

Garden Club of America Centennial Tree Project:

Preserving the Past and Growing the Future

Background

The Garden Club of America (GCA,) which is headquartered in New York City, is made up of 196 clubs with 17,000 members in 40 states across the U.S. There are two GCA clubs in Alabama: Little Garden Club (LGC) and Red Mountain Garden Club (RMGC,) both in Birmingham. GCA will celebrate its 100 year anniversary in 2013 and is asking each member club to develop and carry out a local project focusing on trees. The trees may be selected based on historical significance, need for preservation, beauty, or uniqueness, sustainability or environmental value. For its centennial celebration, GCA headquarters is doing a renovation project in Central Park in New York City. Built during the 1860s, and planted with up to five million trees, shrubs and vines in the early 1870s, Central Park was designed by Frederick Law Olmstead, Sr.

Olmsted's stepson, John Charles Olmstead and his son, Frederick Law Olmstead, Jr., continued the work of their father following his retirement in 1895, ultimately receiving thousands of commissions across the United States. In 1920, John Charles Olmstead died and Frederick Law Olmstead, Jr. became the senior partner of the firm that included, from 1923 to 1925, the development of the park system of Birmingham, Alabama. Originally named Green Springs Park, George Ward Park, like Central Park, was intended to be within easy walking distance of most users and "naturalistic," designed for the therapeutic values imparted to visitors by the illusion from within of unlimited scenic rural space

In 2005, the Birmingham Historical Society celebrated the eighty-year history of Birmingham's park system with the publication of *The Olmstead Vision, Parks for Birmingham* and a reproduction of the Olmstead Brother's 1925 report and plan, *A Park System for Birmingham*. In the latter document, it is clear that today's George Ward Park of 111 acres was intended to be a much greater area of natural forest with trails as a context for other features including meadows, sports fields and possibly a zoo.

Park Trees

The landscape trees in George Ward Park today are largely remnants of the original forest. They are native to the park, tough, drought-tolerant and suitable for heavy pedestrian foot-traffic. Their presence represents a direct living link to the time that the park was built. Some are approaching two hundred years old. Large trees occasionally blow down in storms or are struck by lightning. Since 1925, the park trees have produced virtually no progeny. Moreover, the native species of black oak, *Quercus velutina*; blackjack oak, *Q. marilandica*; post oak, *Q. stellata*; various hickories, *Carya spp.*; and blackgum, *Nyssa sylvatica*, are rare in the landscape nursery trade, especially from local seed sources.

Replanting Plan

In the process of seeking ideas for an appropriate GCA tree project in Birmingham, the joint committee of LGC and RMGC heard an idea proposed by Henry Hughes, Director of Education at Birmingham Botanical Gardens (BBG,) to “reforest” George Ward Park with seedlings grown from seed collected in the park. Seed would be collected in GWP, propagated and grown into seedlings in a BBG greenhouse. Seedlings would be planted one year later beneath the parent trees.

In addition to planting seedlings, native tree seed would be allowed to fall and germinate. To prepare a protective environment for germinating seed, falling leaves would be allowed to accumulate as leaf mulch beneath the parent trees. To further ensure success, John Morris obtained native seedlings of blackjack and post oak, blackgum, hickory and longleaf pine from a forestry nursery. Though the seed source is unknown, the species at least are appropriate for the site.

Community Support

It has been important to present our idea for “reforestation” to all the stakeholders and users of George Ward Park. The park is owned by the City of Birmingham and maintained by the Park and Recreation Dept. (BP&R.) The project idea was presented first to the Director of BP&R and to members of his department at his office on December 1, 2008. After a favorable reaction from them, more presentations followed to the Birmingham Tree Commission on December 3, the Birmingham Park and Recreation Board on December 17, and the Glen Iris Neighborhood Association, which included Friends of George Ward Park, on January 5, 2009.

On January 7, 2009, representatives of all the stakeholder groups met in the park to talk about where new seedlings would be located and to discuss protecting the newly planted areas with some kind of aesthetically pleasing fencing and explanatory signage. Verbal agreement came from Kay Oden, Maintenance Director of BP&R, and from John Morris, Urban Forester, Dept. Public Works, to inform maintenance crews to protect new plantings.

At a meeting in the park on February 17, residents representing the Glen Iris Neighborhood Assn., Friends of George Ward Park, and active participants in the disk golf association, met to determine the areas which would be marked off to be planted. It was decided that logs in place of fences could be used to delineate the planting areas. This not only would save money, but would look more compatible with the rural nature of the park.

In March, a presentation was made at a meeting of the disk golf association, whose members use the disk golf course that runs through the reforestation area. It was made clear that the planting project would not interfere in any way with their use of the course. The planting concept was very favorably received.

Funding

Little Garden Club and Red Mountain Garden Club have each pledged \$3000 for seed money to purchase fencing and signage. This is a serious project with many different private and government participants. Our clubs are excited about the challenges and solutions we will encounter during the coming five years.

First Planting in Fall, 2009

Seedlings for the first planting in the fall of 2009 were grown from seed collected and propagated in the fall of 2007. These two-year-old seedlings were grown in two-gallon containers holding a heavy sand-based potting mix.

Seedlings were delivered to the park from a holding bed at the The Gardens, unloaded and carried to the various reforestation sites. Everyone gathered around Fred Spicer for a hands-on demonstration of the correct way to plant tree seedlings. Luckily for us, two young men who were unaware of the planting day activities had come to the park to play disk golf. They just happened to have a gasoline powered auger in their truck, got it out and began to make planting holes very efficiently.

At least 31 participants covered a large area over about a 3 hour period: thirteen from Red Mountain and five from Little Garden Club. Others came from the Glen Iris Neighborhood Assn., the Friends of George Ward Park, The Birmingham Disk Golf Association, the Jefferson County Master Gardeners, the Japan American Gardens Society, and staff of the Friends of the Birmingham Botanical Gardens.

Birmingham Park and Recreation had delivered a large pile of mulch to the upper parking lot. Several men shoveled the mulch into a truck and delivered it around to all of the planting sites, mulching each seedling. Others watered each seedling from a tank mounted on the back of a second truck.

Our first planting day was a great success. According to Weesie it could not have been a more perfect day to plant. Very cool, my car read 53 degrees, following the most rain our area has experienced in October in decades so the soil was as moist as it is likely ever to be on steeply sloping rocky terrain, and therefore easier to dig the necessary holes for the seedlings.

Most of these tree species are difficult to find in the nursery trade but, if they can be found, the seed source is uncertain. The purpose of the project is to collect seed from the very trees that were left as landscape elements in the park plan of 1925, a time when few nurseries existed in Alabama. The park trees are remnants of the native forest from which the park was created. Collecting seed from them to grow future park trees extends the heritage of the original trees into the future. If the seed was not collected and propagated in this manner, replacement trees would never be connected to the those of the original design.

Second Planting in Fall, 2010

Seedlings for the planting in the fall of 2010 were one-year-old, from seed collected and propagated in the fall of 2009 (white oaks: white oak, post oak and chestnut oak,) or in the spring of 2010 (hickory species and red oaks: southern red oak, northern red oak, black oak and blackjack oak,) grown half the year in 4-inch pots, and sized-up to one gallon containers holding a light weight peat moss-perlite mix. The smaller seedlings and smaller, lighter pots were much easier to plant in the field.

After two full years of letting nature take its course we have a park forest rich with native tree seedlings, shrubs and herbaceous plants. Our plantings from fall 2009 and fall 2010 have introduced for the first time in 85 years the regeneration of the red and white oaks and hickory represented in the forest overstory. Native black cherry and blackgum have naturally seeded in because they have had a natural forest floor on which to germinate. American beautyberry, with its purple berries, is becoming a prevalent shrub in the forest. Native grasses and meadow perennials, such as goldenrod, are thriving for the first in my memory. We have a nice concentration of woody and herbaceous parent plants from which progeny can continue to fill in the spaces for the next two years, especially if we promote them preferentially.

Site Maintenance in 2011

Invasive woody exotic weeds, such as mimosa and privet, had become more apparent against the backdrop of native plants. The time was right for removing them and painting their cut trunks with herbicide to ensure that they will not sprout back. Existing seedlings were marked with survey flags so that their positions could be seen easily.

Following Tornadoes and a Tropical Storm in 2011 trunks, branches and leaves that had fallen were prevalent enough to be rearranged to reduce soil erosion on the slope and to accumulate leaves behind them that eventually will add to the richness of the topsoil. Larger branches were cut and used with smaller branches smaller branches to provide natural delineation to the area around the seedlings and to hold more mulch, primarily in the form of leaves falling from the overstory trees. Little and Red Mountain Garden Clubs each contributed \$800 toward paying Patrick Daniel to do the work.

Natural leaf mulch on the ground then allowed seed falling to germinate and to provide natural regeneration to complement the planted seedlings. It also provided an opportunity for native herbaceous plants to proliferate. The city also could bring collected fall leaves to the site for distribution within the forest.

Third Planting in Fall, 2011

In the third year seed, collected in the fall of 2010 and germinated was potted-up on March 2, 2011 and planted directly into the one-gallon containers, by-passing the initial use of 4-inch pots and eliminating the need for sizing-up. Six species (black, blackjack, white, post and southern red oaks and persimmon) all collected from the park or nearby, were planted on October 29, 2011.

Planting, mulching and watering the new seedlings was accomplished by many volunteer from the two garden clubs as well as the Glen Iris Neighborhood Association and Friends of George Ward Park. All seedlings were watered by a rain barrel mounted to the back of a pick-up truck, filled with water from Green Springs Creek. Over 200 seedlings were planted in about two and a half hours, bringing the three year total to over 500 seedlings. Rain was plentiful for three months following the 2012 planting and survival during the 2012 growing season should be excellent.

Preparing for Planting in Fall, 2012

Seed for the 2012 crop was collected from the park trees immediately before and after the 2011 planting. Seed was wrapped in damp paper towels, placed in ziplock bags, labeled and stored in a refrigerator. This delayed germination of the white oaks until a convenient time for potting and provided the over-winter moist chilling required for the red oaks and hickory.

Sixteen members of Little and Red Mountain Garden Clubs met January 26, 2012 in the potting shed at The Gardens to pot up 100 one-gallon containers of three white oak species (35 white oak, 40 post oak and 25 chestnut oak.) They were placed in a small greenhouse for protection from birds and animals during germination. One hundred fifty hickories, persimmon and red oak species will be potted up in late February or early March. This will provide a total of 250 seedlings for planting in the fall of 2012.

Anticipating the Final Year, 2013

All three years of planted seedlings will be fertilized in the spring of 2012 in order to have a visible stand of forest regeneration this fall and a well-developed understory of shrubs and herbaceous plants. This image will contrast nicely with the pictures from the first site visit in 2009 before any seedlings were planted and the ground was bare. If another 250 seedlings are planted in 2013, over 1000 seedlings will have been planted over the five year project. Survival after three years appears to be about 75%. Assuming 50% survival long term, the first native seedlings to grow on the site from the parent trees original to the site should total about 500! In addition, hundreds of "volunteer" seedlings and sprouts appear to be establishing themselves.

Public Works and Park and Recreation have been of huge assistance in this project, providing mulch and, most importantly, respecting our request to leave large areas of the park to Mother Nature. Citizen volunteers also have brought leaves to spread on the soil. As a result the topsoil is being replenished and "volunteer" seedlings (not planted) are germinating and growing. The forest is being returned! New signs may be placed around the perimeter of the forest to tell the story of the project.

This is a terrific project. It appears to be a model for other reforestation projects using native trees. It is inexpensive with the use of volunteers. There is interest in extending the idea to areas of Birmingham damaged by the 2012 and 2013 tornadoes. Seed collected from damaged communities may be used to reforest areas of Pratt City, for example,

where native trees are appropriate and desired as community reconstruction moves forward. It is very encouraging to watch a group of people, most of whom do not know each other come together with a common purpose to preserve a special piece of Birmingham's history for generations yet to be born. Fred Spicer remarked that none of us planting will live long enough to see these seedlings to maturity, but that some of our great grandchildren may.

February 10, 2012