

# ARBORETUM ON THE NATIONAL MALL: A STUDY OF TREE LABELING

**HEAVERS, NATHAN**

Virginia Tech, Landscape Architecture, United States, [heavers@vt.edu](mailto:heavers@vt.edu)

## 1 ABSTRACT

*This paper examines the labeling of trees on the National Mall, specifically at the United States Botanic Garden, Smithsonian Gardens, the United States Department of Agriculture, and the U.S. Capitol Grounds, and questions how these individual tree collections might together better form an arboretum at the center of the nation's capital. The notion of an arboretum in the heart of Washington is not new: George Washington initiated it with his 1796 proposal to plant trees from all thirteen states in the nation's new capital (Wulf, 2011); the Columbian Institute for the Promotion of Arts and Sciences, the forerunner of the U.S. Botanic Garden, started planting trees in 1816 (Fallen, 2007); Andrew Jackson Downing's designs, implemented in the 1850s, created a "museum of trees and shrubs" for the enjoyment and education of people (Ottesen, 2011); and Frederick Law Olmsted reshaped and planted Capitol Hill, labeling the trees in the manner of an arboretum (Choukas-Bradley, 2008). While some of these 19<sup>th</sup> century efforts were greatly altered through the work of the McMillan Commission in the early 20<sup>th</sup> century, over the past several decades, the activity of collecting and labeling a great variety of trees for the education of the public has increased (Ottesen, 2011). Through archival research and a contemporary field survey of tree labeling, this paper documents the history of arboreta on the National Mall and presents the present day systems of labeling from garden to garden. It suggests that tree labels across the National Mall might be better coordinated between collections and concludes that the history of tree planting on the National Mall could be one educational part of this long-standing, but under recognized, arboretum.*

### 1.1 Keywords

Arboretum, botanical garden, tree labeling, plant identification, plant collection

## 2 INTRODUCTION

Botanical gardens and arboretums are closely related design schemes; the former suggests a specialized collection of plants of all types, while the latter indicates a collection focused on trees and shrubs. The history of botanical gardens and arboretums is quite interesting and extensive; for a recent account of this history one might turn to John Dixon Hunt's (2012): *The Botanical Garden, the Arboretum and the Cabinet of Curiosities* in *A World of Gardens*. Contemporary scholars and institutions generally identify four main agendas for such plant collections: research, education, recreation, and conservation (Heyd, 2006). These aptly describe the multi-pronged missions of many of the institutions and their gardens currently on the National Mall in Washington, DC.

This paper begins with a history of the National Mall, describing how it has been designed as an arboretum. The method for this part of the study is archival research, consulting primary and secondary documents including written descriptions and drawings. One of the key features of most arboretums, past and present, is tree labeling, for the purposes of education as well as research and conservation (Wyman, 1947), and so then the author asks: How are the trees on the National Mall labeled today and how might the tree collection, as a whole, be interpreted more systematically for the education of visitors? To address this question a field study is presented which documents through photographs the range of label types and their content across the National Mall. The study of labeling is not un-trod territory; a master's thesis by Burston (1980) is a very useful work on visitor orientation in botanical gardens and arboretums, pointing out that "signs and tree labeling" (p. 17) are one of several devices designers and horticulturists use to engage and educate visitors. While there are other factors, which orient a visitor in gardens, this paper focuses on tree labeling to get a better sense of which collections on the National Mall have an explicit educational purpose and might contribute to re-thinking this national tree collection.

### 2.1 The Study Area

The National Mall in this paper is the great public parkland along the two principal axes of the City of Washington between the Capitol and Arlington Cemetery, running east to west, and Lafayette Park and the Jefferson Memorial, traveling north to south. The study is confined to that portion of the National Mall between the Capitol and the Washington Monument. This portion and the part to the north of the Washington Monument are the original ground laid out in L'Enfant's 1791 plan of the city.

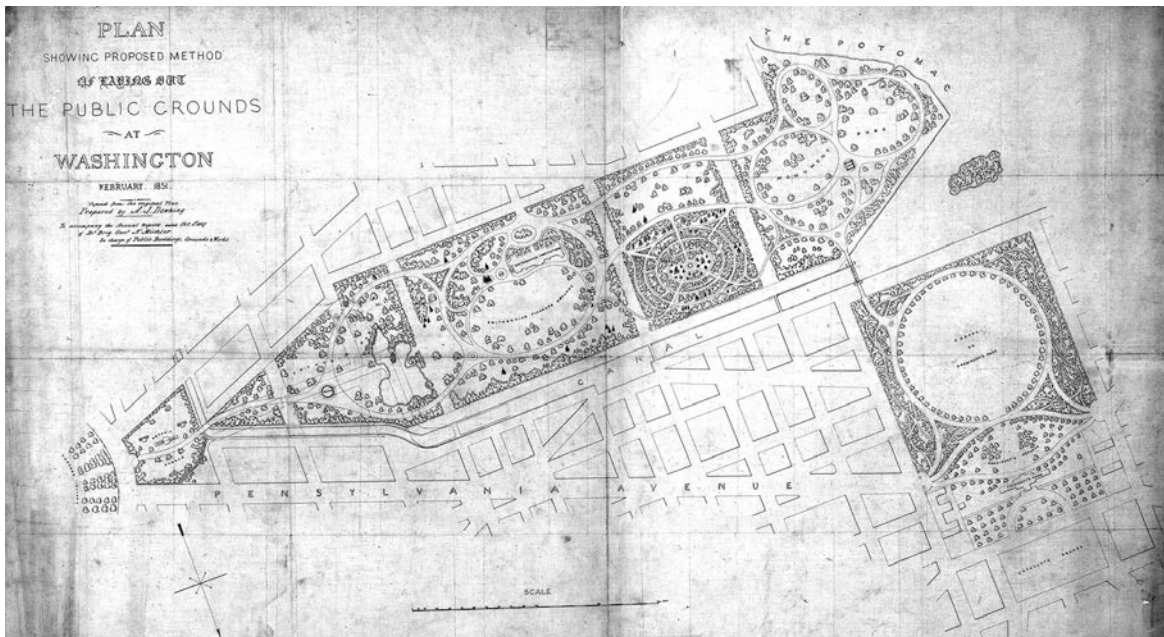
The National Mall has taken over two hundred years to emerge from the initial and influential prompt of L'Enfant's plan. Central to the plan, since its inception, but not drawn by L'Enfant, is the idea of a national botanical garden, which George Washington first proposed to collect trees from all the states for propagation and redistribution to farmers; much as he and other founding fathers did on their own private properties (Wulf, 2011). In many ways this botanical mission has always had a presence on the National Mall, especially in the form of collections of trees, one of the great symbols of America's natural bounty. In the years since the nation's founding, several horticultural enterprises have taken place on the grounds of the National Mall (Savage, 2009), an extensive history of which is beyond the scope of this paper. But most of the designed gardens and landscapes that comprise the National Mall today have had their origins in earlier efforts.

## 3 A HISTORY OF THE ARBORETUM ON THE NATIONAL MALL

The question of how to incorporate a botanical garden into the first plan of the City of Washington was little resolved at George Washington's death in 1799; however, construction on the Capitol and the White House had begun within a systematic, if largely absent plan of streets, squares, public buildings and monuments. Sitting on high ground, these two buildings marked important points on the two principal axes of the city, which sloped gently down to the Potomac River's banks, intersecting at a marshy point that L'Enfant saw fit for an equestrian statue of Washington, about 400 feet from the center point of today's Washington Monument, which rests on more solid ground. At that time, the land of the National Mall was farmland and forest, far from the vision of a botanical garden to seed the nation with plants.

It was in 1816 that the idea of a botanic garden began to take shape through the efforts of the Columbian Institute for the Promotion of Arts and Sciences to "collect, cultivate, and distribute the various vegetable productions of this and other countries" (Fallen, 2007, p. 15). Then in 1820, president James Monroe signed over 5 acres at the foot of the Capitol, on its west side, for a botanical garden, a project which initially failed, perhaps due to the extremely swampy ground at that location. The goal of a botanical

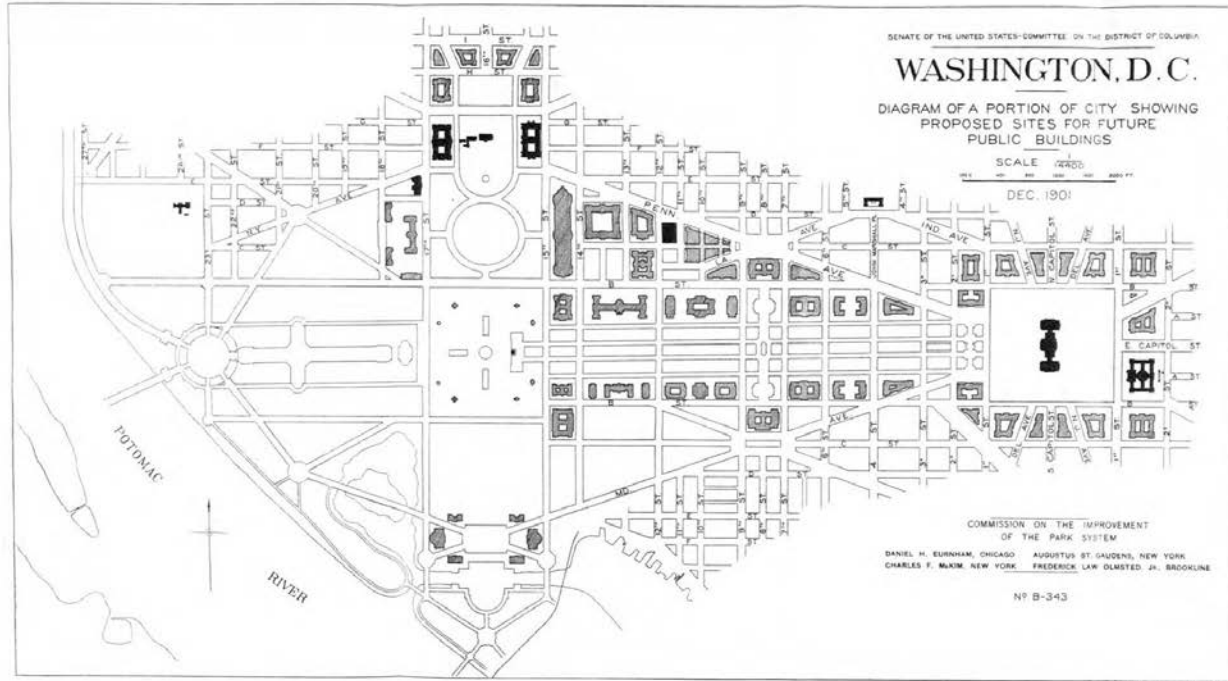
garden on the Mall was taken up again in 1842, when the Wilkes Expedition returned with 50,000 natural specimens and about 500 live plants that needed a home. With this collection and congressional backing, the botanic garden had a fresh start; a conservatory was built, finished in 1856 (U.S. Botanic Garden, 2015), more or less on the line between the unfinished capitol dome and the stump of the Washington Monument, also begun in 1842, but stalled at that time, only to be opened in 1888. L'Enfant's drawing for this stretch of relatively level ground running from Capitol Hill to the Potomac showed a great thoroughfare, but in 1851, when Andrew Jackson Downing, the preeminent landscape designer in America at that time, was asked to draw up a plan for the National Mall; he ignored L'Enfant's treatment of the ground in favor of trees (See Figure 1). Rather than a great highway, he imagined a great landscape garden, "a public museum of living trees and shrubs" (Ottenson, 2011, p. 14), reaching from the slopes of Capitol Hill down to the banks of the Potomac at a "Monument Park", in the manner then fashionable in England and championed by John Claudius Loudon, the creator of Derby Arboretum, a systematically planted collection of diverse sorts of trees in a public park (Hunt, 2012). In Downing's drawing, his arboretum covers the ground from the Capitol to Washington Monument, and then turns north, reaching around the White House to the President's Park, now Lafayette Square. This desire to systematically re-plant, what had been forest, was pasture, and was shortly to be used as a Civil War encampment, was carried out in part after the war, according to Downing's plans, particularly in the spaces around the White House and near the newly built Smithsonian Castle. But Downing's death in 1852, left the National Mall of his era without its horticultural rudder, jurisdictionally and in terms of design, though the seed of an arboretum approach had been planted.



**Figure 1.** Nathaniel Michler's Copy of Downing's 1851 Plan for the National Mall (1867). Public domain image from <http://www.archives.gov>.

After the Civil War, a great effort was put toward tree plantings on the streets of Washington, under governor Alexander "Boss" Shepherd; so much so that it became known as the "City of Trees" (Choukas-Bradley, 2008, p.5). And in 1872, Frederick Law Olmsted was hired to rework the grounds of the Capitol, to which he added great marble terraces on three sides and agreed with Congress that the many trees he planted ought to have labels in the manner of an arboretum (Olmsted, 1882, p.9). Then in the final decades of the 19<sup>th</sup> century, what was described earlier in this paper, as the National Mall in full, was created with the filling of the tidal flats along the Potomac, extending both principal axes of L'Enfant's design into the river, gaining much new ground. This new thrust to the nation's center made misfits out of Downing's arboretum, the Botanic Garden, and a railroad terminus on the stretch between the

Washington Monument and the Capitol. The McMillan Commission Report of 1901, in part the work of Frederick Law Olmsted Jr., proposed to: move the botanic garden; cut many of its trees; devise a way to remove the railroad from the premises; and ignore Downing's plans in favor of L'Enfant's. The design team interpreted L'Enfant's plan quite freely, substituting for the concept of a great thoroughfare, a broad swath of turf lined with rows of graceful elms. Despite all this clearing, the McMillan Plan's emphasis on establishing museums and federal office buildings along the Mall, (See Figure 2), has made up for these horticultural losses because many of the museums have since created new tree collections on their grounds.



**Figure 2.** Building Plan along the National Mall from the McMillan Commission Report (1901). Public domain image from <http://www.nationalmall.net/resource/mcmillan.html>.

But also, today, there are some very distinct remnants of historic landscapes that predate the McMillan Plan that are arboretum-like, and complement the newer tree colonies in the museums' gardens and landscapes. To the east, around the Capitol, grows Olmsted Sr.'s arboretum. To the north, at Lafayette Park, once the President's Park, and around the White House, there is another collection of trees that have the quality of an arboretum. Many trees in Lafayette Park are still labeled, and in 1932, the park was known for having the greatest diversity of trees for a square of its size, anywhere in the city (Colville & Freeman, 1932). Of course, the United States Botanic Garden, which has been in its current home since the 1930s, has had incredible staying power, and grew, yet again, in 2005, with the National Garden. But perhaps most significant of all, to the extension and re-invention of an arboretum concept on the National Mall, has been the rise of Smithsonian Gardens, established in 1972 to care for the gardens and grounds of the Smithsonian museums (Ottesen, 2011). Within the highly individualized plots, around each particular Smithsonian Museum collection, have sprouted up an array of plantings, a collection of collections, all with various kinds of trees, and often labeled. Even the United States Department of Agriculture (USDA), not a Smithsonian Institution, has in its fifteen-year plan, to re-imagine its landscape as an outdoor agricultural museum (Acosta, 2014, p. 6). So, in over 200 years, the National Mall has been swept over several times, with successive waves of planning and design, but one aspect that seems to persist is the labeling of trees of this unofficial arboretum.

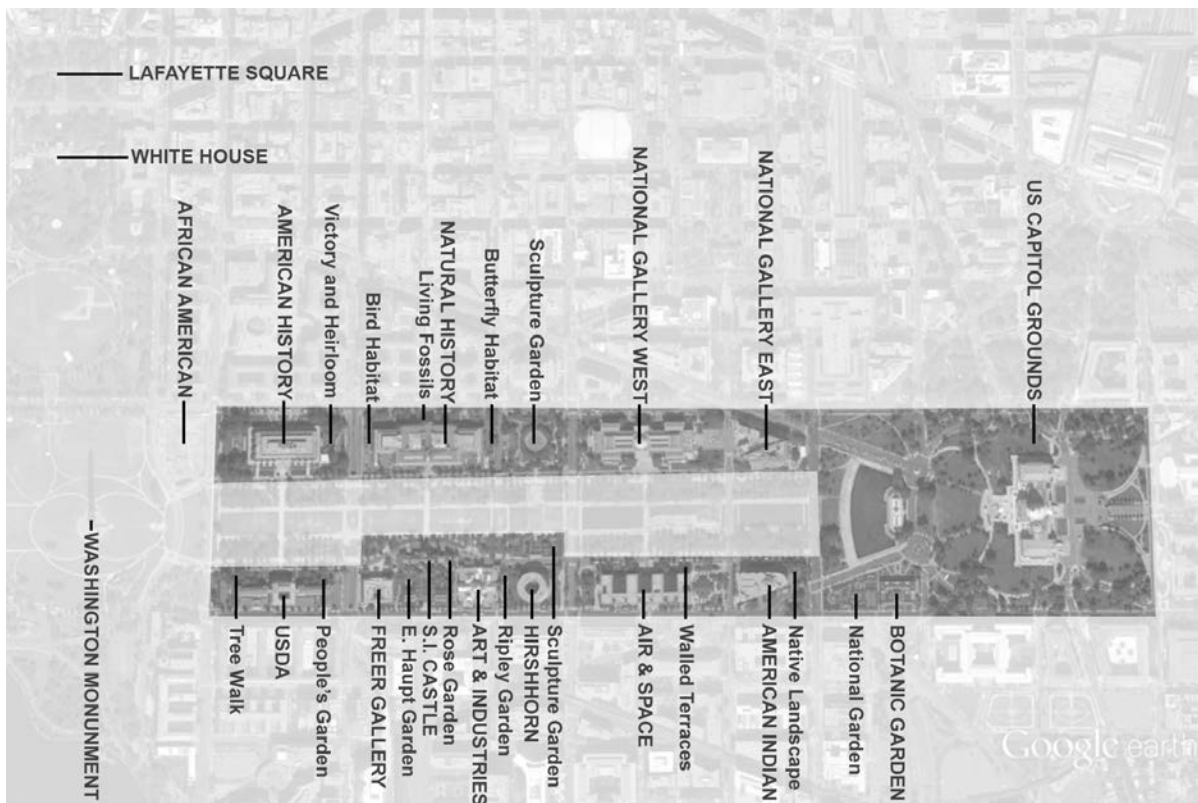
This notion reaches across the Potomac River to Arlington Cemetery's tree collection, up the piedmont hills to the National Cathedral, and around the home of the nation's president, an area not so

easily accessible to the public today. There are other great collections, such as the flowering cherries and the less known crabapples that are also consistent with the typical plantings of arboretums. However, this paper is focused on the stretch between the Capitol and the Washington Monument, where in the 20<sup>th</sup> century, after Downing’s arboretum and the US Botanic Garden were rolled back, a century of re-stitching the edges of this uniform tapestry, has produced a new arboretum, anchored by the historic Capitol Hill arboretum at the end.

**4 TREE LABELING ON A WALK AROUND THE NATIONAL MALL**

The study area of the paper is a circuit, about 2.5 mile in length, but involving much meandering along the margins of the National Mall, to take in the more intricate paths of the individual gardens along its perimeter. On this walk, one encounters a dozen Smithsonian Gardens, the U.S. Botanic Garden, Capitol Hill, and the USDA Headquarters (See Figure 3). An outlier, Lafayette Square, was also visited. The author set out to record the types of tree labeling found, and how the gardens are presented on signs to visitors, to see how this loop works as an arboretum, at least from the perspective of educating visitors through labeling.

According to Burston (1980, p. 17), there are a number of factors involved in the orientation of visitors to public gardens and arboreta, which include the visitor center, movement (routes), signs and labeling, plant collection groupings, and publications (maps, guide books, interpretive leaflets). In this study, the focus is on signs and labeling of trees, though other factors are touched upon. The author used standard institutionally provided maps as a guide and read the content available online through each institution’s website to extend his experience of the walk. In addition, a couple of popular guides, including *City of Trees* (Choukas-Bradley, 2008) and *A Guide to Smithsonian Gardens* (Ottesen, 2011), proved quite useful for orientation and additional background for the sites visited.



**Figure 3.** Map of the Study Area, including Museums, Gardens and Grounds (2015) Diagram by the author.

A key attribute of the gardens along the National Mall is the name each garden is given; this is usually called out on a large signpost, as tall as an average person. Then within each garden are often

sub-collections, galleries of plants, sometimes grouped according to plant types, as was typical in 19<sup>th</sup> century and earlier systematic botanic gardens and arboretums (Hunt, 2012). In other instances, the named gardens are organized and labeled in different ways, as in representative ecosystems or habitats, an organizational scheme of 20<sup>th</sup> century origins, paralleling the development of ecological science, giving new form to collections in arboretums around the world. Looking over the full list of gardens and sub-gardens on this loop, there are many spaces with distinct purposes, often with labeled plants, including trees. Typically, there is a description of each of these sub-gardens or sub-collections on a firmly planted signpost, usually more modest in size than that which announces the whole garden. Finally, entering the collections of these “living museums” (Ottesen, 2011), as most purport to be, there are often individual plant and tree labels and sometimes slightly larger labels that describe people/plant relationships or important ecological interactions. These are, perhaps, the most interesting and specific horticultural labels in the gardens, going beyond the names of plants and describing the garden in terms of some detail of a plant’s life history or its use by humans or other creatures. In addition, there are labels in the gardens that are more socially and culturally oriented, using trees as memorial markers, whether in bronze or paper, also an important aspect of some arboretums, which are common in cemeteries, for example.

Beginning a tour on the east side of the U.S. Capitol Building, one might encounter the only easily found contemporary reference to the grounds as an arboretum, on the one sign devoted to the “United States Capitol Grounds” throughout 58 acres. Here is described Olmsted Sr.’s contributions to the designed landscape, which, online, is limited to a description of his design for the Capitol Terrace and Summerhouse, saying outright that his work on the grounds was primarily a matter of the architectural “hardscape” (U.S. Capitol, 2015). While that is perhaps the most lasting visible feature of his design, the tree plantings (several hundred types), though not all of his era, are an equally significant aspect of the design, their placement between the spokes of the great radial streets that extend from the center of the city, structuring views to and from the nation’s Capitol. In terms of the labels on these trees, there are primarily two types: those that call out Latin and common names of the trees only and tree tags that double as memorial plaques. These memorial trees are themselves grouped: to the north are those for senators and to the south are found trees dedicated to representatives. This memorial function of many of the trees on the grounds seems to be one of the key ways to keep up the collection, as many of the young trees on the grounds have such labels affixed to them, with corresponding dates of planting. Wrapping around the Capitol Grounds, on a looping path, brings one to the south and west corner of the hill, at a lower elevation, where it meets the grounds of the U.S. Botanic Garden.

The U.S. Botanic Garden contains a large glass conservatory at its center with a band of display gardens around it, Bartholdi Park across Constitution Avenue to the south, and the National Garden to the west. With sago palms and other accessions dating from the return of the Wilkes Expedition, the Conservatory collections are grouped according to climates within its many rooms. However, it’s the outdoor spaces, which are the focus of this study, where many labeled trees are rooted in the ground, especially in the National Garden, opened in 2006. Of the five principal parts of the National Garden; the Rose Garden, the Butterfly Garden, the First Ladies Water Garden, the Lawn Terrace, and the Regional Garden; each introduced with a permanent waist-high sign or vertical banner; the Regional Garden is by far the most novel for this setting because it is designed as an ecosystem representing the flora of the Mid-Atlantic coastal plain east of Washington and the piedmont to the west. It also happens to lie on the former path of Tiber Creek, which once coursed below Capitol Hill, so this garden has many of the qualities of the regional woodlands and meadows that once occupied this land, including a water channel with characteristic wetland plants, as well as pines accustomed to wildfires that offer an example of locally rare pinelands. There is more evident signage and labeling in the Regional Garden, than any other on the Mall (See Figure 4), and it is most like what a visitor finds at similar institutions devoted to trees, such as the National Arboretum or the Arnold Arboretum in Boston, one of the nation’s oldest devoted specifically to the collection and study of trees and shrubs. Unlike the Capitol grounds, where most of the labels are attached to the trees at six feet above the ground, sometimes higher, the U.S. Botanic Garden labels are all in the ground, even the tree labels, and come in several types and sizes. There are the standard zinc or aluminum accession labels, inconspicuously placed, but ever so important, carrying the tree’s vital botanical records; the typical metal horticultural labels in black with white lettering, with Latin and common names, the plant’s family name, and the region where it is found; ankle high signposts corresponding to a guided audio walk, available online or by phone, rarely with QR codes for more information; occasional 8”x11” signs highlighting rare or endangered species conserved in the garden; larger banners describing

important ecological processes, such as wildfire; and finally, brochures available in mailboxes placed at intersections about the garden. All this gives the visitor plenty to absorb, while walking in the gardens, and much of the same information is simultaneously online for a virtual visit before or after a live trip. The U.S. Botanic Garden even makes available a searchable database, BG-Base, with software developed by the Royal Botanic Garden, Edinburgh, for visitors to search the plants growing in the garden. Unfortunately, the mapping codes the horticulturists use and which show up in database query responses are not revealed anywhere for an online or live visitor. Save more detailed information that could be made available online about its plant collections, the USBG meets what a visitor to any well-funded arboretum might expect in the 2010s.



**Figure 4.** Typical Labeling and Signs at the US Botanic Garden (2015). Photos by the author.

Moving west, along the south side of the National Mall is a series of gardens under the care of Smithsonian Gardens and associated with the nearest museums including: National Museum of the American Indian (Native Landscape), National Air and Space Museum (Walled Terraces), Hirshhorn Museum (Hirshhorn Sculpture Garden), Arts and Industries Building (Mary Livingston Ripley Garden), Smithsonian Castle (Enid A. Haupt Garden and Katharine Dulin Folger Rose Garden), National Museum of African Art (Enid A. Haupt Garden), Arthur M. Sackler Gallery (Enid A. Haupt Garden), and Freer Gallery of Art (Enid A. Haupt Garden). Although Smithsonian Gardens curates and maintains all the gardens in parentheses, as well as more to be discussed on the north side of the National Mall, there is variation in the labeling found between the sites. At the National Museum of the American Indian the landscape is a re-creation of wetlands and woodlands, such as existed in the area before European colonization, when it was still Tiber Creek. Here, a very few large plaques point out key tree species of this region that the Native Americans used, giving details of their properties. The Walled Terrace gardens and sculpture gardens of the next two museum have no tree labels, except for several “Wishing Trees” in the Hirshhorn Sculpture Garden, where visitors hang notes on a tree’s branches, a rare act of public curation in this highly controlled landscape. The Mary Ripley Livingston Garden is an example of a garden arranged primarily for aesthetic and educational purposes; with nearly all its plants labeled, using the horticultural standby of black metal with white letters, it offers the visitor pleasing combinations of a wide variety of ornamental trees and shrubs, from around the temperate world. The Victorian fascination with

collection, be it roses, as in the labeled Folger Rose Garden, or marginally hardy exotic plants from distant lands, is displayed in the warm micro-climate on the south side of the Smithsonian Castle, named for its benefactor, Enid A. Haupt. Here, a few trees, like the curious Monkey Puzzle (*Araucaria araucana*), from the mountain slopes of Chile, are labeled with a chest height moveable sign, set out at the edge of the walk, near where the tree is planted against the castle wall to keep it warm. This garden is home to some of the rare and admired trees collected in Victorian times, striving to give the visitor an appreciation for that era's fascination with plant varieties of all sorts, as was once displayed on the Castle's north side in Downing's arboretum.

The last in this line of institutional buildings is the extensive USDA complex, the north lawn of which is under the care of the National Park Service, along with the great central space of the National Mall, west to the Potomac. The USDA has an eclectic collection of trees, especially on its north side, with walks that connect visitors to them and their bronze plaques in concrete in the ground at their bases, identifying their significance. In particular, a vigorous bur oak, dedicated to Martin Luther King, grows here, as do two American Chestnuts, a famed tree that succumbed to Chestnut Blight in the early 20<sup>th</sup> century, only surviving in the wild in stunted forms. Many of the trees on this north lawn appear to have been once part of a guided walk, each massive plaque has a number associated with it, but no guide is available. The People's Garden project on the NE corner of the USDA building has ousted this forgotten tree walk. As a nationwide initiative to promote sustainable community gardening, with some 1900 subscribing gardens, the People's Garden of the People's Department—Lincoln's name for the USDA—has diverted the focus of this mini-arboretum.

Crossing the Mall to the north side, one arrives at the National Museum of American History (Victory Garden and Heirloom Garden), National Museum of Natural History (Bird Habitat and Butterfly Habitat Gardens), and National Gallery of Art (National Gallery of Art Sculpture Garden). Back on the turf of Smithsonian Gardens, these gardens are programmed to match the missions of the museums they surround. While the Victory Garden and Heirloom Garden have few labeled trees and a different plant palette than typical of an arboretum, it is worth noting a recently planted example of Franklin's tree, extinct in the wild, and saved because of the collection of John Bartram, who in the 18<sup>th</sup> century, set up a nursery/arboretum in Philadelphia, one of the first of its kind in America. The habitat gardens of the Natural History museum work well as a tour of native trees too. Labeled in the standard horticultural manner, though often with clear acrylic stands, making the tags appear to float, the gardens aim to demonstrate the importance of plants to the lives of animals and vice versa. Some of these plant/insect or plant/bird relationships are spelled out in detail on larger signs. On the standard horticultural stock labels of the Bird Habitat Exhibit, where each plant's origin is usually shown on the labels, a note of how each bird species uses the plant is included. On the north side of the Natural History Museum, within the drop-off island off Constitution Avenue, is a cluster of ancient trees, living fossils, from the Carboniferous Period, including the Ginkgo or Maidenhair tree (*Ginkgo biloba*). Travelling eastward, the last of the truly varied tree plantings is the National Gallery of Art's Sculpture Garden, with around 30 distinct species of trees, but with only a handful labeled. Even further east, the main buildings of the National Galleries are increasingly austere, label-less landscapes, except for the inconspicuous circular aluminum tags arborists tack on to keep track of trees for maintenance, a technology, which is fading as accurate global positioning software makes it easy to attach geo-spatial data to a tree without ever touching its trunk. So with this hint of a brave new world of labeling and marking trees in mind, we loop back to the Capitol Hill, the oldest and perhaps most traditional of the labeled areas visited to go on and consider what the future might hold for this intricate necklace of plantings which rings the eastern arm of the National Mall.

## 5 RE-INTERPRETING THE NATIONAL MALL AS AN ARBORETUM

Of the 15 or so gardens described above, 10 have their trees labeled, making the spaces look and work like micro-arboretums: but what about the National Mall as a whole? Most use some version of the standard horticultural black metal labels with bright white lettering, either fixed to the tree's trunk or on a short stand, 1 to 2 feet off the ground. These labels usually contain some combination of a plant's Latin name, common name, family, and place of origin. The exceptions to this rule are at the National Museum of the American Indian's Woodland, which has a handful of large labels, telling the stories of each tree's use and lore, and naming it in one or more Native American languages. There are, as mentioned, other types of tree labels across these landscapes, including memorial plaques, ranging from small engraved



labels on tree trunks, not much bigger than a standard horticultural label, to heavy bronze plaques atop concrete pedestals. Lastly, there are the ephemeral types of marking that visitor's tend to leave, such as white paper tags at the Hirshhorn Sculpture Garden (See Figure 5).



**Figure 5.** Tree labels with combined memorial, habitat, and other cultural functions (2015) Photos by the author.

Labels seem to be a useful indicator of each garden's intent to educate the public about plants—at least in a tree's name and place of origin—or, in other cases to mark trees as memorials. But, as was suggested earlier, naming trees is just one function of an arboretum. Does the tree labeling on the National Mall create a grand arboretum in the sense that Downing's plan suggests, a designed forest in the center of the city? Perhaps not, but it does exposes visitors to a wonderful diversity of labeled trees, from near and far, and provides a sense of each tree's importance, at least in terms of the related mission of the museum it is paired with. The National Mall is also useful for learning a bit about American history through memorial trees. But it is the larger labels and the signs in each garden that tend to get at what seems to be most significant conceptually for thinking about the National Mall as an arboretum. That is, such labels begin to connect the each tree's names with historical and cultural concepts or ecological processes, for instance, to foster connections between people and trees, and to extend possible readings of the content in each garden. But are the many gardens linked together or related in their line up around the National Mall?

Each of the gardens along the National Mall has a theme, which is underscored and described through a large sign with one to several paragraphs of text. Most of the themes are closely tied to the missions of the adjacent museums and federal buildings. Taken as a whole, the gardens of the National Mall are very much like a cabinet of curiosities—albeit with both historical and contemporary concerns, from Victorian parterre gardens to 21<sup>st</sup> century rain gardens. The line-up of gardens is not accidental, but has more to do with the interior missions of the museums than the exterior ordering of tree planting: the Native Landscape of the National Museum of the American Indian is adjacent to the ornamental Wall Terraces of the Air and Space Museum, for example. The themes of gardens on the National Mall, as their signs point out, include: tree walks, ecological habitat gardens, ornamental display gardens, sculpture gardens, rose gardens, agricultural, community, and home gardens, heirloom gardens and cultural gardens. Whether focused on a particular history, culture, ecology, or ornamental display, each garden has a distinct collection of trees, for a particular theme, and its signs speaking mostly to it. In other words,

it is possible to find many messages on the signs around the National Mall, but the order of it all follows the museums, rather than the trees being brought into focus with their many relationships in the garden, across the Mall, and throughout the region. What might be done with tree labeling and garden signs to make the National Mall function more clearly as an arboretum, without distracting too much from its many other functions? How might it be possible for visitors to learn about the forest and its trees? In the third century of the National Mall, with a growing range of devices and applications readily available to convey information to visitors, projects like Other Order (Rueb & Del Tredici, 2014), a collaboration between Teri Rueb and Peter Del Tredici, exploring emergent ecology through sound walks at the Arnold Arboretum, might be a way to lighten the label count and increase the richness of geo-spatially available educational experiences for visitors. For several years, the Smithsonian has been collaborating with Columbia University on LeafSnap, an app for tree identification, using face recognition software to name trees, a type of technology which may eventually take physical labels out of the running.

## 6 CONCLUSION

With these and many other types of applications on the horizon, it seems that there will be many choices to be made about how to interpret the trees of the National Mall. Perhaps the three primary types of labels found along the National Mall in this study: tree name tags, memorial plaques to people and events, and larger signs, which discuss much broader issues than are easy to perceive or understand directly through our senses, may be clues to how to structure future interpretation. Stories about the role of trees in cultural memory, ecology, and design of the National Mall, could be embedded in the BG-Base database at the U.S. Botanic Garden, making more of this primarily technical tool, for keeping track of specific accessions in the collection. The Smithsonian Garden Archives, which currently crowd-sources information on gardens from around the country, could gather data closer to home with regard to its trees and peoples' experiences of them. It seems that each of the gardens on the National Mall has interesting and relevant histories, some bound up in the vaults of our National Archives, others being written in their branches as trees grow or fall in super-storms. How might we begin to layer together the histories of each of the gardens and trees that grow in their significance? Certainly it can happen through the use of digital media, but to what end and from whose perspective? In a way, the diversity of voices now speaking through the museum exhibits indoors is beautifully juxtaposed with a hushed outdoor counterpart, the trees waiting to be discovered.



**Figure 6.** The National Garden at the U.S. Botanic Garden looking toward U.S. Capitol (2015) Photo by the author.

Standing in the National Garden, opened in 2006, it's possible to reflect on the history of its landscape, learn about its ecology, and delight in the beauty of both the living collection and the design of the nation's Capitol and the garden's conservatory (See Figure 6). This garden began in the thoughts of

the founding fathers, but was not realized in this way for over two hundred years, until after the completion of the great dome of the Capitol, which now rises above Olmsted's arboretum. At the heart of the Regional Garden, are its trees and herbaceous plants, with labels up to wazoo. This garden, sitting serendipitously at the regional fall line, an ideal spot to bring together an incredible variety of plants from the coastal plain to the east and the piedmont to the west, along a constructed watercourse, where Tiber Creek used to flow off Capitol Hill, is abundant with signs of life—and tree labels. But most of all, it has the potential to makes one think beyond where he or she stands, physically and temporally. It can and does challenge one to think systemically about watersheds and forests in miniature and panorama. However, most of the signs at the U.S. Botanic Garden speak purely of this garden's mission, its plants, its trees, not its current relationship to Olmsted's arboretum on Capitol Hill, or the Native Landscape and wetland across the great asphalt expanse of Third Street, at the National Museum of the American Indian. The Native Landscape, like the Regional Garden, is a re-creation of native woodland and waterway; also young, it has grown incredibly in its first ten years, sending the message that ecology and culture might support each other, just as the author is suggesting the gardens and landscapes of the National Mall might have a greater agenda. Of course, it might be a more memorable experience for a visitor to venture out of the National Garden, cross Third Street and make the independent discovery that Tiber Creek has re-surfaced twice on the National Mall. But since, there are many pieces to this great historical, cultural, and ecological design puzzle of the National Mall, perhaps it is time to begin to rethink and re-imagine the labels attached to it, without losing sight of their historical intent of existing markers.

## 7 REFERENCES

1. Acosta, M. (2014). Executive Director's Recommendation: People's Garden Site Improvements and Perimeter Security. Retrieved January 6, 2015, from [https://www.ncpc.gov/DocumentDepot/Actions\\_Recommendations/2014June/United\\_States\\_Department\\_of\\_Agriculture\\_Headquarters\\_Jamie\\_L\\_Whitten\\_Federal\\_Building\\_Peoples\\_Garden\\_Site\\_Improvements\\_and\\_Perimeter\\_Security\\_Recommendation\\_6458\\_June\\_2014.pdf](https://www.ncpc.gov/DocumentDepot/Actions_Recommendations/2014June/United_States_Department_of_Agriculture_Headquarters_Jamie_L_Whitten_Federal_Building_Peoples_Garden_Site_Improvements_and_Perimeter_Security_Recommendation_6458_June_2014.pdf)
2. Burston, N. (1980). *Visitor orientation in public gardens and arboreta: a study of gardens in Great Britain and the United States of America*. Unpublished master's thesis, Virginia Polytechnic Institute and State University, Blacksburg, Virginia.
3. Choukas-Bradley, M. (2008). *City of Trees: The complete field guide to the trees of Washington, D.C.* Charlottesville: University of Virginia Press.
4. Coville, F., & Freeman, O. (1932). *Trees and shrubs of Lafayette Park*. Washington: The American Forestry Association.
5. Fallen, A. (2007). *A botanic garden for the nation*. Washington: United States Congress.
6. Heyd, T. (2006). Thinking Through Botanic Gardens. *Environmental Values*, 15(2), 197-212.
7. Hunt, J. (2012). The Botanical Garden, the Arboretum and the Cabinet of Curiosities. In *A World of Gardens* (pp. 130-146). London: Reaktion Books.
8. Olmsted, F. (1882). *Annual Report of the Architect of the Capitol*. Washington: Government Printing Office.
9. Ottesen, C. (2011). *A guide to Smithsonian Gardens*. Washington: Smithsonian Books.
10. Rueb, T., & Del Tredici, P. (2014, January 1). Other Order. Retrieved January 14, 2015, from [http://www.terirueb.net/other\\_order/](http://www.terirueb.net/other_order/)
11. Savage, K. (2009). *Monument wars: Washington, D.C., the National Mall, and the transformation of the memorial landscape*. Berkeley: University of California Press.
12. U.S. Botanic Garden. (2015). Brief History of the US Botanic Garden. (n.d.). Retrieved January 5, 2015, from <http://www.usbg.gov/brief-history-us-botanic-garden>
13. U.S. Capitol. (2015, January 1). Explore! Highlights and map of the US Capitol Grounds. Retrieved January 8, 2015.
14. Wulf, A. (2011). *Founding Gardeners: The Revolutionary Generation, Nature, and the Shaping of the American Nation*. New York: Vintage Books.
15. Wyman, D. (1947). The Arboretums and Botanical Gardens of North America. *Chronica Botanica*, 10(5/6), 395-498.