

**Holistic Integration of Sustainability Principles and Practices at the
University of Florida – Application for SACUBO Best Practices Award**

Dedee DeLongpré
University of Florida
Office of Sustainability

Anna Prizzia
University of Florida
Office of Sustainability

Abstract:

We face an uncertain future. As Americans, we are five percent of the world's population; we consume 30% of the world's resources; and, we generate 25% of the world's greenhouse gas emissions. Humans are consuming the planet's resources 25% faster than the Earth can renew them.

In response, the University of Florida has taken a comprehensive, holistic approach to integrating principles of sustainability throughout its operations, education, research, and outreach. Unlike some institutions that have approached sustainability from the narrow perspective of recycling, the University of Florida strives to create a campus that will stand as a model of sustainability, integrating the goals of ecological restoration, economic resiliency, and social equity.

In pursuing this goal, the university's Office of Sustainability encourages and facilitates the collaborative efforts of faculty, students, and staff to generate knowledge, acquire skills, develop values, and initiate practices that contribute to a sustainable, high quality of life on campus, in the state of Florida, and across the globe.

The holistic integration of sustainability principles into campus operations, education, research, and outreach is a best practice with myriad benefits to our institution, our host city, society, and to future generations.

Introduction of the Organization:

The University of Florida (UF) is a public, land-grant, research university. The state's oldest, largest and most comprehensive university, UF is among the nation's most academically diverse public universities. The University of Florida has a long history of established programs in international education, research and service. It is one of only 17 public, land-grant universities that belong to the Association of American Universities.

With more than 52,000 students, UF is now one of the five largest universities in the nation. The university has a 2,000-acre campus and more than 900 buildings (including 170 with classrooms and laboratories). The northeast corner of campus is listed as a Historic District on the National Register of Historic Places. The UF residence halls have a total capacity of some 7,000 students and the five family housing villages house more than 2,200 married and graduate students.

Statement of the Problem/Initiative:

We face an uncertain future. As Americans, we are five percent of the world's population; we consume 30% of the world's resources; and, we generate 25% of the world's greenhouse gas emissions. Humans are consuming the planet's resources 25% faster than the Earth can renew them.

The University of Florida has an obligation to meet the challenges of the future for three interrelated reasons. First, as educators we play a leading role in training the scientific, social, political and cultural leaders, professionals, and policy-makers who will make a

difference in the world. Secondly, as the fourth largest university in the United States, we stand to consume significant resources on campus. Lastly, whether the world is a better or worse place when our students become its citizens, parents, and leaders will be, in no small part, a function of the values, knowledge and skills they receive here.

Design:

The University of Florida inaugurated its first fully funded Office of Sustainability on February 1, 2006. This milestone is the culmination of more than a decade of student, faculty, and administrative commitment to sustainability on campus. The President of the university created and funded the campus-wide office with a modest budget of 125,000 dollars, following resolutions from both the faculty and student senates.

Sustainability Committee

The university's *ad hoc* sustainability task force officially evolved into a joint standing committee of the faculty senate on August 15, 2006. UF's sustainability committee is composed of faculty members elected by the faculty senate, faculty or staff appointed by the President's designee, and student members selected by the dean of students. The director and an academic officer appointed by the provost serve as nonvoting *ex-officio* members.

The committee's role is to promote sustainability within the university and in the larger community and to enhance the university's standing as a global leader in sustainability. It assesses the progress of the university's sustainability efforts and pursues their

implementation when appropriate. It aids in the development of policy with the Office of Sustainability.

The sustainability committee has developed four task forces to address goals within the university. Following are the missions of those task forces.

- *Zero Waste by 2015*: to assess the university's solid waste streams and to suggest policies and create user incentive programs to dramatically reduce solid waste on campus to nearly zero by the year 2015.
- *Energy and Climate Change*: to assess the energy system of the university, including the supply and consumption sides, for the purpose of minimizing both energy costs and environmental impacts in order to recommend measures to accomplish these goals.
- *Education and Research*: to facilitate ideas and methods in order to integrate sustainability into the research and educational fabric of the university, using the university as a living laboratory for sustainability research and education.
- *Water*: to facilitate the management of our water resources, and to help recommend policy on both the consumption of water and on the quality of storm water runoff from the UF campus.

Office of Sustainability

The mission of the Office of Sustainability is to make UF - in its operations, education, research, and outreach - a model of sustainability, integrating the goals of ecological restoration, economic development, and social equity.

In pursuing this mandate, the office encourages and facilitates the collaborative efforts of faculty, students, and staff to generate knowledge, acquire skills, develop values, and initiate practices that contribute to a sustainable, high quality of life on campus, in the state of Florida, and across the globe. The office supports faculty, students, and staff in assuming leadership to transform the university's fourteen guiding principles for sustainability into practices.

Implementation:

Energy and Buildings

In 2001, UF adopted the Leadership in Energy and Environmental Design (LEED) standards for all major new construction and renovation projects. In 2006, this commitment was re-confirmed and strengthened by requiring LEED-silver criteria for design and construction of all major new construction and renovation projects to deliver high performance and sustainable building design. To date, the campus boasts two Gold certified buildings, 8 certified buildings, and a number that are registered. Currently, the Facilities, Planning, and Construction Department, which administers this program, is beginning a pilot LEED program for existing buildings.

The Campus Historic District is listed on the National Register of Historic Places; the university is committed to preservation of the campus in a manner that meets its goals for energy efficiency.

Carbon Neutrality

UF completed its first greenhouse gas inventory and assessment in 2004. In October 2006, UF President J. Bernard Machen, was the first to sign the American College and University Presidents Climate Commitment, which committed UF to creating an action plan for becoming carbon neutral and to adding the impacts of air travel and commuting to its original greenhouse gas inventory. Since Dr. Machen's signing, 380 college and university presidents have added their signatures to the commitment.

Food and Dining

Since the early 1970's, the university has administered organic garden plots on campus. These 75 plots are cultivated by some 100 faculty, staff and students year round.

UF has worked with its dining services provider, ARAMARK/Gator Dining Services, to develop an action plan for implementing principles of sustainability into food service operations, including regional sourcing of food, green catering, waste management and diversion, energy conservation, transportation impacts, and sustainable procurement. Both dining halls on campus are now sourcing locally grown food and offer vegetarian and vegan options. Gator Dining Services is in the process of switching over all of its disposable service items to biodegradable and reduced waste options. The UF campus was also named one of the Top 10 Vegetarian Friendly Schools by PETA in 2006.

Parking and Transportation

The EPA has named UF one of the best workplaces for commuters among colleges and universities: a national list of innovative college and university employers committed to improving air quality, saving energy and reducing traffic congestion while improving quality of life for employees.

The university has committed to purchasing only hybrid or alternative fuel vehicles, whenever possible. The purchasing department maintains a listing of available vehicles to assist departments with choosing a vehicle for purchase. Additionally, the university stocks biodiesel and E85 ethanol for use in its fleet vehicles.

In 2007, Flexcar was introduced at UF. Eight low-emission vehicles, including 3 hybrids, are available for use by anyone in the UF community. Flexcar members pay \$5.50 an hour or \$55 a day for the vehicle, gas, insurance, maintenance, a reserved parking space, are allowed 150 free miles per trip, and receive roadside assistance and 24-hour customer service.

UF GreenRide, helps campus commuters find carpool partners by searching for other employees who live near them and have similar schedules and lifestyle preferences. It's easy to use and offers anonymity until the user decides to make his/her contacts formal. Users can create an account with a UF or Shands email address. Users even get to see a map of the general area showing locations of potential carpoolers near them. Registered

carpool members purchase their own annual carpool decals at about one quarter the cost of a regular faculty/staff decal.

UF students, faculty, and staff can ride the RTS bus system fare-free with a UF ID. Buses run 7 days a week with routes on campus and throughout the city of Gainesville. Many routes serving campus have buses that come every ten minutes or less. Several bus routes offer service after 5:00 PM, and “Later Gator” routes provide service in select areas beyond midnight. Many buses have bicycle racks so riders can take their bikes with them. Since 1998 when the unlimited bus pass for UF students became available, RTS ridership has risen from less than a million people per year to 8.6 million. Ridership continues to grow and is up 5% from the record 2006 level.

UF provides bicycle lanes on heavily traveled roads and bike racks for parking throughout campus. The University Police Department offers bicycle registration in order to aid in recovery in the case of bicycle theft. Student Government offers free bike repair on campus.

Land Use

The Campus Master Plan for 2005-2015 is the foundation for University of Florida facilities and land resources for those ten years. The Campus Master Plan outlines policies for responsible stewardship of land resources and sustainable development that supports the university’s mission.

In 2005 the university achieved designation as an Audubon International Cooperative Sanctuary. Audubon Cooperative Sanctuary Programs promote ecologically sound land management and the conservation of natural resources through education and certification programs that are tailored to a diversity of land uses.

UF maintains 31 conservation areas on campus, including The University of Florida Natural Area Teaching Laboratory (NATL) which is dedicated to teaching students and the public about ecology and biotic diversity. NATL consists of 60 acres in two contiguous tracts in the southwest corner of campus.

Purchasing

The university has instituted a *sustainable purchasing* policy to support the purchase of products that will minimize any negative environmental or societal impacts of university operations. UF recognizes that the purchasing decisions of its employees can make a difference in favor of environmental quality and the fair and equitable treatment of workers worldwide.

Waste

UF, through waste reduction and recycling initiatives, achieves a waste recovery rate of nearly 40%. Using a mixture of in-house and contracted resources, the University recycles over 6,500 tons of material annually. Additionally, UF strives to recycle at least 60% of its deconstruction debris.

To assure that equipment that could create environmental contamination is properly managed, UF established an *Electronics Reuse/Recycling Policy* as well as an accompanying step-by-step guide for disposal and recycling and a recovery program.

In order to reduce the impact of our football program a *Tail-gator* recycling program was initiated for home game days in 2006. The first year this volunteer-based program collected over 17,000 lbs of recyclables from 6 home games. This program continues this year, with support from fans and university staff.

Water

UF's three million gallon a day Water Reclamation Facility enabled the shift from well and potable water to reclaimed water for irrigation. Over 90% of the university's irrigation needs are met by the reclaimed water system.

Social Equity

The University of Florida has set aggressive hiring and retention goals to ensure the university reflects society's racial, ethnic and gender diversity. UF also strives to ensure that all personnel are rewarded with a livable wage and benefits, including benefit packages for spouses and domestic partners of university employees. The university seeks to ensure that contractors affiliated with the university meet or exceed the wage policy established for university employees. Since 2006, the university's fulltime graduate students have been offered health insurance.

Curriculum & Research

The University Provost has signaled her support of an academic focus on sustainability by creating a Provost's Fellowship in Sustainability, to be funded through her office. The Fellow will work with the administrative staff and faculty to connect UF's rich and diverse current course and research offerings to create a dedicated course of study in sustainability.

The Water Institute, formalized in 2006, brings together research efforts in more than 50 existing programs to improve understanding of the physical, chemical, and biological processes in aquatic systems. Its mission is to enhance understanding of how human activities and attitudes affect aquatic systems and to develop and promote the adoption of improved methodologies for water management and policy development.

The Florida Institute for Sustainable Energy works on energy efficient and environmentally sustainable technologies and practices, educating the public regarding energy and environmental technologies and trade-offs, and informing the larger policy debate on urgent, global issues of sustainable energy and environment. The institute strives to improve Florida and U.S. energy security by developing indigenous and environmentally sustainable energy resources while promoting energy policies that have a positive impact on Florida's unique environment.

Completed in 2004 as part of the Florida Museum of Natural History, The McGuire Butterfly Pavilion is home to the second largest collection of butterfly specimens in the

world and a world class exhibition of living butterflies. The museum's program teaches the public about the importance of these sentinel creatures in monitoring the quality of the planet's ecosystems. The research and collections mission of the McGuire Center for Lepidoptera and Biodiversity serves to focus the work of a number of scientists from across campus that seek to understand butterflies and to protect them from development threats in increasingly urbanized environments.

Beyond research efforts, talented and committed undergraduate students are the great strength and pride of the University of Florida. Over the past decade, committed faculty members have introduced students to sustainability in a variety of ways, including semester-long lecture series. The first several series, entitled *Conversations in Sustainability* fostered interest in and knowledge about sustainability. In 2005 the series was formalized as an interdisciplinary undergraduate class entitled *Facets of Sustainability*.

UF currently offers more than 100 courses that emphasize a thread of sustainability, some of which are organized into graduate or undergraduate concentrations, such as those in Building Construction, Environmental Engineering, and Architecture. With the guidance of the sustainability committee, the provost has commissioned a study of all existing coursework and degree offerings, with the goal of amplifying current strengths and finding new opportunities for student engagement in this important interdisciplinary effort.

Community Service and Outreach

Like other elements of the University of Florida's sustainability efforts, community outreach is simultaneously widespread and focused. Three avenues for outreach have proved most successful to date. First, local conferences, exhibits, performances, and storefront clinics are visible gateways which allow the larger local and state communities to engage UF's sustainability resources. Second, individual students work within the local community, providing service as part of coursework or in conjunction with extra-curricular activities. Third, academic programs provide enrichment to underserved portions of the local and state communities through grants and state appropriations. UF's agricultural extension service is a particularly powerful example of the latter outreach avenue. Examples of each type of outreach follow:

The university hosted a statewide conference on October 25-26, 2006 to coincide with National Campus Sustainability Day. The conference, titled *Campus and Community Sustainability: Sharing Best Practices and Visions for Florida's Future* provided opportunities for members of the state's higher education community to share best practices. The conference also provided an opportunity for establishing stronger relationships between institutions and their communities, and emphasized the role of higher education in creating a more sustainable future. With the goal of empowerment through distributed leadership, UF asked the Council for Sustainable Florida to take the lead in identifying a host campus for this annual statewide conference in following years. The 2007 conference will be held at Florida State University on October 14-16.

Service learning opportunities are a unique chance for students to engage through coursework, as individuals, or through clubs, to address issues of social equity, environmental protection, and economic development in the future, and to get involved in a real-world setting in which they observe and work to address some mix of these issues. A program to support service learning at UF exists within the Center for Leadership and Service, which helps introduce students to the value of community service and service learning opportunities, provides information to students on existing opportunities, and supports faculty in developing new service learning courses by connecting them to community contacts and current faculty teaching such courses. Students working through the Office of Service Learning provided over 175,000 hours of service in the Gainesville community during the past academic year.

The University of Florida is the state's land grant institution, and thus has the opportunity to provide outreach across the state. Each of the state's 60 counties has an extension office, and many provide education and research benefits that focus on sustainable agriculture, energy efficiency, and reduced impact landscaping. The Florida Yards and Neighborhoods Program, the Program for Resource Efficient Communities, and the Bushnell Center for Urban Sustainability are just a few examples of the sustainability-related education and support provided through extension. In addition, targeted educational outreach is promoted by, among others, the College of Education, which partners with under-performing local elementary schools, and the College of Engineering, which works through grant-funded faculty to introduce children from low income families to the fields of science and engineering.

Benefits:

The benefits accrued by the University of Florida as a result of the holistic integration of sustainable practices into institutional operations, research, education, and outreach are numerous.

Benefits measured in human resource terms include increased capacity to attract and retain faculty, students, and staff. Increasingly, top-level talent is attracted to employment and educational opportunities at institutions with which they have a shared values commitment. UF students are active in over fifteen grassroots clubs that support the integration of sustainability into their personal lives and areas of study. Surveys now show that students are including institutional sustainability in their enrollment decisions.

Fair wages and benefits have resulted in decreased employee turn-over at UF. This benefit has also been reported by the university's contract vendors, who have committed to the same wage and benefit packages for their full time employees.

UF has accrued long-term cost saving benefits from designing buildings that focus attention on energy efficiency, as well as the health and well-being of building occupants. Reclaimed water, energy efficiency retrofits, waste reduction and recycling, low-impact landscaping, and the conversion to a more efficient vehicle fleet are but a few examples of sustainable systems that provide UF with cost saving benefits.

In its commitment to creating an action plan for carbon neutrality, the University of Florida is strategically positioning itself to withstand a possible (some say eventual) carbon tax or carbon cap-and-trade scheme. Educational institutions must plan for all foreseeable resource scarcity, climate change, and market scenarios. The holistic integration of sustainability principles into campus operations, research, education, and outreach is a best practice with myriad benefits to our institution, our host city, society, and to future generations.