The United States Botanic Garden

Establishing a Plant Collection

Visitors to Washington, D.C., are often surprised to discover the distinctive glass dome of the U.S. Botanic Garden at the bottom of Capitol Hill, so close to the center of legislative power. Yet a national botanic garden was part of the earliest plans for the nation’s capital. It is a measure of the value of plants to the well-being of the nation that the Founding Fathers wanted to include a botanic garden in a prominent place in the new city. Writing in 1796 to the city Commissioners, President George Washington asked that a “Botanical Garden” be incorporated into the plan for Washington, D.C. He suggested several sites, one of them being the square next to the President’s House.

The same intellectual fervor that created the new American democracy also fueled curiosity about the natural world. Botanical studies flourished during the nineteenth century, as scholars tried to unlock the secrets of plants. They hoped to discover new sources of food and medicine, as well as improve existing food production. Through great ocean voyages, explorers navigated the globe collecting plant specimens that might prove useful. Governments vied for the prestige and economic benefits that accompanied important plant discoveries, since healthy populations relied on agriculture to produce food, clothing, dyes, and medicines. George Washington, Thomas Jefferson, and other early presidents were owners of farm land. They recognized that a botanic garden was an important resource for a developing nation. It would be a place to collect and study new varieties of plants from around the world in order to improve the quality and production of domestic agriculture.
Mount Vernon 21st Oct. 1796

Gentlemen,

According to my promise, I have given the several matters contained in your letter of the first instant, the best consideration I am able. — The following is the result:—

obstacles appear to be insurmountable, the next best site for this purpose, in my opinion, is the square surrounded by numbers 21, 22, 34, 45, 6a, 63. — and I decide in favor of it accordingly. —

conceiving (if there be space sufficient to afford it) that a Botanical Garden would be a good appendage to the Institution of a University, part of this square might be applied to that purpose. — If inadequate, and the square designated in the Plan of Maj. L’Enfant for a Marine Hospital, is susceptible of that Institution and a Botanical Garden also, ground there might be appropriated to this use. — If nothing will admit of it, I
A botanic garden would also become the repository for plants discovered throughout the vast territories of the expanding nation.

The vision of these early statesmen was realized in 1820, when Congress granted land on the Mall for a national botanic garden. Over the years, the United States Botanic Garden, one of the oldest botanic gardens in America, has collected plants from military and exploring expeditions, foreign governments, states and territories, and government agencies, preserving, cultivating, and distributing them as part of the national heritage. Today the Botanic Garden is the steward of rare and interesting plants, and its mission continues to emphasize the value of plants to humanity. The Conservatory is a living museum, displaying the biodiversity of plants from around the world and educating visitors about their aesthetic, cultural, economic, therapeutic, and ecological importance.

A Garden on the Mall

The establishment of a botanic garden in the nation’s capital was included among the goals of a group of respected citizens who founded the Columbian Institute for the Promotion of Arts and Sciences in 1816. Hoping to create a center for scientific pursuits, the Institute drafted a constitution that included as its first objective “to collect, cultivate and distribute the various vegetable productions of this and other countries, whether medicinal, esculent, or for the promotion of arts and manufactures.” One of its founding members,
Dr. Edward Cutbush, a navy surgeon stationed in Washington, was confident that, despite “the infantile state” of the city, there were many people who possessed the “industry and an ardent desire to promote the objectives of the Institute.” He expressed his enthusiasm for a botanic garden to a large audience at Congress Hall on the evening of January 11, 1817:

“We have been peculiarly fortunate, my friends, that our association has commenced at the seat of government; where, through representatives of the people, coming from the various sections of our country, of different climates and soils, whose minds are illuminated by the rays of science; and through scientific citizens and foreigners who visit the metropolis, we may reasonably expect, not only valuable communications, but various seeds and plants; hence, the necessity for a botanical garden where they may be cultivated, and, as they multiply, distributed to other parts of the Union…. The numerous grasses, grains, medicinal plants, trees, &c., which are not indigenous to our country should be carefully collected, cultivated and distributed to agriculturists.

The Columbian Institute received a congressional charter on April 20, 1818. After considerable lobbying by members, Congress approved a bill, which was signed by President James Monroe on May 8, 1820, granting the Institute “a tract of public land in the City of Washington, not exceeding five acres.” The members personally met with President Monroe, who was a member and supporter of
the Institute, and he agreed to let them place the botanic garden on property adjacent to the Capitol on the west. Work was started to clear and drain the soggy land, and trees were planted.

Though the membership roster included many distinguished citizens and several presidents, the Institute was unable to raise money for a greenhouse and lecture hall. Meetings were conducted in a variety of temporary offices, including a room in the Capitol. Nevertheless, the Institute began an enthusiastic effort to collect plants and seeds. In 1826, a committee was appointed to meet with heads of government departments to

Constitution of the Columbian Institute, 1817; Memorial of the Columbian Institute to Congress, 1819; Bill considered by the Senate of the United States, April 13, 1820.

When the members of the Columbian Institute petitioned Congress for land, they submitted a copy of their constitution and a formal letter of request, called a memorial. The printed bill, passed by the House, was the version under consideration by the Senate in April 1820.
A plant from tropical Africa, the castor bean was among the 114 plants appearing on the 1824 “List of Plants in the Botanic Garden of the Columbian Institute” prepared by William Elliot.

The publicity proved successful, as plants and seeds made their way to the Institute from as far away as Brazil and China, and as near as Montgomery County in Maryland. These plants, however, constituted only a portion of the material cultivated during the Institute’s existence. An 1824 “List of Plants in the Botanic Garden of the Columbian Institute,” prepared by member William Elliot, mentions more than 100 plants growing at that time.

Despite this success, financial woes continued, and there was never enough money from contributions for proper maintenance of the garden and plant collections. Dwindling interest in the Institute as a whole doomed the garden when, in 1837, Congress
failed to pass legislation to support it. The site of the Botanic Garden reverted to the federal government and remained untended for several years. Not until 1850, when a location was sought for the botanical collections of the U.S. Exploring Expedition, was the site resurrected as a botanic garden.

THE U.S. EXPLORING EXPEDITION (1838–1842)

There were national benefits to be derived from exploration, as Thomas Jefferson argued in his letter to Congress in 1803 asking for support of the Lewis and Clark expedition. In his instructions to Meriwether Lewis, Jefferson included among “objects worthy of notice … the soil & the face of the country, its growth & vegetable productions, especially those not of the U.S.” Twenty-five years later, Congress was again mindful of the political prestige and potential commercial rewards of geographic exploration when it authorized an expedition to examine and chart remote areas of the globe.

It took ten years to organize and fund the project, but on August 18, 1838, the U.S. Exploring Expedition set sail from Hampton Roads, Virginia, headed for the South Seas. Under the command of Lt. Charles Wilkes, an eccentric and ambitious officer, the six naval vessels of the expedition traveled more than 87,000 miles while surveying and charting hundreds of islands and vast stretches of the Pacific Ocean and its coastlines. The expedition’s most notable accomplishment was its confirmation that Antarctica was indeed a continent, not a series of islands as had been previously thought.
Wilkes reported that, in its four years at sea, the expedition took every opportunity when “not incompatible with the great purpose of the undertaking, to extend the bounds of science and to promote the acquisition of knowledge.” Nine civilian scientists, dubbed “scientifics,” were included in the expedition, and their presence accounted for the collection of cultural artifacts and plant, animal, and mineral specimens never before identified. The two botanists on board were William D. Brackenridge and William Rich, but Charles Pickering, the expedition’s naturalist, also had a hand in discovering plants. From the coast of South America to the islands of the South Pacific, from Australia to Oregon, the plantsmen collected specimens at every stop. Forays were made into the landscape where plants and seeds were gathered, pressed and dried, or packed live into special containers. When especially promising specimens were discovered, the expedition’s artists, Alfred T. Agate and Joseph Drayton, would draw the plants from life. Though there was work to do in every location, the islands of Fiji and Hawaii proved especially rich in botanical discoveries. Despite the hazards of storms at Cape Horn, highwaymen in the Andes, and hostile natives in the South Seas, the botanists collected and pressed more than 50,000 specimens of plants, gathered propagation material for an unknown number of these, and managed to bring back 250 live plants.

The challenge in Washington was what to do with the thousands of pounds of specimens of all types. Initially the expedition’s collections were housed in the Great Hall of the U.S. Patent Office, but the plants were placed outside. In late 1842,
Herbarium specimen of the vessel fern (Angiopteris evecta).
U.S. National Herbarium, Smithsonian Institution

Plants discovered during the Exploring Expedition were cut and pressed to preserve their essential parts. This herbarium specimen of the vessel fern, discovered in Tahiti, is one of 10,000 species collected and preserved during the voyage.

Vessel fern (Angiopteris evecta).

This progeny of the original vessel fern specimen is located in the Conservatory Jungle.

Pitcher plant (Darlingtonia californica).

One of the great plant discoveries of the expedition was the pitcher plant found by William Brackenridge near Mount Shasta in California. It was named after renowned botanist William Darlington, who had given advice to the expedition's planners. Because of its delicacy, *Darlingtonia* is not often on display, though other pitcher plants can be seen in the Southern Exposure garden in the West Courtyard of the Conservatory.

Herbarium specimen of the pitcher plant.
U.S. National Herbarium, Smithsonian Institution
Born in Scotland, Brackenridge was 28 when he was hired as a plantsman for the Exploring Expedition. He proved to be energetic and keen-eyed, working his way to assistant botanist by the end of the journey. He went on to catalog the live plants that survived the expedition, and he served as the first horticulturist for the U.S. Botanic Garden when it was established on the Mall in 1850.

List of Plants Producing Edible Fruits, date unknown. Smithsonian Institution Archives

In a neat, legible handwriting, Brackenridge listed by category plants that had economic value. The 19 pages include plants with edible fruits, plants producing dyes or useful for other economic purposes, spice plants, plants known to possess medicinal virtues, and plants with roots adapted for food for man.

a greenhouse was added to the back of the building to accommodate the study and propagation of the live plant specimens. William Brackenridge was put in charge of caring for the plants, which he described as one of the “most extensive and varied botanical collections.” More than 500 species comprising some 1600 specimens had been placed in pots. These marvelous live plants from around the world, including a vessel fern from New Zealand and a red gloxinia from Brazil, renewed interest in a national botanic garden. In 1850, when the Patent Office was enlarged, Congress appropriated $5,000 to relocate the greenhouse. By the end of that year the Botanic Garden was once again established at the foot of the Capitol.
A distinguished naval officer, Commodore Perry is best known for his expedition to Japan from 1852 to 1855, which resulted in the 1854 treaty that permitted American ships to use Japanese ports and, therefore, opened the country to Western trade and influence. During the voyage, Perry’s ships collected plants from China, Japan, and other stops in Asia.

Two storm-tossed ships of Perry’s squadron in Bay of Odawara, Japan, 12 February 1854, by William Heine.

Four plants collected during the Perry Expedition, drawings by William Heine. These sketches by the official artist of the Perry Expedition, William Heine, show four of the plants collected during the voyage: mangosteen and areca nut from Singapore (top left); black pepper from Singapore (bottom left); and nutmeg from Ceylon (near left).
The Botanic Garden Flourishes

In the 1850s, Washington was a growing city with 40,000 inhabitants. Construction was under way on the Smithsonian Institution, the Washington Monument, and the new wings of the Capitol. The Botanic Garden, with a new greenhouse built at the site of the previous Columbian Institute garden, occupied ten acres on the Mall near the Capitol. The small Gothic greenhouse with its exotic plants from distant countries was becoming an attraction in the city. In 1856, Congress officially named the United States Botanic Garden and placed it under the specific jurisdiction of its Joint Committee on the Library with regular funding to nurture its growth.

William Brackenridge, whose careful stewardship of the expedition’s rare plants enlarged the collection, continued to oversee the Garden as horticulturist. In 1853, he hired a young Scotsman, William R. Smith, to start work as a gardener. Trained at the Royal Botanic Gardens at Kew, England, Smith brought experience and determination to his position. One of his first tasks at the Botanic Garden was to prepare a comprehensive catalog of its plants. In the introduction to the catalog, Smith notes that “the majority of the plants in this list are the results of the United States Exploring Expedition…. Mr. Brackenridge by a judicious system of exchanging has obtained many important additions. Several of the plants first discovered by the expedition are now found wherever an exotic collection exists.”

New explorations, including the voyage of Commodore Matthew Perry in 1852, brought more exotic plants to Washington.
(opposite)

Library of Congress, Prints and Photographs Division

Visitors flocked to the glass rotunda on the Mall to view more than 300 palms and other exotic plants. The dramatic circular staircase concealed a brick chimney, part of an innovative heating system to protect the plants.

(above right)

Children in front of the Palm House, ca. 1870. 
Architect of the Capitol

Children pose reluctantly for their portrait in front of the popular Palm House. Note the doll carefully propped against the fountain.

(below right)

Interior of the Palm House, ca. 1870. 
Architect of the Capitol

Plants in the Botanic Garden at this time included palms, ferns, and cycads.
In 1855, Congress appropriated $1500 for “the erection of a suitable house for the plants recently brought from Japan for the United States.” Larger greenhouses were built to display the expanding collections and to study and propagate new plants. Smith was appointed the first superintendent of the Botanic Garden in 1863 and held the post until his death in 1912.

Smith oversaw an era of tremendous expansion at the Garden. He worked to broaden the collection while distributing the Garden’s sought-after seeds across the country. During his tenure, the Botanic Garden began to gain national prominence as residents and visitors alike came to admire its beautiful gardens and unusual plants. The Conservatory’s rotunda, built in 1867, contained more than 300 magnificent palms as well as a variety of plants from Asia, Madagascar, New Zealand, Panama, and...
South America. The east and west wings featured plants from such exotic locations as the South Seas, China, and the East and West Indies. A separate conservatory housed a lecture hall, or botanical classroom, that could accommodate more than 100 students.

**Changes throughout the Twentieth Century**

As the nineteenth century ended, the U.S. Botanic Garden was serenely ensconced at the east end of the Mall near the Capitol, surrounded by lush gardens and mature memorial trees. But the new century brought a fresh vision for the city of Washington. A movement was begun to transform the capital into a city worthy of its international stature and to restore the grandeur of Pierre L’Enfant’s original ideas. In 1901, under the direction of the Senate’s McMillan Commission, a new plan was drawn that would create an open Mall between the Capitol and the Washington Monument. The centerpiece of the new design was a memorial to Ulysses Grant to be placed at the foot of Capitol Hill. The Botanic Garden and its greenhouses, however, obstructed the vista and impeded placement of the monument. The Botanic Garden would have to be moved.

Many Washingtonians, among them congressmen and other government officials, openly opposed the move because it meant uprooting the magnificent trees. The public outcry delayed the inevitable for 20 years. When the Botanic Garden was finally relocated in the early 1920s, more than 200 trees on the grounds were destroyed, and the greenhouses were dismantled.

*Botanic Garden, ca. 1920.*

Library of Congress, Prints and Photographs Division

Mature memorial trees, many of them planted by congressmen and senators, surrounded the Botanic Garden at the turn of the century. Among the more notable specimens were a mossy-cup oak (*Quercus macrocarpa*) planted in 1863 by the Hon. J.J. Crittenden, a Kentucky congressman, and the Garfield Memorial Tree, a mimosa (*Albizia julibrissin*), planted by the Masons after the death of President James Garfield in 1881. Several American elms (*Ulmus americana*) were of special interest since they had been propagated from the roots of the Washington elm, a tree that once grew on the Capitol grounds. Destruction of the trees was at the heart of the controversy over relocating the Botanic Garden to make room for the Grant Memorial.

*Cornerstone laying of the new Botanic Garden, 1931.*

Architect of the Capitol

After years of debate, it was decided to move the Botanic Garden to its present site on Maryland Avenue. At the cornerstone laying, Senator Simeon C. Fess, Chairman of the Joint Committee on the Library, holds the trowel. The other gentlemen present are, from left to right: Horace D. Rouzer, Assistant Architect of the Capitol; George W. Hess, Director of the Botanic Garden; Eugene Pugh of the George A. Fuller Co.; and David Lynn, Architect of the Capitol.
Plants reach for the light in the Palm House of the new Conservatory after its completion in the late 1930s.
To the good fortune of Washington’s residents and its many visitors, the Garden was moved just a short distance away, to the area bordered by Maryland Avenue, First Street, and Independence Avenue, where it still stands today. A new Botanic Garden Conservatory, with its spectacular glass and aluminum dome, was designed to incorporate the extensive plant collections and accommodate growing public interest. Constructed by the Architect of the Capitol and opened in 1933, it contained eight garden rooms under glass, totaling 28,944 square feet of growing space.

The formidable task of relocating the Garden had fallen on the shoulders of George Wesley Hess, who succeeded William Smith as director in 1913. During his long tenure, Hess expanded the mission of the Botanic Garden to focus on education as a vital component of the exhibits, while continuing plant collection and distribution. Hess was the first director to hold seasonal flower shows. He developed displays of medicinal plants, plants mentioned in the Bible, and plants whose products might be useful in the home. He encouraged teachers and students to visit the Garden, often conducting the tours himself.

After Hess retired in 1934, the Architect of the Capitol took over the administration of the Botanic Garden, establishing it as an important link to the Capitol complex. The day-to-day operations became the responsibility of the Assistant Director (named Executive Director in 1985). Throughout the century, many able assistant directors brought their own refinements to the Botanic Garden, including summer terrace displays, self-guided tours, and horticultural classes for the public. The plant
collections continued to expand, with thousands of plant specimens on display. The elegant Palm House and traditional seasonal shows brought in more visitors seeking the beauty and tranquility of the indoor and outdoor gardens.

Another major change was on the horizon for the Botanic Garden, however. In the 1970s, deterioration was discovered in the aluminum superstructure of the Conservatory. By 1989, it was clear that maintenance and repair would not be enough to restore the aluminum framing—the entire structure would have to be rebuilt. The Palm House, its roof declared unsafe, was dismantled in 1992, and the large historical and irreplaceable plants were shipped by truck to Florida for safe-keeping. In 1997, the entire building was closed to the public. It required approximately four months to remove the plants, some of which were sent for storage in the greenhouses of the U.S. Botanic Garden Production Facility. Others were donated to educational and nonprofit institutions, while cuttings were taken of plants that were too large or too difficult to remove.

The reconstruction lasted several years, and the staff of the U.S. Botanic Garden used that time to reaffirm its mission through development of an interpretive master plan that provided guiding principles for the renovated exhibits. When the Conservatory reopened in 2001, historic elements of the original building had been preserved and its glorious glass roofline had been restored, but the building was made fully accessible and state-of-the-art environmental systems were installed. The Botanic Garden was poised for the new century.