



University of Miami Coral Gables

Tree Care Plan



1/23/2016

Campus in a Tropical Garden

The University of Miami Coral Gables campus has a unique landscape character with elements designed specifically for its climate and natural setting. It conveys a positive and unified sense of place, coherency, and consistency. Its thoughtful landscape planning has become renown worldwide as a “campus-in-a-tropical garden”.

INTRODUCTION

The campus enjoys a number of important vegetated areas which include Lake Osceola, The Gifford Arboretum, the Ibis Natural Trail, the Palmetum, the Florida Keys Arboretum and the Butterfly Garden. Our goal is to preserve and enhance the following important features:

1. Lake Osceola, the central and distinctive body of water which should be surrounded with tropical vegetation. Natural edges should be preserved, and Native landscaping surrounding it should be promoted.
2. The Ibis Natural Trail is an invitation for students, faculty and staff to discover our dense canopy and vegetation.
3. The Palmetum: Established in cooperation with Fairchild Tropical Garden and the Montgomery Botanical Center, the University's palmetum includes nearly 800 palms and cycads that are native to South Florida or represent distinct, rare, or endangered species from 38 nations.
4. The Florida Keys Arboretum: This arboretum highlights trees and shrubs native to the Florida Keys as well as some species characteristic of pineland regions.
5. The Butterfly Garden: Located along the Ibis Walking Trail behind Eaton Residential College, the Butterfly Garden is a living laboratory. The garden is home to some 23 different varieties of plants and attracts butterflies such as the monarch, sulfur, and brush foot, as well as the zebra longwing, Florida's state butterfly.
6. The Gifford Arboretum is part of the Department of Biology and it is managed by its Director with advice from an Arboretum Committee which includes faculty, students, administrators, and community members. The Arboretum contains a diverse collection of over 650 trees and shrubs representing over 500 species from every continent except Antarctica. The collection is maintained for purposes of education and research, as well as to inspire interest in tropical plants and a better understanding of their importance.



University of Miami

Coral Gables

CAMPUS IN A TROPICAL GARDEN

Standard 2

1- PURPOSE

The goal of the University of Miami Tree Care Plan is to establish and highlight good and sustainable landscaping practices on our main campus: 1535 Levante Ave, Coral Gables, FL 33146.

The general purpose of the plan is to guarantee that the standards of beauty, sustainability and environmental stewardship are respected and applied on our campus landscape.

Specific objectives of this plan are:

- Use of Native plants or low-maintenance plant species
- Administer environmentally sound arborist practices to enhance and maintain the campus landscape.
- Increase species diversity and tree canopy.
- Develop environmentally friendly landscape designs to conserve energy and water, reduce the urban heat island effect on campus, and promote improvements in air quality.
- Protect existing campus canopy during construction and renovation projects.

2 - RESPONSIBILITY

UM Facilities Management Department will manage the Coral Gables Campus Tree Care Plan in partnership with the Campus Tree Advisory Committee members.

Standard 1

3 - CAMPUS TREE ADVISORY COMMITTEE

The committee is comprised of students, faculty, staff, and community partners. The committee will meet twice a year to review progress on yearly objectives. The committee responsibilities will include: providing suggestions for improvements of the campus landscape and the Tree Care Plan; organizing an annual Arbor Day celebration and service learning projects; increasing tree value awareness throughout the university community, and ensuring that UM maintains its Tree Campus USA certification each year. Members will be nominated and approved by standing committee members. Here is the list of our committee members:

Name	Status	Title	Email
Stephen D. Pearson	Staff	John C. Gifford Arboretum Director	sdpearson@bio.miami.edu
Teddy Lhoutellier	Staff	Sustainability Manager	teddyl@miami.edu

Son Vo	Staff	<i>Sr, Manager for Contract Admin, Contract Administration</i>	s.vo@miami.edu
Laura Meintje	Staff	<i>GCA Grounds-Landscaping Manager</i>	lmeintjes@gcaservices.com
Dr. Donald B. Olson	Faculty	<i>Professor & Assoc. Dir. Of Undergrad MS, Center for Ecosystem Science and Policy, Leonard and Jayne Abess</i>	dolson@rsmas.miami.edu
Dr. Terri Hood	Faculty	<i>Professor & Assist. Dir. of Undergrad Program, Center for Ecosystem Science and Policy, Leonard and Jayne Abess</i>	thood@rsmas.miami.edu
Gina Maranto	Faculty	<i>Director of Undergraduate Programs, Center for Ecosystem Science and Policy, Leonard and Jayne Abess</i>	g.maranto@miami.edu
Janet Gavarrete	Staff	<i>Asso. Vice President - Campus Planning Real Estate & Facilities</i>	jgavarrete@miami.edu
Alicia M. Corral	Staff	<i>Campus Planner Real Estate & Facilities</i>	acorral@miami.edu
Dr. Carol Horvitz	Faculty	<i>Professor of Biology</i>	carolhorvitz@miami.edu
Brian Walters	Student	<i>Biology & Ecosystem Science and Policy</i>	bxw185@miami.edu
Dr. John Cozza	NGO	<i>Vice President of Education TREEmendous Miami</i>	johncozza@yahoo.com
Bob Brennan	Community	<i>Certified Arborist Fairchild Tropical Botanic Garden</i>	treeguru@mac.com
Helene H. Valentine	Staff / Community	<i>Director, Research Support- UM Miller School of Medicine / South Miami Landscape Committee board member</i>	Hvalentine2@med.miami.edu

4 - TREE CARE POLICIES

All trees, shrubs, and turf areas are maintained according to landscape management best practices. Those practices include proper and sustainable fertilization, irrigation, and pest management on campus grounds. These guidelines allow us to guarantee the esthetics as well as the health of our landscape while reducing our environmental impact on local ecosystems.

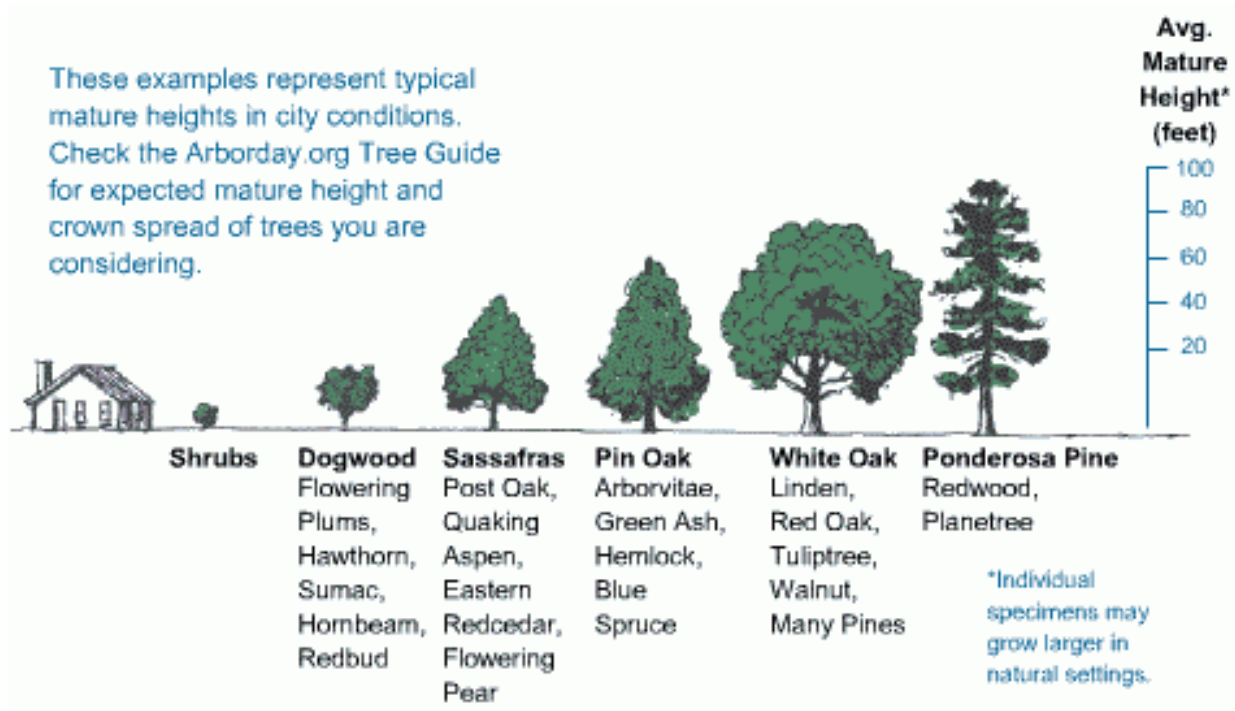
Plant Selection

As stipulated in the *South Florida Water Management District's Xeriscape Plant Guide II* and the *Miami-Dade County Landscape Ordinance, chapter 18 A*, our choice of plant species is guided by the Florida Friendly Landscaping (FFL) principles. Native and Low maintenance, drought tolerant species are always preferred. Our irrigation systems also follow FFL's recommendations, conserving water and promoting soil integrity everywhere possible. The "Right tree in the Right place" concept is applied in our guidelines to avoid any damage to existing and future infrastructure.

All plant material needs to be Florida No. 1 or better as specified within "Florida Grades and Standards for Nursery Plants" from the State of Florida Department of Agriculture and Consumer Services. (See *Annex III*)

"The Right Tree in the Right Place"

This concept shall be applied for all trees planted in order to avoid damages such as clogged sewers, cracked sidewalks and power service interruptions. It shall also address specific conditions such as drainage, soil quality, and site orientation.



<http://www.arborday.org/trees/righttreeandplace/size.cfm>

Tree Species Inventory and Selection

Tree selection shall strive for use of Florida native or "Florida-Friendly" species as much as possible. The Florida-Friendly plant database can be found at <http://www.floridayards.org>

The University shall not use category I exotic species, and shall avoid or use judiciously, category II exotic species, as listed within the Florida Exotic Pest Plant Council's Invasive Plant Species List (*Annex II*).

Tree selection shall address the following factors: Species diversity, Maintenance cost, urban environment tolerance, Wind tolerance, and Invasive replacement

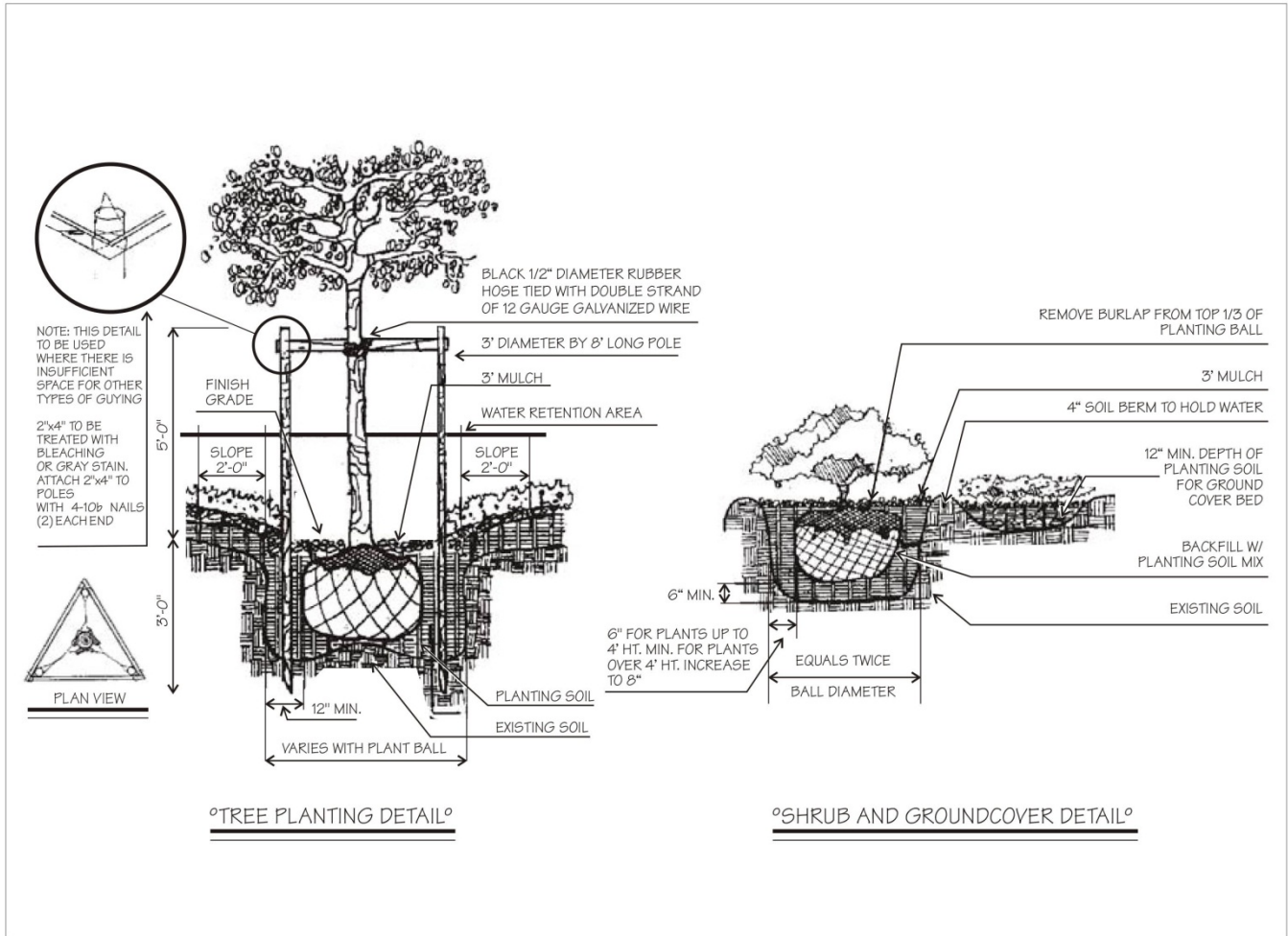
See our *Tree Species Inventory in Annex I* for a complete list of species on campus.

Tree Planting

Here are the general requirements for Tree planting in UM landscaping Design standards based on the Miami Dade County Landscape Design Manual (See illustration and Annex III):

- Groundcovers or low growing shrubs shall be used wherever possible to reduce landscape maintenance. Examples include sloped areas, replacement of turf grass in inaccessible or highly shaded areas, erosion prone areas, and areas where mulch washes away or is otherwise difficult to maintain, such as parking lot islands.
- A minimum tree planting area or island shall be ten (10) feet wide by ten (10) feet long.
- Trees shall be located a minimum of ten (10) feet from any underground utility to remain and a minimum of fifteen (15) feet from any overhead utility to remain unless it can be demonstrated that the mature size of the tree will not interfere with the utility.
- Landscape overhanging walkways and plazas to be clear overhead = (10) feet min.
- Trees with circling or girdling roots will not be permitted.
- Install planting soil and amendments as outlined in Division 32 91 00 of UM Building Standards.

- Planting shall be performed by a licensed contractor to the expected standards of care of landscape contractor professionals within the state of Florida.
- Trees and palms shall be planted such that two (2) inches of the root ball is above finished grade.
- Design professional shall be responsible for providing staking and bracing details specific to tree and palm sizes and types for review and approval prior to installation.
- Braces for palms shall be made of sound, new pressure preservative-treated softwood, free of knots, holes, cross grain, and other defects, 2 by 4 inches or 4 by 4 inches, and sized appropriately for the size of the palm.
- Tree staking systems shall use a polypropylene material in green, Arbor Tie by Deep Root, or other approved equal protective material where in contact with branches.



<http://www.miamidade.gov/zoning/library/studies/landscape-manual-new-draft.pdf> - p67

Irrigation and Watering

Proper Irrigation shall be provided for all proposed landscape, unless otherwise directed by UM Project Manager according to plant requirements, recent rainfall, temperature extremes and soil moisture.

- Water use for irrigation must comply with the Miami-Dade County and SFWMD regulatory requirements as well as with the University's water use agreement with the SFWMD.

- All efforts should be made to connect irrigation to existing well water sources on the University campus.
- Potable water may only be used for irrigation with prior authorization by the UMBS Committee.
- Reclaimed or reuse water shall be utilized as much as possible for irrigation. If used, follow requirements of Florida Statutes Chapter 62- 610, "Reuse of Reclaimed Water and Land Application"
- Drip irrigation shall be utilized as much as possible.
- The irrigation system shall be regulated by a rain-gauge or a moisture sensor.
- Irrigation to provide 100% "head-to-head" coverage.
- Rain Bird brand components or equal shall be specified for all irrigation systems unless otherwise authorized by the University.
- Trees and plants shall be watered in accordance with specifications as provided on the irrigation plan I-5. (See Annex III)

Mulching

All plants shall be mulched on a yearly basis or as needed to maintain healthy growth and reduce weed growth. Our maintenance plan follows the best practices stipulated in the Miami Dade Landscape Design Manual

- Mulch shall be organic wood mulch, free from deleterious materials and suitable as a top dressing for planting bed areas.
- Wood mulch shall be used for planting bed areas, as opposed to gravel or other inorganic mulches, as wood mulch inhibits weed germination and growth, holds in soil moisture, moderates soil temperature fluctuations (reducing plant stress), improves the soil fertility through the decomposition of organic material, and decomposes at a moderate rate (reducing maintenance).
- Mulch shall be installed at a depth of 2"-4" and shall be pulled back a minimum of 3 inches from the trunk of the tree or shrub so that the trunk and root flare are exposed.
- Mulch shall be Florimulch by Forestry Resources, Inc. or approved equal Grade A Melaleuca mulch that is clean, bright, and free of weeds, moss, sticks, and other debris.
- Cypress and red color mulch will not be accepted. (See Annex III)

Pruning

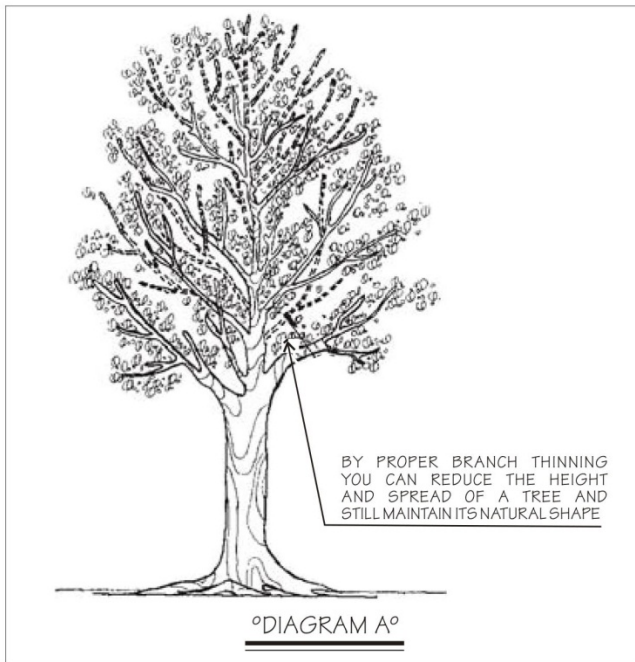
The correct pruning of shade trees is critical both for safety as well as for aesthetic reasons. The following criteria are adopted from the ANSI A-300 and are recommended as specifications to be included in landscape plans.

Class 1 - Fine pruning shall consist of the removal of dead, dying, diseased, decaying, interfering, obstructing, and weak branches, as well as selective thinning to lessen wind resistance. The removal of such described branches is to include those on the main trunks, as well as those inside the leaf area. An occasional undesirable branch up to one-half inch in diameter, as described above, may retain within the main leaf area to its full length when it is not practical to remove it. (Diagrams A and B)

Class 2 - Standard pruning shall consist of the removal of dead, dying, diseased, decaying, interfering, obstructing, and weak branches, as well as selective thinning to lessen wind resistance. The removal of such described branches is to include those on the main trunks, as well as those inside the leaf area. An occasional undesirable branch up to one inch in diameter may remain within the main leaf area where it is not practical to remove it.

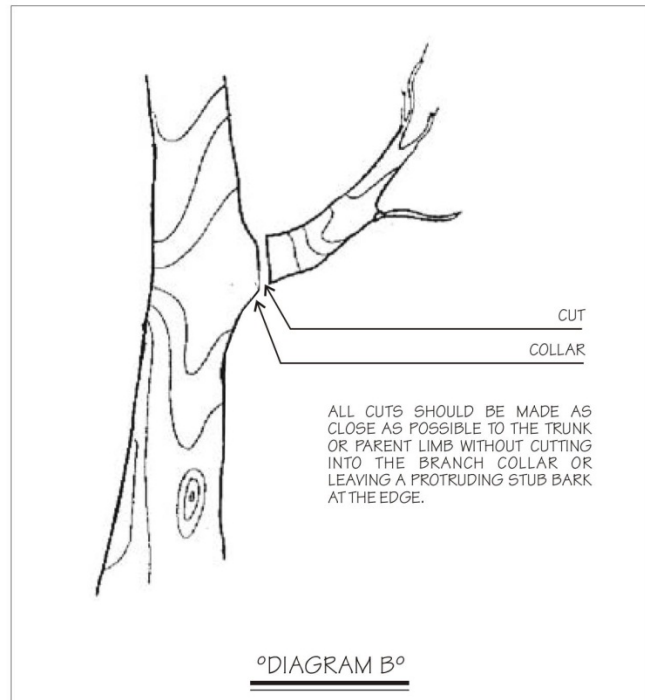
Class 3 - Hazard pruning is recommended where safety considerations are paramount.

Class 4 - Crown reduction pruning shall consist of the reduction of tops, sides or individual limbs. It involves the removal of a parent limb or dominant leader at the point of attachment of a lateral branch.



Fine pruning is recommended for premium quality work with an emphasis on aesthetic considerations in addition to structural integrity.

<http://www.miamidade.gov/zoning/library/studies/landscape-manual-new-draft.pdf> - p92



5 - PROTECTION GUIDELINES DURING CONSTRUCTION PHASES

Tree Protection: All existing trees and specimen plants to remain shall be protected during construction activities.

- Tree barricades shall be used to protect specimen plants and trees to remain larger than four (4) inches in diameter.
- Barricades shall be four feet high, minimum, and constructed of 2" x 4" rails with 4" x 4" posts, minimum. Barricades shall enclose the specimen plants, trees, or collective tree group's drip line or a fifteen (15) foot by fifteen (15) foot area, whichever is less. No stockpiling of debris, trash, or materials shall be permitted within the barrier area.
- No parking of vehicles or vehicular/equipment traffic shall be permitted within the drip line area or within the tree barricade once erected.
- No landscape planting shall occur prior to a fully functioning irrigation system to support it.
- Each tree proposed for transplanting needs to be inspected by a certified arborist, as certified by the International Society of Arboriculture, for recommendation of the tree's general health and expected success rate of transplanting. Arborist shall prepare report with recommended preparation and relocation procedures and schedule.
- All transplanting and trimming activities shall be performed by or directly overseen by a certified and licensed arborist.
- A tissue test shall be performed on all trees proposed for relocation.
- A soils test shall be conducted at all proposed relocation points of the site.
- All crown and root pruning shall be conducted as per approved transplanting plan and schedule.
- Transplanting activities other than root and crown trimming will not occur within hurricane season, June 1st through November 30.

6 - GOALS AND TARGETS

The long term goals of the UM Tree Campus USA Plan is as follows:

- Preserve and increase the presence of Native species to promote biodiversity and water conservation.
- Preserve and enhance our tree canopy on the Coral Gables campus, and extend this plan to other UM campuses in the future.
- Use our landscaping design strategy as a way to reduce our carbon footprint, selecting trees that sequester more carbon per square foot and provide shading that will have an impact on the cooling needs of our buildings.
- Allow for storm water retention berms, and bio swales when possible. This guideline is part of our water management plan and is intended to also reduce the accumulation of nutrients and pollutants in the runoff to our canals that in turn affect the environmental health of our coastal line.
- Mapping of our Tree inventory, starting with the Arboretum in collaboration with the Geography Dpt.
- An ongoing research project (ECS 301 on multiple semesters – Dr Terri Hood) involves the study of nutrient cycling in live oak (*Quercus virginiana*) using stable isotopes. In particular: 1) potential nitrogen sources signals in N isotopes; 2) nitrogen withdrawal from leaves pre-drop; 3) effects of 1 & 2 on use of oak leaves for mulch and compost
- The Native Habitat Biome located in front of the Arboretum will have all its invasive removed, especially the vines that represent such a threat to our local ecosystems.
- Increase the number of learning service projects at the JC Gifford Arboretum.
- Inauguration of the new Student Government ECO agency “UM Tree”
- Reach out to the community to bring awareness about the necessity of increasing our canopy, especially in disenfranchised areas of our county: Tree Planting events with TREEmendous and other local organizations.
- Integrate new items in our Tree care plan on a yearly basis: for 2017, extend and plant a new area to be included in the Gifford Arboretum. Note: a small butterfly garden will be considered.
- Host an annual Arbor Day event on the Coral Gables campus, inviting other campuses to inspire them and instigate emulation.

7 - TREE DAMAGE AND DISEASE ASSESMENT

Trees susceptible to serious infectious diseases should not be pruned at the time of year during which the pathogens causing the disease or the insect vectors are most active.

- The presence of any disease condition, fungus fruit bodies, decayed trunk or branches, spilt crotches or branches, cracks or other structural weakness shall be reported in writing to a supervisor and/or the owner, and corrective measures recommended. Native tree species survive better than non-native species.
- The stress to trees as a result of a hurricane damage initiates outbreaks of pests such as bark beetles, ambrosia beetles, sawyers, plant hoppers, and blue stain fungi that preferentially attack stressed damaged trees. These secondary problems have led to the death of trees, including palms, even several years after the storm.
- In addition, after such an event, many trees are damaged internally due to vibration and twisting experienced during the period of high winds. Some of these may die over time. Only 7% of trees studied (Annex III) caused damage to property. Live oak (*Quercus virginiana*) has exceptional wind resistance here, and in other hurricane prone southern areas. Palms are ranked second in wind resistance. It is important in

urban areas for tree plantings to have species, age, and size diversity.
(See *annex III*)

8 - PROHIBITED PRACTICES

Tree Preservation and Vegetation removal

- Tree removal permits or natural forest community vegetation removal permits are required prior to the removal of trees or any vegetation in a natural forest community pursuant to City Code Chapter 82 and Miami-Dade County, Chapter 18A. (See Annex IV)
- Desirable landscaping shall be preserved in its natural state to the maximum extent possible. Desirable native plant materials and well adapted exotic plant materials shall be preferred in plant selection.
- Existing trees required by law to be preserved on site and that meet the requirements of Section 18A-6(C), Miami-Dade County Code, may be counted toward fulfilling the minimum tree requirements.
(See *Annex III*)

Plant Materials

Plants installed should conform to, or exceed, the minimum standards for Florida Number One as provided in the most current edition of "Grades and Standards for Nursery Plants" prepared by the State of Florida Department of Agriculture and Consumer Services.

Vegetation requirements shall be installed in accordance with all of the following:

- Large shade trees. Large shade trees shall have a mature height of greater than twenty-five (25) feet and an average mature spread of crown of greater than fifteen (15) feet.
- Substitutions. Palms trees or medium shade trees as described in below Section 6(b) (ii) may be substituted at three-to-one (3:1) ratio. A maximum of twenty-five (25%) percent of the total may be palm varieties. (See Annex IV)
- A minimum of thirty (30%) percent of the total trees shall be native species.
- Palm trees and medium shade trees. A minimum of thirty (30%) percent of the total trees shall be native species.
- Shrubs. All shrubs shall be a minimum of eighteen (18) inches in height at planting, with a maximum average spacing of twenty-four (24) inches on center. Shrubs shall be planted and maintained to form a continuous, unbroken, solid, visual screen within a maximum of one (1) year after time of planting. A minimum of thirty (30%) percent of total shrubs shall be native species.

Tree Abuse

All trees shall be trimmed in accordance to Miami-Dade County tree preservation code. Any type of tree abuse, hat racking, topping or heading shall be prohibited except in emergency situations. Contracts with vendors to perform tree services or building construction/maintenance services shall include fines for violating provisions of this plan. Damage to campus trees caused by students, faculty or staff shall be treated as acts of vandalism and punished accordingly.

10 - COMMUNICATION STRATEGY

The Facilities Management Department will make sure those guidelines are applied to maintenance of landscaped areas performed by UM employees and contractor's employees alike. The Tree Care Plan and the Tree Campus USA certification will be promoted on campus and in the community to spread best practices in sustainable urban forestry. The Plan will serve as a platform for discussion about sustainability and landscaping on our campus.

Here are some of our projected outreach campaign highlights:

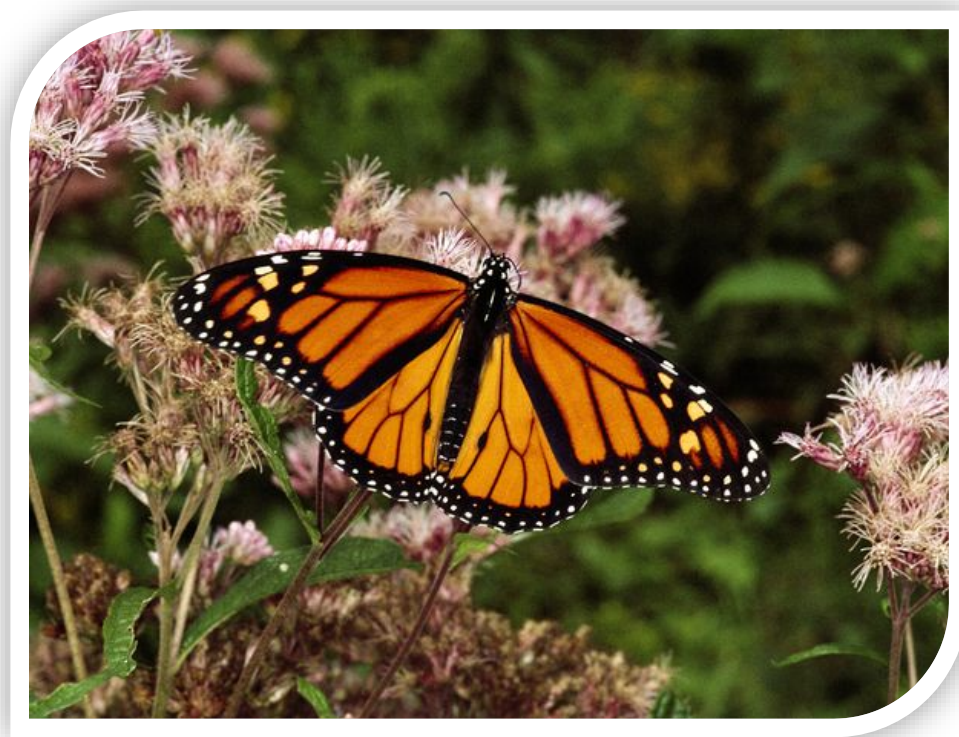
- Organize an Arbor Day observance celebration and invite students, faculty and staff.
- Develop Service Learning projects that will involve students, faculty and staff.
- Partner with community organizations and government such as TREEmendous, Florida Forest Service, City of South Miami, City of Coral Gables, Florida Power and Light, Miami-Dade County Department of Regulatory and Economic Resources (RER), Citizens for a Better South Florida, Earth Learning, Fairchild Tropical Botanic Garden, and others.
- Organize Conferences and lectures by local experts for Earth Week, Arbor Day, Week of Well Being, Gandhi Day or U Serve Day.
- Promotion of native landscaping activities through student clubs' involvement.
- Promotion of the right tree in the right place and the importance of tree canopy in the community.

Annex I: <https://umshare.miami.edu/web/wda/greenu/DOCUMENTS/Tree%20Inventory%2012.2015.pdf>

Annex II: <https://umshare.miami.edu/web/wda/greenu/DOCUMENTS/prohibited-plant-species.pdf>

Annex III: [Miami Dade County Landscape Code and Manual](#)

Annex IV: [City of Coral Gables Development Standards](#)



Standard 3**EXPENDITURES:**

Tree Planting and Initial Care	
(Tree purchases, labor and equipment for planting, planting materials, staking, watering, mulching, competition control)	\$ 278,225.00
Campus Tree Management	\$ 2,301,060.00
(Pruning, public education, professional training, association memberships, campus tree inventory, pest management, fertilization, tree removals, Invasive removal)	
Volunteering hours: # of students: 759 h x \$18/h	\$ 13,662.00
TOTAL:	\$ 2,592,947.00

- **Number of trees planted:**
241 (CG campus) and 76 (Community Planting) = 317
- **Number of trees maintained:**
8,845 (CG campus) + 2,350 (Community Care) = 11,195
>removal of invasives, pruning, clearance requirements
- **759 volunteering hours**
- % of tree canopy: 2017 student project
- Full Time Student population: 16,848

Standard 4**ARBOR DAY OBSERVANCE:**

- **Arbor Day Observance Day in the Gifford Arboretum** on April 13 at 6.00 pm. during Earth Week
The Director of the Gifford Arboretum invited the UM community to a beautiful Concert by jazz ensemble from the Frost School of Music, the Zack Zebley Trio, sponsored by the JG Arboretum and the College of Arts and Science at UM. ([website](#))

Standard 5**SERVICE LEARNING PROJECTS in 2016:****Service projects:**

- **January 30, 2016** at UM's Gifford Arboretum - Students from UM helped with maintenance work for 2 hours. This work focused on removing invasive exotics, weeding and adding mulch around trees
- **February 12, 2016** at Gifford Arboretum – A couple of UM students helped plant a memorial tree in the Arboretum

- **February 13, 2016** at UM's Palmetum Worked with student on new plot map and signage
- **February 20, 2016** at Virginia Key Beach Park - Students from UM helped with maintenance work for 3 hours. This work focused on removing invasive exotics and vines in the areas where TREEmendous Miami has been planting thousands of trees to re-establish a maritime hammock in the Park.
- **February 27, 2016** at Gifford Arboretum Students helped plant new palm
- **February 28, 2016** at Gifford Arboretum Students from UM helped with maintenance work for 2 hours. This work focused on removing invasive exotics, weeding and adding mulch around trees
- **March 20, 2016** Students from UM helped at Miami Cemetery to plant and maintain trees as part of a project of TREEmendous Miami.
- **April 2, 2016** at Gifford Arboretum Students from UM helped with maintenance work for 2 hours. This work focused on removing invasive exotics, weeding and adding mulch around trees
- **April 9, 2016** at Virginia Key Beach Park - Students from UM helped with planting 30 native trees and maintenance work for 4 hours. Maintenance work focused on removing invasive exotics and vines in the areas where TREEmendous Miami has been planting thousands of trees to re-establish a maritime hammock in the Park.
- **May 27, 2015** in the Gifford Arboretum- UM student helped with maintenance work for 3 hours.
- **June 2, 2016** at Virginia Key Beach Park - Students from UM helped with maintenance work for 4 hours. Maintenance work focused on removing invasive exotics and vines in the areas where TREEmendous Miami has been planting thousands of trees to re-establish a maritime hammock in the Park.
- **June 25, 2016** at Virginia Key Beach Park - Students from UM and FIU helped with maintenance work for 3 hours. Maintenance work focused on removing invasive exotics and vines in the areas where TREEmendous Miami has been planting thousands of trees to re-establish a maritime hammock in the Park.
- **September 4, 2016** in the Gifford Arboretum- UM students of Alpha Phi Omega service fraternity helped with maintenance work for 3 hours. The event also included an educational tour of the Arboretum.
- **October 1, 2016.** As part of Gandhi Day, two large groups of UM students helped TREEmendous Miami for 3 hours plant 74 native trees and maintain over 300 recently planted trees and shrubs at Coral Pine Park in Pinecrest, FL. Besides learning proper planting and maintenance techniques, the students learned about the ecological importance of this work.
- **October 22, 2016** at Virginia Key Beach Park – UM Law and Barry College students worked 3 hours to help maintain previously planted trees in the Park, including creating protective barriers as needed. A tour of the 11,000-tree hammock TREEmendous Miami has created at the Park and lunch were enjoyed also.
- **November 19, 2016** in the Gifford Arboretum. Planting of 221 native trees and shrubs as expansion of the South Florida Natives Exhibit of the Arboretum. Students could learn proper planting technique as well as the making and benefits of the habitat created.

Educational and recreational projects: <http://www.bio.miami.edu/arboretum/Calendar.html>

- **January 31th, 2016:** Tour and lecture on tree planting work and benefits of maritime hammock restored on Virginia Key Beach Park as part of annual meeting of TREEmendous Miami
- **February 3rd, 2016:** Leonard Goldstein, President of the South Florida Palm Society presented **Gifford Arboretum Program on** "Palms 101: An Introduction to a Graceful Plant Family, with Tips for Keeping Them Happy."
- **February 17th, 2015:** A musical performance in the Gifford Arboretum by the Big City Folk Band. Before the performance, Steve Pearson led a tour of the trees and plants in bloom in the Arboretum,
- **March 2nd, 2016:** Dr. Jeffrey S. Block, presented a **Gifford Arboretum Program on** "Facts vs. Fiction Surrounding Medical Marijuana Endocannabinoid Science's Changing Perspectives,"

- **March 16th, 2016** A musical performance by Jesse Klirfeld's Jazz Combo, was enjoyed in the Arboretum along with a variety of botanical sights and smells.
- **March 19th, 2016** Native Plant Day, a 6-hour celebration, demonstrations and lectures at Sadowski Park
- **April 2nd, 2016:** Dr. Helene Muller-Landau, Lead Scientist for the Global Forest Carbon Initiative of the Smithsonian Tropical Research Institute presented the annual Gifford Arboretum Lecture on "*Tropical Forest Responses to Global Change*"
- **May 4th, 2016:** UM Assoc. Professor Kathleen Sealey presented a **Gifford Arboretum Program on** "Island Coasts and Plants: Coastal Ecology and Restoration in The Bahamas"
- **June 13th, 2016** at Fairchild Tropical Botanic Garden - UM students attended 2.5-hour ceremony as part of the annual Royal Poinciana Fiesta, which included narrated tour of the Garden and a presentation on care and history of the Poinciana tree in South Florida.
- **September 7th, 2016:** Caroline Lewis, Executive Director of the CLEO institute presented a **Gifford Arboretum Program on** "Climate Change – A Simple Overview of the Science, Seriousness, and Solutions."
- **September 17, 2016** Butterfly Day at Castellow Hammock with tours and workshops for 6 hours
- **September 21, 2016** Two tours of 1.5 hours each in the Gifford Arboretum. First tour was solely for introductory Biology undergrads and second tour was for general student and community population.
- **October 5th, 2016** – George Gann, founder and chairman of the Institute for Regional Conservation presented a **Gifford Arboretum Program on** "Everglades Restoration and Rare Plants"
- **October 19th, 2016** - Musical performance in Gifford Arboretum by Leslie Miller and Keelan Dimick, students at UM's Frost School of Music
- **October 27, 2016:** Walking Tour of the Arboretum's Sacred and Magical Trees where FIU Botany Instructor and Arboretum Director taught about myths, legends, religious uses, and alleged magical attributes of some of the Arboretum's trees
- **November 2nd, 2016** – Barbara McAdam of UF/IFAS Extension Service presented a **Gifford Arboretum Program on** "Gardening on a Mission: Water Conservation and Saving the 39 Imperiled Butterflies of South Florida"
- **November 16, 2016:** Concert at the Arboretum by World Peace Ensemble
- **December 3, 2016:** Narrated tours of Arboretum featuring trees used by early peoples of Florida and European settlers as part of Arboretum's annual picnic.