



2020 - 2030

# USF Master Plan Updates

Goals Objectives & Policies

## Element 8: Conservation

UNIVERSITY OF SOUTH FLORIDA

SARASOTA - MANATEE CAMPUS

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## Element 8:

# Sarasota Conservation

## Element 8 Conservation

Conservation policies in the USFSM 2020-2030 Campus Master Plan, as in the 2000-2010, 2005-2015, and 2015-2020 Master Plans, address protection and improvement of air quality, conservation and protection of the quantity and quality of water sources, conservation and protection of native vegetation and wildlife habitats, energy efficiency, and waste monitoring, disposition, recycling, and reduction of greenhouse gas emissions in support of the University's commitment to the American College and University President's Climate Commitment (ACUPCC).

The USFSM 2020-2030 Campus Master Plan recommends increased demonstration and visibility of conservation measures and pilot project efforts. Broadened awareness of initiatives demonstrates institutional commitment, enriches the educational experience, generates excitement for participation, and contributes to greater success in meeting the ACUPCC goals.

The USFSM 2020-2030 Campus Master Plan continues policies preserving the existing environmental preserve adjacent to US 41. The Plan recommends expanded implementation of the designated open space/pedestrian corridors, including removing those elements currently within the limits of the corridors that conflict with intended land uses; predominantly parking areas.

The USFSM 2020-2030 Campus Master Plan continues to recognize Sarasota Bay as a designated Outstanding Florida Water by the Florida Department of Environmental Protection (FDEP) and, as such, afforded the highest degree of protection by the State. Sarasota Bay is also recognized as part of the National Estuary Program by the U.S. Environmental Protection Agency (EPA).

### Goal

The Conservation goal of the Campus Master Plan is to be an institutional model for conservation policies, to meet the American College & University Presidents' Climate Commitment (ACUPCC) goals, to minimize negative environmental impacts, and better the environment through improved air, water and open space quality in the vicinity of the campus.

### Summary of Objectives and Policies

#### Objective 8.1

**Identify mitigation techniques in order to reduce greenhouse gas emissions and improve the air quality.**

**Policy 8.1.1:** The University shall continue to participate in and consider expanding those programs that contribute to improving existing air quality and reducing greenhouse gas emissions through the reduction of campus traffic and parking demands. Such programs include, but are not limited to, participation in local transportation management associations, transit routing and terminal servicing activities and the promotion of bicycle and pedestrian circulation improvements.

**Policy 8.1.2:** The University shall reduce mobile sources of air pollution through implementation of Element 5, Transportation policies designed to discourage dependence on single occupancy vehicles (SOV) as the primary transportation mode for commuting to and from and/or moving on campus, and to encourage alternative modes of transportation.

**Policy 8.1.3:** The University shall explore and implement, as appropriate, alternative fuel vehicles including fuel efficient vehicles, low emitting vehicles, and electric vehicles with appropriate charging stations for both automobile and golf cart fleets.

**Policy 8.1.4:** The University shall minimize emissions of air pollutants from and within buildings on campus through the installation of appropriate filtering devices on fume hoods, minimizing the storage and use of volatile and hazardous materials, and by reducing use of refrigerants and coolants in campus buildings.

**Policy 8.1.5:** The University shall continue monitoring both indoor and outdoor air quality. Indoor sampling shall occur at kitchens, and other sites, and in future planned facilities such as chemistry laboratories, where fumes are produced. Outdoor sampling sites shall include parking areas and congested intersections. Failure to meet air quality standards adopted by the State Department of Environmental Protection shall result in an assessment of the probable cause and the preparation and implementation of a plan to improve and maintain air quality.

**Policy 8.1.6:** The University shall implement tree planting programs targeting open space without tree cover during the initial five-year planning period as a means to provide the following benefits onto campus:

- Increased carbon absorption for improved air quality;

- Reduced the heat-island effect on campus;
- Reduced stormwater runoff; and
- Enhanced outdoor space, providing shade for campus population and encouragement for increased alternative non-vehicular circulation.

### Objective 8.2

#### Conserve and protect the quantity and quality of surface waters and groundwater supply.

**Policy 8.2.1:** The University shall not undertake activities on-campus which would contaminate groundwater sources or designated recharge areas unless provisions have been made to prevent such contamination or otherwise provide mitigation for such activities so as to maintain established water quantity and quality standards. (See Sub-Element 7.1, Stormwater Management.)

**Policy 8.2.2:** The University shall monitor surface waters for compliance with existing standards for water quality. (See Sub Element 7.1, Stormwater Management.)

**Policy 8.2.3:** The University shall continue to implement its comprehensive Water Conservation Plan, to include, but not be limited to the following measures:

- Exploration of the potential interdependencies between chiller plant make-up water discharge, stormwater collection, and irrigation needs (See Element 7, General Infrastructure and Utilities)
- The use of irrigation monitoring mechanism, such as automated timers, rain and ground moisture sensors, and flow meters.
- Application of low maintenance xeriscape, native plant landscape treatments for new and renovated building construction and new and renovated campus open space site and facilities.
- The use of ultra-low-flow fixtures in new building construction, and
- Participation in water audits and other leak detection programs for existing facilities.

**Policy 8.2.4:** The University, subject to available funding, shall consider the construction of a series of stormwater management facilities located within the University property, providing reduction of stormwater pollutants prior to their eventual outfall into Sarasota Bay. As part of new construction, additional, visible pilot and permanent low-impact design and stormwater management projects shall be considered for implementation within the public campus realm in support of demonstrating institutional commitment to protecting and conserving water, including reduction of pollutants, on campus and within the water shed. (See Sub Element 7.1, Stormwater Management.)

### Objective 8.3

#### Protect identified jurisdictional native vegetative communities whether upland or wetland, as shown in Figure 8-1, 10 Year Natural and Environmental Resources and campus plantings.

**Policy 8.3.1:** The University, through a qualified professional, shall endeavor to conduct a campus wide landscape documentation and assessment including location and identification of existing plant materials, and assessment of health and condition, horticultural, environmental, and spatial significance, for the purpose of establishing a University tree and plant inventory data base. This data base will enable development of long term management and protection of campus horticultural resources and investments, including budgeting for landscape implementation and staff operations.

**Policy 8.3.2:** The University, in order to maintain the aesthetic quality, health, and investment in the campus landscape, shall endeavor to provide for the development of a Campus Landscape Management Plan by a qualified professional. This plan shall focus on long term sustainability of the landscape and include identification and description of tasks, schedule and frequency, operational requirements including equipment, materials, and identification of personnel by skill appropriate to tasks and budgeted hours.

**Policy 8.3.3:** Based on the landscape assessment, the University shall identify and protect jurisdictional and other areas of native plant communities from development by designating these areas as "no build" zones. Areas of native plants may include: Conservation areas located adjacent to US 41.

- Other opportunities to protect environmentally sensitive lands based upon State and local criteria shall be evaluated.

- Should development be necessary to occur within these areas, mitigation techniques as provided by the regulatory agencies shall be coordinated with the host community and permitting agencies by the University.

**Policy 8.3.4:** The University shall endeavor to use plant species that are indigenous to the natural plant communities of the Sarasota Manatee Bay area. In cases where non-invasive exotic plants are used to enhance the landscape, plantings shall be limited to those non-invasive species and Florida-friendly plants that are able to resist periods of drought and which require little fertilization or the use of pesticides.

**Policy 8.3.5:** The University, as part of ongoing planting efforts, shall endeavor to introduce a greater variety of tree and other plant species and greater numerical balance between various species in order to reduce likelihood of collective loss of a single species or group of species that may occur due to an existing or potential yet unknown blight condition. Additionally, the University shall continue to develop age diversity in the tree stock through a phased introduction of trees within given areas over time to improve the long-term sustainability of the aesthetic landscape and vegetative communities.

**Policy 8.3.6:** The University shall endeavor to maintain and improve existing vegetative communities through the removal of ecologically undesirable vegetation. It is the intent of the University to remove all non-native invasive plants (whether grasses, shrubs or trees) which are identified on the most current Exotic Pest Plant Council's "Florida's Most Invasive Species List" from the campus grounds. As these species are identified on the campus, the University shall coordinate with the Florida Department of Environmental Protection and other appropriate governmental entities to ensure the proper removal and disposal of these exotic species.

**Policy 8.3.7:** The University shall endeavor to reduce the extent of turf grass in passive recreation areas on campus in favor of alternative native and xeriscape groundcovers (shade tolerant where required) and designation of areas of naturalized ground plane, to thereby reduce water consumption, fertilizer application, and overall mowing maintenance requirements.

#### **Objective 8.4**

**Designate environmentally sensitive lands for protection based on state and locally determined criteria.**

**Policy 8.4.1:** The University shall maintain the jurisdictional areas based upon the most recent Florida Department of Environmental Protection criteria, standards and guidelines.

**Policy 8.4.2:** The University shall maintain, in a managed natural state, all of those sites identified for preservation on the 10 Year Natural and Environmental Resources (Figure 8-1). No construction is anticipated in these areas except for minimal entrance road widening, structures and improvements necessary to ensure safe access and essential recreational support functions.

**Policy 8.4.3:** The University, during the initial planning phase of any physical changes to the campus, shall perform a census of plants and wildlife in the area to be affected. Existing plants or animals identified in the most current "Official Lists of Endangered and Potentially Endangered Fauna and Flora in Florida", Florida Fish and Wildlife Conservation Commission, or otherwise afforded protection by the host communities and state and federal agencies, shall be noted. Protection plans for those identified species shall be formulated consistent with those of the host communities and appropriate state and federal agencies.

#### **Objective 8.5**

**Restrict University activities known to threaten the habitat and survival of threatened and endangered species and species of special concern.**

**Policy 8.5.1:** The University shall continue to require the use of best management construction practices, including the use of erosion and pollution prevention devices, and other techniques to reduce the impact of development activities.

**Policy 8.5.2:** The University shall minimize site disturbance on previously undeveloped sites, and will utilize native or adapted non-invasive xeriscape vegetation when restoring disturbed areas.

**Policy 8.5.3:** The University shall require that future development, including buildings, parking facilities, utilities, walkways, paths, stormwater facilities, and recreation fields, be carefully sited to minimize impacts to existing trees. Prior to initiating construction, trees shall be protected from damage through the use of perimeter barricades placed at the tree drip lines or critical root zones (whichever is greater), and shall remain in place throughout the period of construction. Existing trees that are removed due to construction shall be replaced with new trees; total caliper of all new trees combined shall equal total caliper of trees removed or lost through construction. Replacement trees may be planted at the site of construction or elsewhere on campus depending on the site and overall campus needs as determined by USF Office of Facilities Planning and Management.

**Policy 8.5.4:** The University shall require that any proposed development adjacent to an environmentally sensitive area shall be carefully sited and integrated into the existing landscape to have minimal visual impact on the area. Landscape treatment shall preserve significant existing vegetation to allow a gracious transition from developed areas to undeveloped areas to preserved areas. The existing vegetation shall serve to essentially buffer proposed development in order to maintain the natural and undeveloped character of the area.

**Policy 8.5.5:** The University shall protect and conserve the natural functions of soils, floodplains, and water bodies. The University shall continue to support the designation of Sarasota Bay as an Outstanding Florida Water by protecting and enhancing this important resource. Stormwater facilities within the campus that flow into Sarasota Bay shall comply with State requirements for discharging into impaired water bodies.

**Policy 8.5.6:** The University shall, to the maximum practical extent, locate new facilities outside of the Federal Emergency Management Agency's (FEMA) recognized 100-year flood zone. In those locations where encroachment into the floodplain is deemed unavoidable, the University shall provide Base Flood protection and abide by all regulatory requirements to provide compensatory flood storage areas.

**Policy 8.5.7:** The University shall continue to protect and conserve threatened and endangered species of plants and animals, and species of special concern, as required by the Endangered Species Act of 1973, as amended, Chapter 39, F.A.C., and federal and state management policies relating to the protection of threatened and endangered species, and species of special concern. The campus has designated the environmental preserve areas adjacent to US 41 as gopher tortoise habitat.

**Policy 8.5.8:** The University shall instruct its personnel, when encountering listed species, to follow procedures and seek consultation with the appropriate agencies as identified in the Florida Fish and Wildlife Conservation Commission's most current "Wildlife Methodology Guidelines."

**Policy 8.5.9:** The University shall endeavor to reduce and prevent "light pollution" and its impact on nocturnal environment by meeting relevant LEED credit guidelines in new development and through phased replacement of non-compliant lighting campus-wide.

#### **Objective 8.6**

**Reduce the quantity of waste generated on campus and expand the percentage of waste recycled or reused.**

**Policy 8.6.1:** The University shall continue its ongoing evaluation of monitoring, reducing, and disposing of hazardous chemical and medical wastes. New technologies to assist in transporting and disposing of such wastes shall be evaluated by the University. (See Sub-Element 7.4, Solid Waste Management.)

**Policy 8.6.2:** The University shall provide on-campus facilities for the collection and storage of hazardous materials used in University operations as required by federal, state and local regulations. (See Sub Element 7.4, Solid Waste Management.)

**Policy 8.6.3:** The University shall continue to encourage reduction of generated waste materials and expanded use of its recycling and reuse programs by establishing mechanisms for coordinating efforts between impacted USFSM departments, creating awareness through varied communication methods, and installing additional convenient recycling centers. (See Sub Element 7.4, Solid Waste Management.)

**Policy 8.6.4:** The University shall coordinate on-campus recycling programs with those of local government in regard to materials collected, and disposal/collection procedures. (See Sub Element 7.4, Solid Waste Management.)

**Policy 8.6.5:** The University shall, through the USF Office of Purchasing, endeavor to establish mechanisms for developing and maintaining a "green" products database and shall encourage use of those environmentally preferable products with lower environmental impact.

#### **Objective 8.7**

**Identify measures to conserve and appropriately reduce energy use.**

**Policy 8.7.1:** The University shall evaluate and implement, as appropriate and cost effective, solar energy and other clean energy sources as alternative sources of power for irrigation systems, outdoor fountains and lighting, shuttles, phones, etc. (See Sub-Element 7.7, Electrical Power and Other Fuels.)

**Policy 8.7.2:** The University shall establish administrative, operational and other procedures to monitor energy use on a building specific basis and provide enhanced feedback to end users on their energy use, and incentives for reduction.

**Objective 8.8**

**Expand the use of conservation and energy saving techniques with the planning, design, and construction of new facilities.**

**Policy 8.8.1:** The University shall require the design of new buildings to be consistent with the climatic response and sustainability guidelines such as USGBC LEED and AASHE STARS rating system.

**Policy 8.8.2:** The University shall require energy conservation fixtures, air conditioning and lighting systems and other building specific energy use and management techniques to be a required element of all new and renovated buildings constructed on the campus.

**Policy 8.8.3:** The University shall consider, during development of building programs and design, the building orientation, increased day-lighting measures, utilization of courtyards, arcades and other shade and ventilation techniques to further reduce energy demands.

**Policy 8.8.4:** The University shall consider, during development of building programs and design, use of low-maintenance, local, durable, and sustainable materials, with priority placed on durable materials with long term life cycle benefit.

**Policy 8.8.5:** The University shall require all major new construction and renovation projects to seek USGBC LEED certification with goal of achieving Silver rating or above. Commissioning is required on all projects. The University has a target of energy saving of 15-20% above the ASHRAE 90.1-2016 Baseline.

**Policy 8.8.6:** Copies of land development criteria and design standards which reflect the policies contained in the adopted campus master plan and USGBC LEED guidelines shall be provided to design consultants and appropriate University staff. The University shall standardize the construction review process to assure adherence to appropriate master plan and Sustainability Guideline policies.

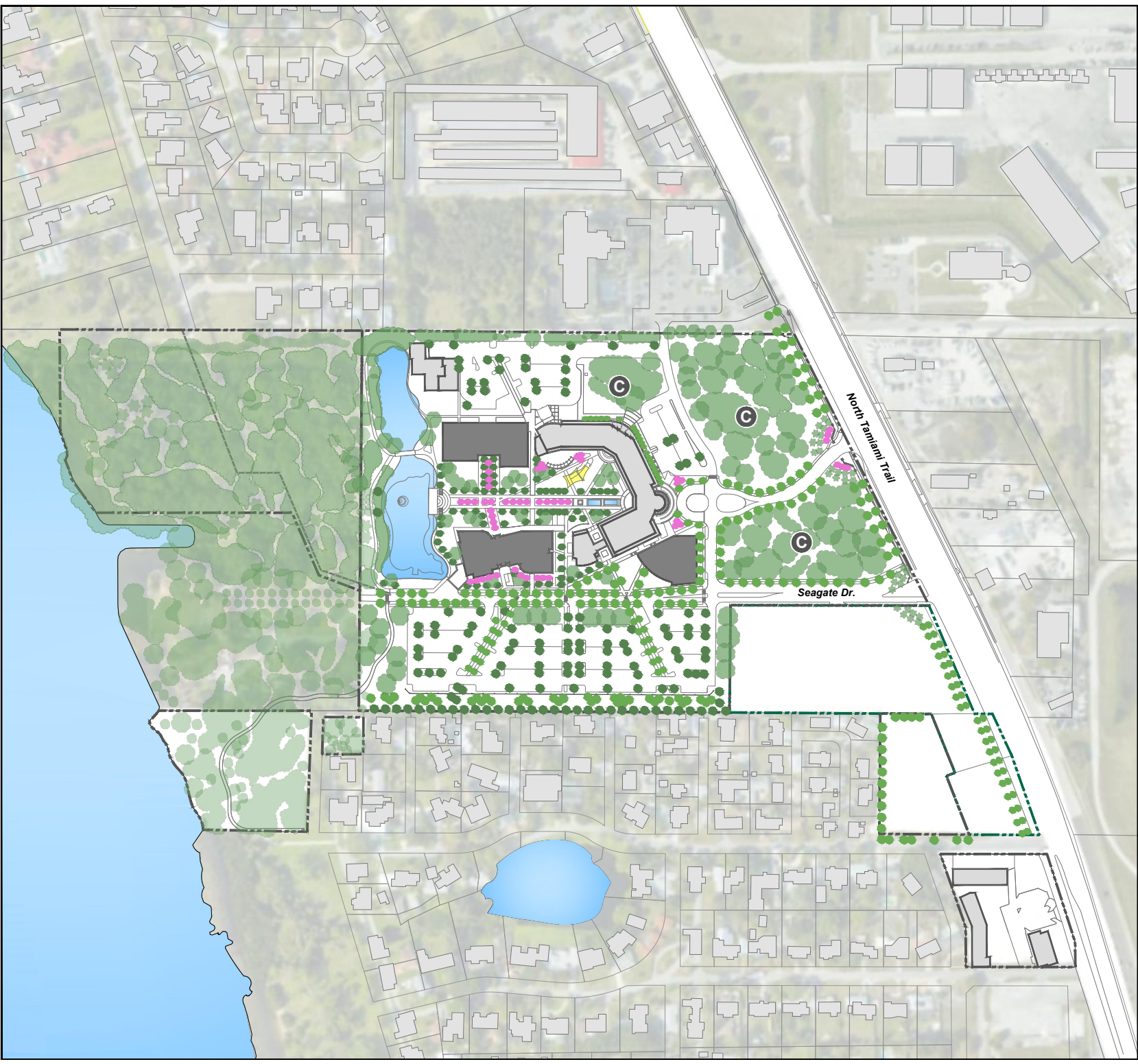




# UNIVERSITY of SOUTH FLORIDA

2020 - 2030  
Sarasota-Manatee Campus  
Master Plan Update

- Campus Limits
- Study Area
- Tree Framework
- Conservation/Naturalized and Vegetative Corridor
- Existing Tree Canopy Cover Conservation
- Existing USFSM Facilities
- New Building



**Element 8**  
Future Land Use

**GOP Figure 8-1**  
10 Year Natural and  
Environmental Resources

**Date**  
ADOPTED 06/13/2023

