



# **Restoring the Morse-Genius Legacy**

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The preface of this paper is to provide preliminary guidelines for exotic nuisance and invasive plant control or eradication. Available options will be presented so restorationists might better control or eradicate undesirable vegetation. To gain an appreciation for the value of the reserve, a brief history of Winter Park and the influential people associated with both the town and the Genius Reserve will be touched upon. Included will be an inventory of on-site vegetation to show the Reserve's diverse plant population and importance. Finally, long-term goals will be highlighted and a list of personal presumptuous possibilities for future enhancement will be included.

### **History**

There are many publications and reports detailing the history of Winter Park. The brief history chronicled in this report is not to burden the reader with redundant information, but rather to emphasize the importance of our past as it inspires our future.

Winter Park plays an important role as an example of coherence, sense of place and sustainable community design. Founded in the late 1800s, Winter Park bears the distinction of being the first centrally planned community in the state. A commercial district and a central park border the city's main street. Utilizing a grid pattern, the city boasts a residential main street where civic and retail buildings surround a central park. The city was designed with a network of streets (grid system) containing a number of mixed uses that include stately residential dwellings, civic structures and a commercial shopping district. These can be arguably the most important and influential aspect of the community's design and future success. A centrally located park attracts thousands of visitors every year to its oak canopy, lush vegetation and tranquil setting. Winter Park without its 'park' cannot be imagined. The community that flourished around its perimeter, perhaps

inspired by its presence, contains brick-lined streets shaded by a canopy of majestic oak trees that have seen generations come and go.

From the time of Winter Park's inception in the summer of 1881, when Oliver Everett Chapman and Loring Augusta Chase platted the town, Central Park has remained the anchor of the community and its people. One of Winter Park's first and most influential citizens not only supplied the city's first town hall, but he also donated land for Central Park. Only two stipulations were made concerning his generous contributions: The first was that his gift of the town hall remain anonymous until his death; the second was that the land remain a park forever. These two stipulations lend insight into the man's character and concern for the future of the town in which the benefactor chose to reside. That man was Charles Hosmer Morse.

The path upon which I've embarked brings us to the main focal point of this paper.

Charles Morse's contribution to Winter Park's future is a little more subtle in nature through the actions of his offspring a generation removed.

### **The Genius Reserve**

Central Park has been enjoyed by thousands of tourists and residents alike for past generations and will continue for future generations. It is unknown if C.H. Morse envisioned the impact his donation would have on countless citizens. What is known is that Mr. Morse appreciated the natural beauty of Winter Park enough to ensure that future generations would be able to relax and enjoy a tranquil setting within the heart of their community. Now, nearly 100 years later, another piece of property that was purchased by Charles H. Morse stands on the threshold of blossoming into what can only be described as a diamond in the rough awaiting the jewelers touch to enhance its' beauty.

In 1904, Charles Morse became the city's largest landowner by purchasing the Francis Knowles estate while simultaneously gaining control of the Winter Park Land Co. Among C.H. Morse's holdings were 200 acres of land that bordered three of Winter Park's prettiest lakes: Mizell,

Virginia and Berry. Charles Morse left the 200 acres to his only daughter, Elizabeth, and her husband, Richard M. Genius; they built a home on the property that stands today as an excellent example of Winter Park's old-world style origins.

### **The Genius daughter, Jeannette and the Rollins College Connection**

Rollins College has had a connection with the Genius property both directly and indirectly beginning with Charles Hosmer Morse. Mr. Morse's generosity to Winter Park is well documented, although he preferred to remain out of the limelight concerning his philanthropic endeavors. The same gentleman that donated Central Park and owned what came to be known as the Genius property also bestowed his generosity on the college, as well as served on the college's Board of Trustees. It would appear that Charles H. Morse instilled in his progeny the same giving spirit that he himself embodied.



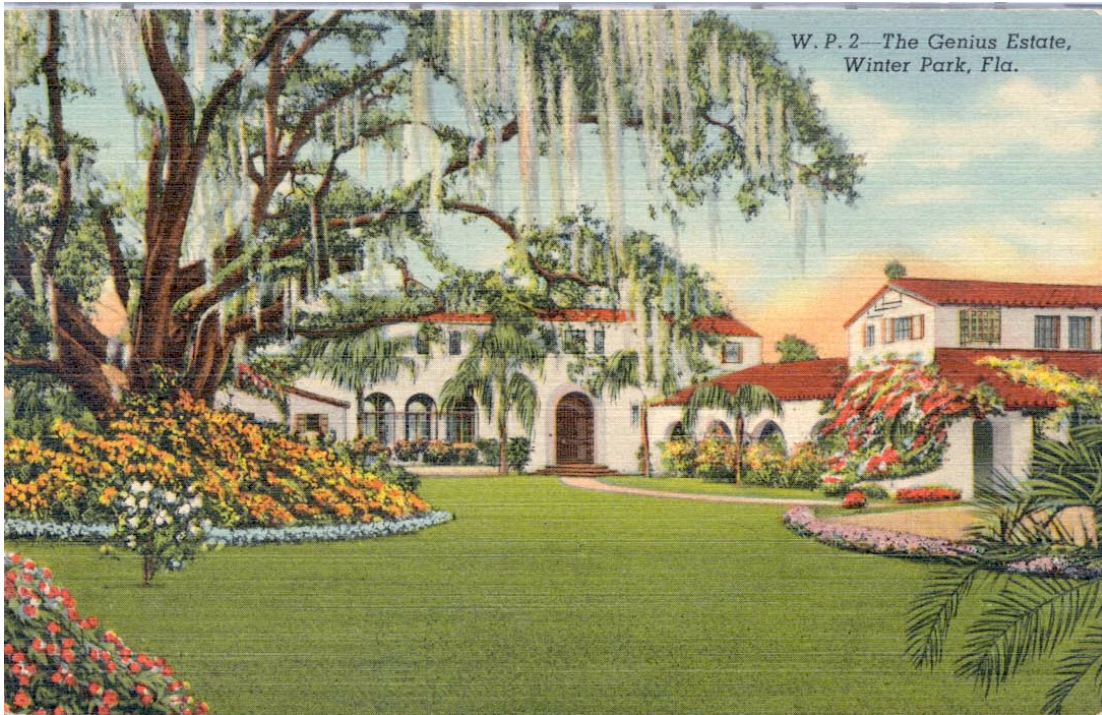
In 1926, Jeannette spent a session studying at Rollins College, sparking an interest in the learning institution that would continue for over 60 years. For 33 years, from 1942 to 1975, she served on the Rollins College Board of Trustees, all the while funding projects for the college. Just as her grandfather, Jeannette preferred to keep her donations quiet. During her first year on the

Rollins College Board of Trustees, Jeannette founded the Morse Gallery, which remained on campus until 1977. In 1962, Jeannette was awarded an Honorary Doctorate of Fine Arts degree from Rollins College. The history and generosity of Jeannette Genius is well documented and far too lengthy to detail here, however, to gain further insight into the depth of Jeannette, it should be noted that her commitment to her community and state could be attested to by the many awards she received.

Jeannette's husband, Hugh McKean, provides a strong link between the Genius property and Rollins College. Hugh McKean attended college at Rollins and graduated with a Bachelor of Arts Degree in 1930. Hugh went on to study at many prestigious universities here and abroad, obtaining a Masters Degree and Doctorate from four different schools and universities including Rollins. While McKean was an Arts Professor at Rollins College, he met his future wife Jeannette Genius. Hugh F. McKean was President of Rollins College for nearly twenty years from 1951 to 1969. Both Hugh and his wife, Jeannette, obtained Honors, Degrees and accolades too numerous to mention, that attest to their civic, cultural and philanthropic work for their community and college.

From the beginnings of the city of Winter Park and Rollins College until today and beyond, from grandfather to granddaughter and husband, the generosity through generations has impacted the city of Winter Park and helped define what attracts so many to the area. Charles Hosmer Morse was adamant that the town's character be the first priority before profit. The McKeanes allowed the public, the city they loved, to enter into their private domain and enjoy the beauty and serenity of Genius Drive. This alone speaks volumes of their generous nature.

A quote from Hugh McKean embodies the ideal Charles Hosmer Morse possessed and instilled in his granddaughter when he spoke of his wife, "She feels if the remaining natural land is broken up, everybody in Winter Park will suffer some, she does what she can to keep the character of the town."



If there is any mystery as to what Charles Morse or the McKeanes would wish for the future of the Genius property, a more comprehensive history of Winter Park's and Rollins College's benefactors can be found in the archives departments of Winter Park and Rollins College libraries .

In 1999, four years after Hugh McKean passed away, and 10 years after Jeannette, granddaughter of Charles Hosmer Morse, passed away, the property they called home for generations and opened to the public to enjoy was subdivided and sold. Of the 200 pristine acres, 160 would go to residential construction and 40 would remain within the control of the Elizabeth Morse Genius Foundation.

### **Goals of Property Plant Management**

Harold A. Ward III, Rollins College Trustee and President of the Elizabeth Morse Genius Foundation, suggested that Dr. Bruce Stephenson, an Environmental Studies Professor at Rollins College, analyze the remaining 40 acres for restoration purposes. In his report dated May 18, 2003, Dr. Stephenson defined restoration as "A long term planning process to preserve and restore the Morse Genius legacy as a cultural reserve of old Florida." In addition to himself, Dr. Stephenson's Genius Reserve Project team included Dr. William Grey, an adjunct Environmental Studies

Professor at Rollins College, and Mr. Forest Michaels of the Michaels Landscape Architectural Firm of Winter Park.

Since the completion of the analysis of the Genius Reserve and the compilation of results by the project team, Rollins faculty and students have diligently participated in various projects aimed toward restoration. Rollins College's connection to the Genius property has grown exponentially, guided by Dr. Stephenson's untiring devotion and enthusiasm toward the project. Through the Elizabeth Morse Genius Foundation, two \$1,500 scholarships are awarded annually to students of Rollins' Arts and Sciences and Hamilton Holt schools. Among past recipients are Jeanne Lynn, BethAnn Tucker and Stacey Matrazzo. Ms. Matrazzo has created a field guide for the Genius Reserve which is said to detail its history, contain a flora and fauna species inventory, highlight the diversity of habitats, and detail future plans and goals for the property. Many students from Rollins College have, and are now, working to restore the property. In addition, as many as seven Rollins Professors have engaged in teaching exercises on the Reserve. Rollins College's involvement in enlightening future generations to coexist with nature will only increase. The opportunity for students of all levels to interact with a living laboratory is priceless and will instill a respect for our fragile ecosystem for a lifetime.

### **Goals of Property Plant Management I**

Students will have the unique opportunity to experience firsthand the lessons taught in the Environmental Studies classes, from the written word to hands on experience. When Dr. Stephenson evaluated the Genius property, it was overgrown with exotic and invasive species that presented low coherence. Individual habitats were undefined, lacking any distinct barrier and creating confusion, clutter and no sense of place. The property was no longer as aesthetically pleasing as it once was or could be again.

The first step toward restoration was implemented by Dr. Stephenson and the project team by establishing the project goals and objectives. It has been determined that the Genius property

should be restored to a known undisturbed condition; the original species should be restored and invading non-native species should be eradicated. Therefore, it is necessary to identify native plants as well as those that are desirable. Perhaps more important is to know the exotic plants and those that need eradicating. The number of species, both native and exotic, present on the Genius Reserve is extensive and varied based on the number of habitats present. However, it is not the purpose of this paper to categorize and detail all species known on site. The document written for this purpose already exists and will be readily available to those seeking a more comprehensive inventory.

Rather, this paper is intended to supplement existing information and serve as a general reminder of the dominant native and exotic species. Further, a look at weed management and eliminating exotics will be included. Also covered will be eradication purposes to aid in restoring and maintaining the Genius property



as a cultural reserve of old Florida. If the Genius property is to maintain the aesthetic natural beauty of ‘old Florida’, then a human presence is mandatory to keep desirable plants and control the undesirable. Therefore, it is necessary to identify those plants considered desirable, such as native plants and those needing removal from the Genius Reserve.

### **Desirable Native Vegetation**

One has only to walk through the downtown Central Park of Winter Park to realize that the desirable trees are the majestic oaks. Among the desirable trees on the Genius Reserve is the state tree of Georgia, the live oak (*Quercus virginiana*). Long regarded as the southern symbol of strength, it lines the historic streets of small towns and is characteristic of old Winter Park. The oak was historically planted in cities and conjures the romantic vision of strolling under the large canopy of reclining branches and speckled sunshine. Many birds and mammals benefit from the



sweet acorns that are generated by live oak trees. The acorns mature in one season. The live oak is also valuable as a nest site for many species. The crown of the tree is dense, providing valuable shade. Spanish moss is often draped among its branches and is often described as part of the Southern charm of many cities. The lifespan of the average live oak is known to exceed 200 years.

The laurel oak (*Quercus laurifolia*) is present on site and is also an important food source for wildlife. Unlike the live oak, the acorn on the laurel oak requires two growing seasons to mature. Laurel oaks are somewhat short lived, reaching maturity within a 25-50 year range.

Pignut hickory (*Carya glabra*) is an additional shade tree found on site. Hickories are another important food source for wildlife. Squirrels eat the nuts, which represents 10-25% of their diet. Songbirds consume the nuts and flowers while foxes, rabbits and raccoons dine on hickory nuts and bark. The leaves are also a part of the diet of small mammals.

Red maple (*Acer rubrum*) is an important source of winter food as well as a browse food that wildlife find highly desirable.

The Southern magnolia (*Magnolia grandiflora*) is a native American tree and one of the South's premier landscape trees. The magnolia has large evergreen leaves that are a dark glossy green on the top and are rusty and fuzzy on the bottom. Southern magnolia flowers are large with white showy blossoms whose pleasant lemon scent wafts along caressing summer breezes. The Southern magnolia stands alone as a Southern tradition and boasts the distinction as the state flower of Mississippi and Louisiana.



The coralbean (*Erythrina herbacea*) is a flowering plant that grows as a low shrub or a small tree. The bright red flower blooms from February to June and attracts hummingbirds. The coralbean name is derived from the bright red seeds contained in pods that follow the flowering cycle. Native Americans used various

parts of the plant for medicinal purposes to varying degrees, however, it should be noted that the seeds are poisonous and have been used as rat poison in the past.

The saw palmetto (*Serenoa repens*) is a small palm that grows as a shrub or small tree. Found in every county in Florida, the *Serenoa repens* is the most common palm in the United States. By measuring the growth rate, it has been reported that some plants could be 500 to 700 years old. This plant is also sold for medicinal purposes.

The Southern red cedar (*Juniperus silicicola*) is an evergreen tree desirable as screens, windbreakers and wildlife cover. Wildlife also takes advantage of the cedar for nesting and as a food source. The wood of the red cedar is very aromatic and repels insects.

Sweet bay (*Magnolia virginiana*) is an evergreen tree that produces large fragrant white blossoms in the spring and small bright red fruits in the fall. Sweet bay is an attractive tree that often takes a backseat to its ostentatious relatives.

The black gum (*Nyssa sylvatica*) is considered one of the most elegant trees of the lowlands of North America and is noted for its vibrant leaves of red in the fall and green in the summer. The wood of the black gum was used for water pipes in colonial times, owing to its strength. The fruit is a source of food for wildlife, including over 30 species of birds.

The bald cypress (*Taxodium distichum*) has long been a characteristic of the Deep South that can live up to 600 years. A wetland species that is crucial in swampland ecosystems, the bald cypress provides wildlife food and cover. Florida cranes, ducks and other birds feed on the bald cypress in addition to swamp rabbits and southbound Canadian geese. The base of large old growth trees provide shelter for many animals; bald cypress swamps are a source of cover for white-tailed deer seeking safety during hunting season.

The American beautyberry (*Callicarpa americana*) has berries considered unfit for human use as they are highly astringent. However, the berries are an important survival food for birds and other animals only after other sources of food have been exhausted. The United States Department

of Agriculture, Agriculture Research Service, has patented the discovery and use of one of the three ingredients, callicarpenal, that contribute to the plants characteristic as a natural insect repellent. These chemicals have been found to repel mosquitoes that carry malaria and yellow fever.

Pickerelweed (*Pontederia cordata*) is an emergent marginal aquatic perennial that is valuable for erosion control on Florida freshwater shorelines. The stem provides surface for apple snails. The whole plant is edible raw or cooked. The seeds can be eaten raw exhibiting a nutty texture and flavor.



Lightly roasted seeds are said to be excellent. Dried seeds can be added to cereals or trail mix. Young raw leaves can be used in salads or cooked like spinach. Cooked leaves can be added to soups and other dishes. Dragonfly and damselfly eggs are commonly found on the pickerelweed stem near the water surface. Many fish, most notably the pickerel, may seek shelter in clumps of the *Pontederia cordata*, explaining the origin of the plants common name of pickerelweed.

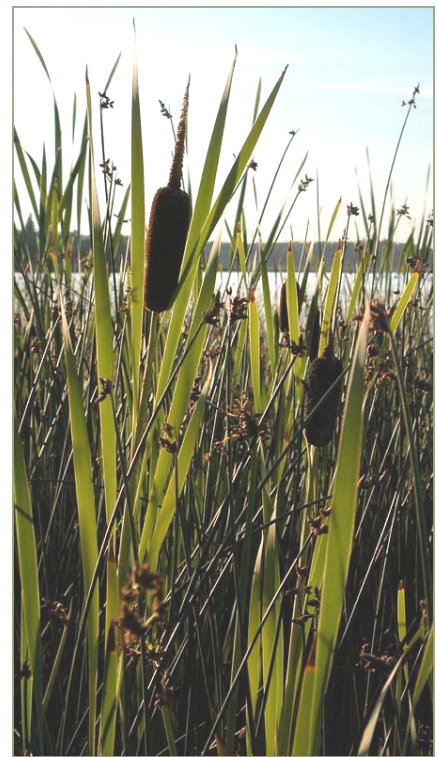
Longleaf pine (*Pinus palustris*) can live to 300 years old and take 100 to 150 years to reach maturity. The southeast Atlantic coast and Gulf coast of North America once held vast forests of longleaf pine that fell victim to naval stores for timber, resin and turpentine. Deforestation has left only 3% of the original longleaf pine forests. The longleaf pine is the state tree of Alabama and North Carolina.

Wild Coffee (*Psychotria nervosa*) is a shrub native to Florida that produces a small, red, ellipsoid fruit that resembles a true coffee bean, hence the common name wild coffee. The coffee plant produces nectar that attracts butterflies. Birds and other animals eat the fruits, while the plant supplies cover for wildlife.

Sabal Palmetto (*Sabal palmetto*) is the state tree of Florida and South Carolina and is also known as palmetto, cabbage palmetto, cabbage palm and sabal palm. Native Americans extracted the terminal bud or growing heart of new fronds for food. The terminal bud is what is referred to in a heart of palm salad and somewhat resembles a cabbage; hence the name cabbage palm. However, extracting the heart kills the palm, as new fronds only sprout from this source.



The cattail (*Typha L.*) has many uses for animals and humans. The Native Americans and early settlers dried the central part of the root and lower stalk, and then ground them into meal. They also rubbed juice from a stem onto their gums to treat a toothache. The lower part of the leaves can be eaten in salads and the entire leaf is used for packing materials, weaving and padding seams in boats. The flowers, roasted while they are young, are edible, as well as the stem, either raw or boiled. The cattail characteristic seeds are fluffy, absorbent and soft and were utilized by Native Americans as diaper material. When soaked in oil, cattails can be used as torches.



Birds that nest among cattails include shore birds, marsh wrens, coots, bitterns and red-winged blackbirds.

The black cherry (*Prunus serotina*) is a tree known for its strong red color. The fruit, if eaten fresh, is bitter to humans, as it is a little astringent; however, birds do not recognize the astringency as distasteful and utilize the fruit as a food source. The black cherry leaves release cyanide as they wilt on the ground and could poison animals if eaten.

Duck potato (*Sagittaria lancifolia*) is a multi-purpose emergent plant that aquatic animal life utilizes for food and cover. Songbirds, waterfowl and wading birds dine on the seeds and tubers of duck potato and take cover in its emergent foliage. Fish and aquatic insects take advantage of this species for the same purpose. Healthy stands of the *Sagittaria lancifolia* reduce turbidity and wave energy. During its growing season, the plant extracts metals and nutrients from sediment and water.



Spanish moss (*Tillandsia usneoides*) is a sun-blocking epiphyte that slows the growth of its host tree. The moss also increases wind resistance, which can be detrimental to the host tree during a hurricane. Spanish moss has been used to treat heart disease, edema, type II diabetes and hemorrhoids.

### **Desirable Non-Native Vegetation**

Bird of Paradise (*Strelitzia reginae*) is a plant that is symbolic of the tropics worldwide and was chosen as the official flower of the city of Los Angeles. The flowers stand at the tips of long stalks above the foliage and give the appearance of a bird's head and beak. The flower emerges from a hard beak-like sheath called the spathe that is perpendicular to the stem. Sunbirds use this as a perch to drink nectar and so doing, get pollen on their feet, which pollinates the flowers.

Azalea (*Rhododendron spp.*) is a plant that is hard to identify as there are more than 3,000 different species, hybrid and cultivars. All azaleas are rhododendrons, but not all rhododendrons are azaleas. Rhododendrons are aesthetically pleasing and used extensively for landscaping. Some species have been used for medicinal purposes as a substitute for tea or for incense. The rhododendron provides cover for large mammals and food and cover for small mammals. The

azalea also attracts butterflies. Most azaleas identified on the Reserve are Formosa azalea (*Rhododendron simsii*).

Hibiscus (*Hibiscus L.*) plants are probably the most widely planted shrub and the best known tropical shrub and flower in the world. Mostly odorless, there are a few that produce a slight fragrance. There are hundreds of hybrids and an array of colors to match the rainbow. The flower form is known throughout the world. The flower provides food and cover for mammals and attracts butterflies. Medicinal uses include blood cleanser, high vitamin content and are extremely nutritious. The most common hibiscus on the Reserve is Turk's Cap (*Malvaviscus penduliflorus*). Once considered invasive, this plant is now under control and maintained on the Reserve.

Camellia (*Camellia L.*) is a genus of flowering plants with 100 to 250 existent species. These evergreen shrubs have been a part of the Southern landscape for nearly two centuries. The Harry P. Leu Gardens is believed to house the largest camellia collection in the U.S.A. outside of California.



Bougainvillea (*Bougainvillea L.*) is a thorny woody vine. According to different sources, there are anywhere from four to 18 species of bougainvillea. Popular as an ornamental plant, it requires little water to bloom. The bougainvillea has a small white flower surrounded by thin papery bracts of various colors including red, purple, magenta, orange, pink and white. Some species of Lepidoptera use them as food plants.

Citrus (*Citrus L.*) is a large shrub or small tree that produces commercially important fruit such as oranges, grapefruit, lemons, limes and tangerines. Florida is one of the major producers of citrus in the United States. Citrus fruits are usually eaten fresh and are popular as a breakfast drink. Lemons and limes are used to garnish cocktails, and are used extensively in a variety of dishes,

drinks and salads. The juice of a lemon is also known to relieve the pain of bee stings. Sailors used to carry citrus on board ships to prevent scurvy caused by deficiency of vitamin C.

Gardenia (*Gardenia L.*) is a shrub that can be used as borders, hedges, screens and ground cover. It is a favorite landscape shrub that has extremely fragrant and showy white flowers. The gardenia has been used in Chinese medicine for over 2,000 years. The oil is used to



flavor teas and make perfume. Medicinal uses for this plant include treatment of hepatitis, hypertension, depression, jaundice, restlessness, urinary tract infections, ulcers and anti-inflammatory. Gardenia also promotes healing in soft tissues. The gardenia is used externally for wounds, skin inflammation, sprains and toothache. There are several patent remedies for coughs and feverish colds that include gardenias as an ingredient.

Bananas (*Musa L.*) are of the family Musaceae. They are native to Southeast Asia and were introduced to Florida during the 1600s. Bananas come in their own biodegradable container and are consumed in desserts, salads, bread, candy, and of course, eaten fresh. Bananas are an excellent source of potassium, vitamin B6 and Vitamin C (ascorbic acid). Plantains have the same nutritive value plus vitamin A as fresh bananas and an excellent source of carbohydrate. Plantains require cooking before consumption and may be fried, baked or grilled.

### **Invasive and Undesirable Vegetation**

The Chinaberry tree (*Melia azedarach*) is listed as a category II plant by Florida Exotic Pest Plant Council. Although considered an invasive species, it continues to be sold in nurseries. All parts of the plant are highly toxic to humans including the fruits where the poison is most concentrated. Some birds can tolerate the fruit, leaving them partially responsible for spreading the

seeds of these toxic trees. The Chinaberry toxicity acts as a natural insecticide and has been used with stored food for this purpose.

Mexican flame vine (*Senecio confusus*) is so-named because of its rampant color that appears as if it has burst into fire. The vine climbs by tendrils and attaches to



anything that will provide adequate support. Flame vine spreads into an evergreen mat that will cover and strangle trees and shrubs.

The camphor tree (*Cinnamomum camphora*) is an exotic from which camphor was once extracted for mothballs and medicines. This practice was no longer necessary when camphor oil was produced artificially in the 1920s. The camphor tree has been grown in Florida and elsewhere for more than 100 years as a shade and ornamental tree until the realization that outside the native range of China and Japan, the trees have no serious disease or predators. This fact, in conjunction with an accelerated growth rate and the high volume seed production characteristic, gives the camphor the edge to out-compete native trees. The camphor tree is listed on the Florida exotic pest plant council (FLEPPC) as a category I species, yet it continues to be sold in nurseries.

Birds spread the camphor seeds across a wide range, from backyards to open forests, necessitating a concerted effort from homeowners and communities if the camphor tree is to be stopped from disrupting native plant communities in Florida.

The earpod tree (*Enterolobium contortisiliquum*) has a root system that travels above and below ground. The limbs need to be trimmed yearly to remove dead tree wood. If not trimmed, the dead wood will fall to the ground as it becomes brittle. The tree is planted in pastures to provide shade and forage for cattle. The seeds are edible, either boiled unripe or ripe roasted. Tannin, used to tan hides, is derived from ripe earpod fruits and bark. The wood has many uses owing to its ease to be worked with hand tools and is used for furniture, cabinets, posts, canoes, veneers, construction



panels, charcoal and firewood. The wood is resistant to humidity and used for shipbuilding. An infusion of the earpod bark is used for reducing fevers.

The air potato vine (*Dioscorea bulbifera*) is a troublesome weed and climbing plant that uses other plants to support itself by twining around branches. The air potato vine can survive in most soil and light conditions, making it hard to eradicate.

Shepherd's needles (*Bidens alba*), or Spanish needles, is usually regarded as a weed. This plant will thrive if not eradicated immediately; it will flower and reseed profusely regardless of conditions that would hamper other plant growth. However, Shepherd's needles is a plant that butterflies love. Some cultures eat the leaves dried, fresh and even boiled.

## Goals of Property Plant Management II

### Types of Management

All restoration efforts have the primary goal to maintain or restore a healthy ecosystem or community by enhancing populations of desirable plants and animal species. Diverse plant communities of healthy native plants support diverse populations of healthy animals and insects. Inversely, healthy animals and insects contribute to a diverse community of healthy plants.



All restoration efforts have ecological relationships that have evolved to the mutual benefit of indigenous species and help maintain a healthy ecosystem. Conversely, native plant and animal species that coexist help keep populations in check, such as animals that consume vegetation and predators that consume animals, thus helping maintain a natural balance. Exotics introduced into an area often have no natural enemies to control their growth, as do native species, thus out-producing the natives and upsetting the ecological balance. Invasive species are then able to experience a



massive population growth, expanding their dominance over a native ecosystem. Native animal species dependent upon native plant species for sustenance must adapt to new invasives, move or perish. If the producer that supports the consumer that supports the predator is eradicated, the food chain breaks down and native species dwindle, replaced by undesirable species and in some cases, contributing to species endangerment or extinction. Therefore, in order to maintain a healthy native ecosystem, invasives and exotics must first be identified, inventoried, categorized and then controlled or eradicated.

Toward this end, the exotics have been defined as pertaining to the Genius Reserve as all exotics are not undesirable.

Under the inspiration and guidance of Dr. Bruce Stephenson, identification and eradication procedures are in place and well underway in restoring the Genius Reserve to its former natural status. Any visitor to the Genius Reserve that experienced firsthand the site of exotics choking out the majestic oak and hickory trees, the mass confusion of undefined understories overrun by shrubs,

or the waterfront vistas obscured by rampant growth, can now realize the massive amount of progress already made.

Therefore, the primary focus to preserve and restore the Morse-Genius legacy as a cultural reserve of old Florida will require continued exotic and undesirable plant management and eradication.

Any homeowner, gardener, or landscape professional can tell you that an essential part of plant management requires diligent and continued weed management. It is not as glamorous as seeding, cultivating or planting; yet without its implementation, all efforts to create an aesthetically pleasing environment will be in vain.

Weeds should not be restricted to those species previously mentioned, as a weed can be any plant found desirable elsewhere. That being the case, for the Genius Reserve restoration and management, a weed can be defined as: any plant that is a nuisance, detrimental to man or animal, or those plants so designated by the management or overseers of the Reserve.

Weeds influence everyone's life either directly or indirectly. Weeds determine the yields of crops, their quality and effect the outcome of harvest. These detrimental effects increase prices or produce an inferior product that is absorbed by the consumer. Weeds in parks, playgrounds and aquatic areas can disrupt recreational activities. Certain weeds create discomfort from hay fever, allergies and add the expense to treat symptoms. Poison ivy or poison oak produce a rash that is unpleasant at best to experience.

Florida agriculture has been estimated to incur total losses of 431 million dollars per year as a result of the impact of weeds.

There are three classifications of weeds based on the length of their life cycle: annual biennial and perennial. Although distinguishing these types will not be a factor for most restorationists engaged in eradication or removal, it is important in understanding the prolific behavior of weeds.

Annual weeds are so designated owing to the fact they complete their life cycle within 12 months. What is interesting to note is that their life cycle can start at different seasons of the year. Biennial weeds have a life cycle of 2 years and don't produce seeds until the second year. Perennial weeds are those with a lifespan exceeding two years. Perennials reproduce in a variety of ways that make them the most problematic. Rhizomes, stolons, bulbs and tubers are the vegetative means of reproduction. For some, seed dispersal is another. During winter, many perennials retain only their root system that stores food and regenerates in spring. Most remain dormant and survive through the cold season. Since perennials are not obvious in the winter, it is important to know that root pieces inadvertently distributed may produce new plants.

### **Weed Control Options**

There are a number of options to control weeds. However, best results require utilizing a combination of two or more methods. Among those are:

- Controlled burns
- mechanical control
- biological control
- chemical control
- cultivation or physical control

### Controlled Burns

The history of Florida habitat management was one of periodic natural fires that cleared the understory of dense vegetation. Florida's frequent thunderstorms and lightning strikes were a natural part of ecosystem enhancement that kept the area's habitats in a natural state. However, due to the increase of the population surrounding the site, fire management is no longer a viable option. Larger, more remote tracts of land under management are able to benefit from a 'controlled burn'. Unfortunately, the Genius property is not a candidate for this method for habitat restoration

### Mechanical Control

Burial is one type of mechanical control that works best on annual weeds. However, burial control on perennial weeds is not very effective owing to the fact that perennials regenerate from

below ground roots and stems that store foods.

Cultivation can be utilized as a means of mechanical control. If the root systems are cut, the weed can be controlled. But the chance of damage to desired root systems is great in confined areas. There is also the possibility of bringing weed seeds to the surface allowing them to germinate.

The most effective method of mechanical control is mowing. Mowing is most effective on annual weeds by preventing seed production. If seeds are already present, this method will only serve to spread them. Mowing of perennials may not be effective unless continued frequently until the underground food storage is depleted, effectively starving the plant.

### Biological Control

Biological control is an option that has been successful, although not very often. There is always the danger of the biological control becoming the invasive that threatens native species. The case of the love bug brought in to eradicate mosquitoes brings to mind an unsuccessful attempt at biological control. However, it is only fair to mention the successful introduction of the three leaf beetles in the 1940s to control St. Johns wort, once believed to be the worst invasive in the western United States. The weed was reduced to less than 1% of its previous range within five years. The key word is caution and years of testing are required before implementation. The cost of such a control excludes the Genius Reserve from consideration.

Another biological control is grazing animals. Grazing animals can be easily controlled as opposed to insects. Goats have been used in the past successfully and there are a number of commercial services that offer sheep and goats for invasive species management. The animals, however, can transport unwanted seeds throughout the property imbedded in hooves, fur or feces. The goats and sheep could pollute the water and prove to be unwanted neighbors to the wildlife present as well as the nearby homeowners.

## Chemical Control

Pesticides can be used most effectively to eradicate weeds; however, careful consideration must be utilized to find pesticides with low environmental impacts. Many pesticides require a ‘sticker base’ such as surfactants or adjuvants that are needed for ease of application or to increase the pesticides effectiveness. Some of these additives have proven to be more toxic than the pesticide. There are risks to the environment as well as to the applicator and great care should always be exercised.

Herbicides can be safe for humans and wildlife when applied in the concentration recommended and prove to be the most effective single method used to control weeds. When manpower or labor is a concern, herbicides can cover a greater area in a shorter amount of time than physical methods.

## Physical Control

Physical control can be summarized as pulling weeds. If a weed can be removed by taking the root system with it, the weed would be eliminated on the spot. Weeds that are pulled late in their growing season will have seeds that can fall and germinate. If one is not diligent to remove the roots, the weed will break off and a new weed will replace it with a stronger root system. Pulling the plant up is most effective in itself as a method to eradicate weeds. Unfortunately, this method is rarely effective in eliminating weed infestation.

For effective long-term management of exotics and weeds, once the site is brought under control, there are several strategies to consider.

## Observation

Regular and diligent observations of the site should be conducted to eradicate weeds before they become established. Perennials are easily controlled and removed when small, young plants first emerge. This will prevent plants from repeating the seed producing stage and prevent mature

plants from producing parts such tubers or rhizomes that enable the plant to survive through another season.

### Prevention

Prevention can be effective if knowledge is acquired as to how seeds arrive on site. Topsoils and new plants delivered to the site must be clean and free of weeds. Weed seed can arrive on site traveling on the wind, in the water or on workers shoes. Seeds can be trapped in the wheels of a car or dropped by a bird. Weed seed is often distributed in hay and straw. The seeds will always arrive and must always be removed.

### **Long-Term Goals and Future Plans**

As previously stated, the long-term goal of the Genius Reserve is to preserve and restore the Morse-Genius legacy as a cultural reserve of old Florida.

The Rollins College project team, which consisted of Dr. Bruce Stephenson, Dr. Bill Grey and Forest Michael, were brought together to provide an analysis of the Genius Reserve. In the May 18, 2003 report, they strongly recommended a comprehensive management plan that would include Rollins College faculty and student resources. Ten potential projects taken from the report were as follows:

- 1) Cedar grove restoration
- 2) Restoration of the reserves most degraded ecological habitat on the northwest section of the site
- 3) Restoration of the banana grove located west of the central grove
- 4) Development of a pathway and parking plan
- 5) Regular plantings and maintenance of Genius Drive to preserve, restore and enhance historic plantings
- 6) Completion of the citrus planting north of the Ward house and creation of a landscape plan for the Ward house
- 7) Utility use plans for the packing plant, Ward house, stable and atrium
- 8) Maintenance and project plan coordinated with Rollins College environmental studies department to integrate land stewardship into the college curriculum

9) Insuring continued health of existing groves

10) Vision concept to selectively utilize site as an outdoor laboratory for Winter Park secondary schools



## Future Plans

The beginning of this paper entailed a brief description that hardly does justice to Winter Park and Rollins College founding citizens and philanthropic benefactors. What exists today, what Winter Park is and what Rollins College embodies is directly influenced and descended from the quiet generosity of those individuals mentioned in this paper. I included their history for a very



explicate reason; to point out the obvious, to bring the reader to the realization of what Charles Hosmer Morse and Jeannette Genius McKean would wish for the future of the Genius property. The question of how and where the Genius property will evolve lies in what Winter Park has become: an exemplary and aesthetically pleasing model of sustainable growth admired and emulated for its harmony with nature.

What is now a precious resource should not to be squandered for the nameless and faceless few, but recognized as a gem to be sculpted into an integral part of Winter Park and Rollins College. Consider these suggestions:

- Take the best qualities of Harry P. Leu gardens, Central Park in New York, Mead Gardens, the Emerald Necklace and blend them into the Genius Reserve.
- Create a conservatory with numerous varieties of orchids that would be prized worldwide.
- Create an aviary unrivaled for its design and function.
- Construct a butterfly garden like no other.
- Create a system of paths like those in San Francisco's Hyde Park that will keep conservation areas isolated, yet provide access to the entire site.
- Develop the most beautiful characteristic of the property—the lakefront—to afford unmatched views. Install a dock in harmony with the surroundings to provide access from Rollins College or Dinky Dock for visitors on pontoon boats controlled by the foundation.
- Car access to the reserve will be eliminated except for maintenance and supplies.
- Create a track and replica of the Dinky Line to be used to enhance Winter Park's notable past.

The Genius Reserve is a link to the beauty and lore of Winter Park's past and future, not an indiscreet treasure hidden away, but a shining jewel to enhance and exemplify all that Winter Park can be.

## BIBLIOGRAPHY

- A Florida Chapter of the National Audubon Society, OASis Newsletter, November 2006, Volume 42, #3. March 19, 2007  
<http://www.orangeaudubonfl.org/oasis/OASis%201106.pdf>
- Ecological Restoration & Management, Inc. Land Mangement. April 7, 2007.  
<http://www.er-m.com/landmgmt.html>
- EcoTourism/Volusia County State Government. April 12, 2007.  
<http://echotourism.com/arboretum/default.htm>
- Floridata – Tallahassee, FL. April 11, 2007.  
<http://www.floridata.com/index.cfm>  
Updated 8/7/03
- Heywood, V.H., R.K. Brummitt, A. Culham, O. Seberg. *Flowering Plant Families of the World*. Firefly Books, Buffalo, NY 2007
- Pacific Northwest Integrated Plant Protection Center – Oregon State University. Weed Management Handbook. Reviewed and updated October 21, 2004. August 15, 2006.  
<http://pnwpest.org/pnw/weeds>
- Rollins College Olin Library Archives: The Genius Reserve, Hugh and Jeannette McKean, Charle Hosmer Morse, Elizabeth Morse Genius Foundation.  
Orlando Sentinel, Saturday, August 8, 1998, 'Sold sign sits on slice of historic Winter Park'.  
By Jack Snyder  
Sentinel Star, Winter Park, Sunday, April 4, 1076. 'Colorful Footnotes to History' by Judy Feltus  
Orlando Sentinel, December 6, 1987, 'Finding a solution for Genius Drive', by Yvonne C.T. Vassel  
Rollins College News Service, for release 1943
- School of Forest Resources and Conservation – University of Florida Institute of Food and Agricultural Sciences. April 11, 2007.  
<http://www.sfrc.ufl.edu/>
- Stephenson, Bruce. Campus-Community Partnership Project – Integrating Sustainable Native Landscape Design: Central Park and the Genius Reserve, Winter Park Florida. Prepared March 7, 2003.
- Stephenson, Bruce and Forest Michael. The Genius Reserve: Management Assessment and Concept Plan. Prepared May 18, 2003.
- Taylor, Bell. *Florida Wild Flowers and Roadside Plants*. Laurel Hill Press, Chapel Hill, NC. 1982
- The Charles Hosmer Morse Museum of American Art. About the Morse – Jeannette Genius McKean. April 1, 2007  
<http://www.morsemuseum.org/about/jmckean.htm>
- University of Florida Institute of Food and Agricultural Sciences - Center for Aquatic and Invasive Plants. April 11, 2007  
<http://plants.ifas.ufl.edu/ie6/index.html>
- University of Florida Institute of Food and Agricultural Sciences - Principles of Weed Management. August 15, 2006.  
<http://edis.ifas.ufl.edu/WG041>
- USDA Forest Service – Northeastern Area State and Private Forestry. April 10, 2007  
[http://www.na.fs.fed.us/spfo/pubs/silvics\\_manual/volume\\_2/acer/rubrum.htm](http://www.na.fs.fed.us/spfo/pubs/silvics_manual/volume_2/acer/rubrum.htm)