce a higher number of plants. Throughout the past decade a more rapid display turnover also demands more plants and more space.

Selecting which plants are grown in house and which are grown by contracted growers depends on the crop and our expertise. Some crops are more easily grown by other growers with the expertise and facility to produce a Longwood quality plant.

A computerized soil mixing system was introduced in 2000; now the growers “dial-up” the desired soil mixture (over 50 recipes are stored)

Our gardeners want beautiful plants with larger blooms. How do we create these large plants?

1. Pinching off some of the flowers and disbudding some of the branches of a plant forces all the energy to creating fewer larger flowers.
2. Choosing good cultivars – selecting strong and larger cultivars
3. Good management and plant practices

A number of different techniques are used for propagation of plants, including germinating seeds, rooting cuttings, grafting and micro-propagation or tissue culture.

Creating Large Hanging Baskets

There are two main construction techniques:

1. Stainless steel baskets are constructed in two halves by Longwood’s metal shop. They are lined with very wet sphagnum moss and filled with damp planting medium. Each half is planted and allowed to grow, then bolted together.
2. Sphagnum moss baskets - Gardeners push the root balls of plants such as orchids through a metal basket cage which supports them. There is damp sphagnum moss around the outside of the basket and damp planting medium fills the center. A pot is placed into the top of the basket so that they can water the baskets by filling the empty pot on top. See illustration on the following page.

Plant Production, Research and Sustainability

Sphagnum Moss Hanging Baskets at Longwood Gardens

Top-Planted Baskets

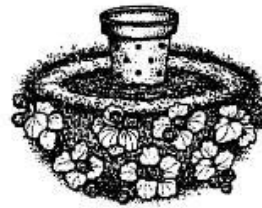


A perforated pot serves as a water reservoir. The wire frame is lined with 2-3" of wet sphagnum moss. The moss is built up the sides and over the rim.

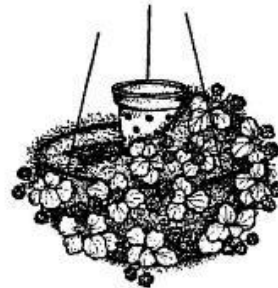


Plants are planted in the soil around the edge of the basket.

Top and Side-Planted Baskets



Rooted cuttings are planted in the sides of the baskets as the moss and soil are built up.



Continue to plant the sides as you build up the soil and moss around the pot.



The pot acts as a reservoir and distributes water evenly through the ball.

Plant Production, Research and Sustainability

Creating Standards

A standard is a plant which is trained to have a long bare stem and full, shaped top. Standards can take anywhere from one to six years to reach display size. Some standards are grafted but not all – it depends on the plant used.

Grafted plants can be created using a bud graft or slit graft. The graft is rubber-banded in place and covered in Para film. Once the graft takes and new growth starts the gardener lets the stems get to a specific length and then starts pinching and shaping the plant to create the shape they want.

Ungrafted plants – these plants are grown to a specified size. Once they reach that size all the branching structure and foliage along the stem is removed to a specific height. Then the upper branches are pinched and shaped to form the topiary top.

Growing Standards – Plants grown in a stylized tree form

Standard tree forms are plants which may not naturally have a tree form. They are started as cuttings with one straight stem trained to grow up a stake. Any side shoots or flowers are pinched or pruned off without disturbing the apical meristem or top growing point of the stem. Once the single stem plant reaches the desired height the growing point is pinched or pruned off which causes the plant to start to branch. Once the desired height is achieved, the plant is shaped with uniform branching. Both *Allamanda* and *Euphorbia* are fast growing and get to be a display size plant in 2 to 3 years. Heads of standards are uniform in shape, and well-proportioned to height. The Standards displayed in the Garden are not in containers. They are dug up in the fall and returned to the Production Greenhouses.

Plant Production, Research and Sustainability

IPM – Integrated Pest Management

Integrated Pest Management (IPM) is the philosophy and strategy used to promote the health and well-being of all the desirable plants (trees, shrubs, flowers) and the physical plant at Longwood Gardens for over 20 years. Insects, mites, plant diseases, weeds, deer, mice, etc. may threaten our displays. They are called “pests” in this document for discussion. Our program’s goal is not total pest elimination, but instead the successful management of pest populations at levels which are aesthetically acceptable and promote plant/public health.

Longwood's Integrated Pest Management (IPM) team leads the field in applying IPM techniques to achieve horticultural excellence while preserving environmental quality. IPM programs include: implementing innovative pest control measures, optimizing environmental conditions for plants, conducting relevant research to solve pest management problems, and applying the highest standards of pesticide safety. Simple steps like watering foliage to remove insects, or using beneficial insects can reduce the need for application of pesticides.

When chemicals are used, our staff uses the highest standards of pesticide safety. We exceed established State and Federal Guidelines regarding pesticide use. We protect our highly trained applicators with Personal Protective Equipment, treating every pesticide as if it was the most toxic. The applicators take measures to isolate the public and other workers from these chemical applications until re-entry in areas of application are considered safe. Any pesticide applications occur after hours when guests are not affected.

IPM Practices

Longwood Gardens has a rich tradition of utilizing innovative methods and diverse principles to achieve our pest management objectives. Safety is of prime importance for both guest and staff. IPM is a team effort with the IPM staff working closely with the horticulture staff to identify and create treatment plans for different areas. The Gardens are scouted; an IPM plan is developed for each area or crop; and then implemented.

Scouting

The IPM team, which consists of two full time staff and one intern, scout garden areas regularly to control insect and pest populations, weeds and disease before they get out of control. They scout the Production facilities, Conservatories and outdoor spaces on a regular schedule and are also notified by staff if there is a sudden plant health issue.

The production spaces are scouted by room or crop every two weeks. Plant shipments are scouted upon arrival so that new pests are not brought into display or growing

Plant Production, Research and Sustainability

spaces. Sticky yellow cards are used to collect and identify insects in many areas of the greenhouses.

The Conservatory spaces are scheduled to be scouted every two weeks depending on the area and plants. IPM staff and interns look closely at plants to take bug counts and look for signs of disease or poor plant health.

The outdoor gardens and natural areas are scouted according to Growing Degree Days. GDD are a measure of heat accumulation used by horticulturists, gardeners, and farmers to predict plant and pest development rates. Longwood uses biophenometers to keep track of GDD. These instruments take multiple samples of air temperatures and calculate the average temperature. This information and historic data is used to determine which insects might be actively hatching, breeding or feeding. It also ties to when plants are coming into bloom. The IPM staff then can direct their scouting search to those insects which will be most likely to be active on a particular crop or in a particular area of the Gardens. For example, Azalea Lace Bug emerges at about 130 GDD and Boxwood leaf miner emerges at about 250 GDD

A report is made to the gardener in charge of that space or garden. A decision is made to do nothing or to take action. The range of care includes taking no action, spraying a plant, using a beneficial or at times composting the crop of infected plants. It is all dependent on how much the plant or crop can tolerate before it is too severely weakened.

Generally the gardeners responsible for each area or crop do the actual treatments when needed.

Treatment Options

- Cultural control - Rotating infected plants out of display before issue gets too bad
- Watering techniques ; many fungal issues are caused by overwatering
- Physical control – get rid of an infected branch or few plants
- Weather – as seasons change pest population may fall
- Biological control – using good bugs to reduce bad bugs. Using biological controls are more costly and time consuming but much better for the environment. Longwood is working to grow their own beneficial insects such as *Vidalia* beetles and mealy bug destroyers Example: *Vidalia* beetle eats cottony cushion scale in the Acacia Passage
- Chemical control – last resort and least toxic option is always used.

Plant Selection

Plant Production, Research and Sustainability

Plant Selection also plays a role in limiting use of chemical treatments. Thoughtful planning and layout of the plants in these gardens is the most important ingredient for healthy plants in this area. Preventive measures include: diverse plantings, strong healthy seedlings, disease resistant varieties, proper sunlight, air circulation, and healthy soil is used to prevent plant disease, rather than deal with pests later.

Healthy soil

Soil testing is performed so that the appropriate soil amendments are added. Healthy soil is essential for strong healthy disease resistant plants.

Wildlife

Longwood pursues a multifaceted approach in all its wildlife management efforts.

Deer Management

Netting is placed in the fall over spring bulbs to discourage deer from stepping in the beds and squirrels from collecting the bulbs. It is removed once the foliage emerges, usually in early March.

Deer fence: In the spring, once the spring bulbs start to grow and show some green, deer fencing is used. The 30 inch tall electric fence (2 wires) is put up every night and taken down in the morning. It is baited with peanut butter. Once deer have been shocked tasting the peanut butter they then learn to avoid the fencing and hopefully the plants.

To ward off deer, Longwood, Longwood leases perimeter land to farmers, and insures that there is always a field of corn somewhere on the perimeter. Through a system of stand-hunting and organized drive hunts, the population of deer on the property has been stabilized to a degree over several years, although adjacent properties harbor large populations of deer which use the Longwood property at certain times. Success of the program is defined as attaining a goal of healthy forest regeneration and minimal deer browsing damage to the display garden. Deer are also seasonally and permanently fenced out of certain areas in the gardens to minimize damage in those locations. The hunters are all Longwood full-time employees who are licensed hunters and have completed a yearly proficiency test administered by Longwood Gardens in addition to the normal hunter safety courses required by the state. Longwood is part of the Deer Management Assistance Program (DMAP) program under an annual PA Game Commission permit. This program provides for additional antlerless deer permits to be used on Longwood property.

Critter Management

Plant Production, Research and Sustainability

Longwood has a team of 16 cats that help control rodent problems in the gardens. The cats in the east End of the garden are Iggy (FGW).

Sustainability

Longwood Gardens recently established its Eco-footprint, which has provided a quantitative measure of Longwood's environmental and energy inputs/outputs. It will be used to develop strategies to reduce demand-side energy consumption, reduce waste and enhance water conservation.

Land stewardship management seeks to preserve and protect the four watersheds and other valuable ecosystems which are contained within the property.

Longwood strives to be a model for recycling and re-use for the community. Our environmental practices are firmly grounded in our mission as the living legacy of Pierre S. du Pont. Our composting program collects 8,000 cubic yards of discarded organic material. We recycle everything possible from batteries, paper and plastic, aluminum and much more.

Our solar field produces about 2 million kilowatt hours per year, which is the electrical equivalent of powering 181 average homes. It is expected to offset our energy consumption by nearly 28% and can reduce our annual carbon dioxide emissions by 1,367 tons.

Research

The Research Division at Longwood Gardens focuses on finding and evaluating new plants, studying and improving growing methods, improving plant characteristics through breeding efforts and cultural techniques, and correctly identifying, recording, and mapping all plant accessions. A staff of five maintains this rigorous program.

Plants are obtained from expeditions (program started in 1958 and has traveled to 50 countries and all continents except Antarctica). Plants are obtained from breeding projects, plant donations, seed exchanges, and commercial sources. Approximately 200-250 new plants are evaluated each year

Current Longwood breeding projects include projects working with *Clivia*, *Camellia*, *Canna*, *Sarracenia* and *Cestrum*. Current breeding projects include:

Camellia: developing an ever blooming, cold hardy, and fragrant plant

Clivia: developing a multi-petal or double yellow flower cultivar

Cannas: produce a compact plant in a wide range of colors that are "self-cleaning".

Today the cannas project is focused on eliminating viruses from Longwood cultivars and selecting new cultivars from a breeding program.

Longwood has introduced more than 130 new cultivars including

- Impatiens
- Cannas

Plant Production, Research and Sustainability

- Camellias
- Ivies
- Hollies
- Rhododendrons
- Water platters

A plant evaluation committee decides if the new plant is worthy of display or further work. Many of these unusual plants are then grown into a crop which will appear in our displays.

Research Facilities

Non-hardy plants trials and greenhouse experiments are conducted in our 5500 square foot research greenhouses and hardy plant trials and field research occupy about 8 acres at the Longwood nursery. Longwood facilities include a soil lab and tissue culture lab. Tissue culture, or growing plants in test tubes, is an important part of that process. Tissue culture allows us to grow plants in a sterile environment to multiply plants quickly, eliminate viruses, and/or maintain a bank of virus-free plant stock.

Resources

Longwood Gardens Resources

- Garden Ambassador trainings
- Garden Ambassador Manual
- Daily Line-Up on the Garden Ambassador Desk
- Garden Map– way finding, events and current activities
- Staff – staff are happy to help but be respectful of their time
- Library – you may take books out of the library or browse there
- Website – www.longwoodgardens.org

There is a wealth of information found here

- Garden Highlights <http://longwoodgardens.org/gardens/highlights>
- Blog - <http://longwoodgardens.org/blog> - a great source of interesting stories
- Heritage Exhibit in the Peirce–du Pont House – excellent source for history questions
- Take time to walk the Gardens and look at the plants and locations you have read about.
- Daily talks and tours led by staff and experienced volunteers throughout the gardens are a wealth of information.
- Email updates

Resources

Plant and History Resources

- Chester County Historical Society
225 N. High Street
West Chester, PA 19380-2658
610-692-4800
<http://www.chestercohistorical.org/>
- Hagley Museum and Library
200 Hagley Road
Wilmington, Delaware
302-658-2400
<http://www.hagley.org/>
- The Pennsylvania Horticultural Society has an information service:
610-625-8250
- To find your local extension agency, visit:
<http://www.csrees.usda.gov/Extension/index.html>
- Plant information web sites:
- Plant hardiness zones:
<http://www.usna.usda.gov/Hardzone/ushzmap.html>
- USDA plants data base:
<http://plants.usda.gov/>
- List of native plants in PA:
<http://www.fhwa.dot.gov/environment/rdsduse/pa.htm>
- Native plants in PA:
<http://www.dcnr.state.pa.us/forestry/wildplant/native.aspx>
- Invasive plants in PA:
<http://www.dcnr.state.pa.us/forestry/wildplant/invasive.aspx>
- Brandywine Conservancy, Environmental Management Center, protecting the natural resources of the Brandywine watershed:
<http://www.brandywineconservancy.org/index2.html>