



**Florida Organics Recycling Center for Excellence (FORCE)**  
**DEP Contract: SW204**  
**Annual Report -Year 7**

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The Florida Organics Recycling Center for Excellence (FORCE) was created to centralize a facility capable of promoting and supporting focused, comprehensive, and integrated organics recycling throughout the State of Florida. The FORCE project commenced as a cooperative effort among Sumter County (County), the Department of Environmental Protection (DEP), and public/private researchers. The partnership between these entities was intended to offer an ideal combination of practical experience, research capability, and public education resources. FORCE was designed to provide the structure necessary to develop Florida's organics recycling infrastructure and to support it with research and development of processing and marketing technologies.

This report will describe the events and activities of the seventh year of the FORCE project. Some of the more significant highlights include 1) completion of research and demonstration projects by UF/IFAS School of Forestry, 2) the results of food waste and yard waste demonstration project, 3) the City of Tallahassee water conservation project, 4) the DEP Compost Rule Change meetings, 5) the FORCEMatters E-Newsletters, 6) the FORCE 1-800 phone number, 7) and the FORCE website.

The accomplishments conveyed below are grouped according to the six project activities:

- Design
- Construction
- Operation
- Market Development, Education, and Training
- Evaluation, Monitoring, and Testing
- Project Management

## **1.0 DESIGN**

### ***1.1 Engineering, Planning, Construction, and Inspection:***

Throughout Year 7, all of the necessary engineering work related to facility items has been continually reviewed by County and FORCE staff as well as Kessler Consulting, Inc. (KCI) to ensure proper planning and inspection of the FORCE site and relevant equipment as required by the DEP's Tampa office.

## ***1.2 Plan Certification and Permitting:***

The following regulatory documents are continually reviewed to meet the local DEP permit requirements and deadlines to operate the digester purchased through FORCE. KCI is currently responsible for overseeing Sumter County Solid Waste staff, PBS&J, The Colinas Group, and Test America to meet deadlines and maintain proper communication with the DEP Tampa office.

1. Composting Permit
2. MRF Permit
3. Model Consent Order

All of the Model Consent Order items have been completed.

FORCE staff submitted a Minor Permit Modification for a food and yard waste demonstration project at the Sumter County composting facility in Year 7. The DEP office replied with a Request for Additional Information on May 24, 2007. A response and revised permit application was submitted on June 19, 2007. The permit was approved on September 14, 2007 by the Southwest district DEP office. Additionally, meetings and conference calls were conducted regarding permitting options for food and yard waste composting demonstration event for Year 7, as well as the Sumter County MRF retrofit and operation proposal.

In late September 2007 it was decided that the demonstration project would be moved from Sumter County to Reedy Creek in Orlando, Florida. The reasons for the move and demonstration project details are described further in section 4.3.

## **2.0 CONSTRUCTION**

### ***2.1 Office Space Trailer:***

The County's Maintenance department repaired the office trailer's leaking roof and cleaned up the rain water that leaked into the kitchen area. There was no damage to the roof on the inside.

Janitorial services were canceled at the FORCE office trailer on May 7, 2007. Additionally, plans were made to disconnect all electricity to the FORCE office upon completion of the FORCE project.

### ***2.2 Demonstration Farm Site Preparation and Maintenance:***

County staff continued to mow and maintain the farm site as needed each quarter throughout the year.

#### ***UF/Dr. Rockwood's Forestry Project:***

Work continued on the FORCE demonstration site. See Section 4.3 – UF/Rockwood project update, which is occurring on the FORCE 40-acre farm.

### ***2.3 Installation and Maintenance of Digester:***

Throughout Year 7, County staff started the digester once a week for fifteen minutes as recommended in the long-term storage procedures from A-C Equipment Services, the manufacturer.

### ***2.4 Laboratory:***

Throughout Year 7, the laboratory was maintained by County staff. No purchases were made for the laboratory this year.

### ***2.5 Irrigation System and Maintenance:***

All charges for expenditures related to the irrigation system, maintenance and water usage (through a specific meter) for the forestry farm are billed here. No changes to the irrigation system have been made this year.

## **3.0 OPERATION**

### ***3.1 Process Technology Procurement and Testing:***

The research and review continued of relevant technology information for uploading of vendor information onto FORCE website as needed.

*Wright Environmental System (Grant Project):*  
See Section 4.3 – Wright Environmental System update.

*Earth Tub (Grant Project):*  
See Section 4.3 – Earth Tub update.

### ***3.2 Feedstock Procurement/Processing:***

There is no activity to report this year.

### ***3.3 Administrative Costs – Supplies and Travel:***

Various administrative office supplies/costs are charged to this line item, such as telephone services, satellite-internet access, cleaning services, utilities, etc. Most travel expenses are reported and billed in section 4.4.

## **4.0 MARKET DEVELOPMENT, EDUCATION, AND TRAINING**

#### **4.1 Educational Analysis, Outreach, and Website:**

##### *Newsletter:*

FORCE continued to offer a periodic e-newsletter. The newsletter was sent to approximately 311 members of the organics and recycling industry each quarter. This distribution list continues to grow as visitors to the new website can now request to be added to the FORCE electronic newsletter distribution list. The distribution list was updated to reflect current email addresses and add new recipients this year. *A copy of the updated distribution list is attached.*

Three electronic newsletters were published this year. They are as follows:

1. Fall 2007 E-Newsletter
2. Winter 2007 E-Newsletter
3. Spring 2008 E-Newsletter

These newsletters provided updates on upcoming events throughout the State, the status of FORCE grant projects and grant opportunities, website updates and pertinent organics recycling information. The goal is to provide timely, relevant and useful information as well as to solicit feedback from readers. Should the DEP like to include information in this newsletter, please contact Jessica DelGrosso at KCI. *A copy of all three electronic newsletters are attached.*

##### *Website:*

Various Florida organics reports were converted to PDF files and have and will continue to be uploaded on the FORCE website. Each year all quarterly and final contractual reports as well as the Research and Demonstration project reports were also uploaded. All of these items can be found on the project website. The Calendar of Events was updated regularly to reflect the latest in organics recycling news. To date the website has received approximately 11,427 hits. The email address on the website, [info@floridaforce.org](mailto:info@floridaforce.org), receives approximately ½ dozen emails per month regarding assistance on organics information. Inquiries are met with research information to the party requesting the organics information. During Year 7 FORCE staff received emails requesting information on the following subjects:

- Referral for a soil testing
- Watering mulch calculations
- Economics of food waste composting
- Recycling organics waste
- Obtaining composting presentation
- Composting in developments
- FORCE assisted organics projects
- Composting laboratories in Sri Lanka
- Compost processing
- Processing facilities
- Food waste composter
- Where to purchase compost

- Promoting organics workshops in Florida
- Using food waste to make fertilizer
- Identification of markets for horse manure and ferric sulfate
- Uploading information about the Dunedin *Compost Happens* workshop
- Using Land Clearing Debris in recycling or composting
- Request for FORCE to review an eco-fertilizer project plan

*FORCE 1-800 Number:*

The FORCE toll-free line was monitored by Christie Revenaugh, FORCE Specialist for Year 7. Calls continually came in throughout the year and FORCE staff provided answers, solutions, and/or direction as appropriate. On average, this toll-free number received limited calls per month.

*USCC Listserv:*

The USCC listserv was monitored by KCI regularly for items of relevance to the FORCE program. Additionally, industry journals and the Florida Clipping Services were monitored for articles of relevance to the project and appropriate articles were forwarded to FORCE staff, TAG members and industry representatives or uploaded on the project website.

*Industry Articles and Publications:*

FORCE staff monitored the local and regional newspapers to identify any articles that may have been written about the project. The newspapers being reviewed include the Sumter County Times, The Villages Daily Sun, The Ocala Star Banner, the Lake County Daily Commercial, and the Florida Clipping Services.

An article titled, “Florida Organics Recycling Community Begins Update to State Composting Regulations” was written, submitted to and published in BioCycle magazine. The article, written by FORCE Project Manager Miriam Zimms and colleague Peter Engel, was published in the June 2007 magazine. The article describes the challenges faced by composting facilities in Florida and provides an update on the review process. *A copy of the article is attached.*

The Recycle Florida Today (RFT) newsletter featured an article written by Miriam Zimms titled “Evaluation & Demo of Equipment that Separates Plastic Bags from Compost and Yard Waste.” The article provides an overview of the demonstration event and final testing results. *A copy of the newsletter is attached.*

*FORCE Brochure:*

FORCE brochures are available for distribution at organics related conferences and sessions.

**4.2 Technical Advisory Group (TAG) Committee Meetings:**

FORCE staff was in contact with various TAG members as needed, specifically, RFT Organics

committee representative Chris Snow, Hillsborough County, regarding organics education and the DEP Compost Rule Revision TAG meetings. Additionally, Josh Boan, Florida Department of Transportation (FDOT), was communicated with regarding the FDOT - Sumter project. Lastly, the DEP confirmed that there were no required Year 7 TAG meetings, therefore no TAG meetings were held this year.

#### ***4.3 Market Development:***

The FORCE team forwarded the DEP Innovative Grant Request for Proposal document and links to the DEP IG website to both Peter Jordan, Ocoee High School agriculture teacher, and to Our Vital Earth for use with the City of Apopka. Our Vital Earth and the City of Apopka submitted an Innovative Grant proposal for 2008/2009 that was ranked 19 out of 33 applicants.

The information below provides an update on the status of the Research & Demonstration projects funded through FORCE.

#### ***Research, Demonstration, Marketing, and Outreach Projects (Grant Projects):***

##### ***State Organics Regulatory Research Report: (KCI Researcher and Manager)***

The final report has been completed and uploaded onto the website during past quarters. The DEP, with assistance from the FORCE team, held an open meeting on May 9, 2007 at the Orange County Public Library to discuss the current compost rules and gather feedback from industry professionals on where the industry should be in 10 years. Invitations and meeting announcements were sent to the members of the FORCE distribution list as well as all of the Yard Waste Processing Facilities. *A copy of the email announcement is attached.*

As a result of the May 9, 2007 meeting it was agreed upon to proceed with a Technical Advisory Group (TAG) to develop rule language that addresses the registration provisions for other feedstock besides yard trash. While the entire regulation needs to be reviewed, the initial focus of the TAG will be on relaxing the permitting requirements for composting of the following materials/project types:

- Yard Trash (i.e. landscaping, land clearing, or clean wood materials)
- Pre-consumer vegetative wastes (i.e. vegetative food waste or other similar wastes such as generated by florists)
- Manure
- Pre-consumer animal by-products
- Research/development/pilot projects

The first TAG meeting was held in the DEP's Southwest District Office on July 12, 2007. A second TAG meeting was held on September 12, 2007. Agendas were prepared for both meetings and a formal notice was submitted by DEP to the Florida Administrative Weekly (FAW). The DEP asked

for written comments on the draft Compost Rule and the FORCE and RFT Organics Committee began preparing comments, which will be transmitted to the DEP next quarter. *A copy of the meeting announcements, FAW meeting notice, agenda, TAG member list, and map/hotel directions are attached.*

Additional TAG meetings were held in the DEP's Southwest District Office: July 12, 2007 and September 12, 2007. Agendas were prepared for both meetings and a formal notice was submitted by DEP to the Florida Administrative Weekly (FAW). Information about this workshop was distributed by FORCE staff to RFT, SWANA Florida Chapter, Tampa Matters, FORCE TAG, Monica Ozores-Hampton, Aziz Shiralipour and FORCE project team members. The DEP asked for written comments on the draft Compost Rule and the FORCE and RFT Organics Committee prepared and submitted comments to the DEP. FORCE staff reviewed the DEP's second draft rule changes for Chapter 62-709, F.A.C. and prepared comments for DEP staff. FORCE feedback was transmitted to DEP staff on March 31, 2008. Additionally, at the request of the DEP, FORCE and RFT Organics Committee also researched and provided the DEP with a written definition of pre-consumer food waste. *A copy of FORCE comments are attached.*

*UF-IFAS/Dr. Rockwood's Forestry Project:*

Dr. Rockwood and his associates continued to monitor the tree growth and responses from Sumter Compost. Verbal approval was granted upon receiving notice that the FORCE program was extended for Year 7 so that Dr. Rockwood could put together the necessary continuation documents. The extension approval letter to Dr. Rockwood was sent June 4, 2007 along with the amendment. The County received final outstanding travel documentation from UF grants office and brought closure to the outstanding invoice related travel payments where documentation was provided by IFAS. During Year 7, an associate of Dr. Rockwood gave a presentation on the project at the RFT conference held in June 2007. Additionally, Dr. Rockwood and /or his staff presented a presentation about the FORCE project at the 16<sup>th</sup> Annual USCC conference in February 2008. *A copy of the RFT presentation is attached.*

As the FORCE project comes to an end, Dr. Rockwood was given until April 15, 2008 to conclude his project and submit all final reimbursement requests and final report. Billing for any reimbursements are charged in this task line for Dr. Rockwood's project. *Copies of Dr. Rockwood's Forestry Project quarterly reports for the year and final report are attached.*

*Department of Transportation – Improved Markets for Beneficial Use of Storm Debris:*

FORCE project team continued to contribute towards this project as part of its obligation for in-kind and matching contributions.

To conclude the equipment demonstration held on January 25, 2007 *Yard Waste Processing Equipment Demonstration and Evaluation*, a letter report was prepared and transmitted to Sumter County and the FDOT on June 4, 2007. The letter report was uploaded onto the FORCE website. *A copy of the letter report is attached.*

Additionally, a survey of FDOT contractors was completed, using the online survey tool, Survey Monkey. The survey targeted both Florida Transportation Builders Association members and FDOT Asset Management Contractors. Survey results were analyzed and a letter report has been completed. A copy of the letter report is attached.

Telephone interviews with County solid waste and debris officials were completed in 2007 and the report completed in 2008. Additionally, a compost procurement and utilization report was drafted and completed. A copy of both reports are attached.

The project team requested and received copies of Disaster Debris Management Contracts from 14 targeted Florida Jurisdictions and is currently reviewing the contracts for regulatory and contractual barriers. A letter report and summary of the findings is being drafted.

| Shelter From the Storm – Preparing and Enhancing Markets for Future Disaster Debris Diversion: FORCE project team continued to contribute towards this project as part of its obligation for in-kind and matching contributions.

A detailed on-line survey was sent to Solid Waste Directors in each county in Florida on October 16, 2007. Of the 67 counties surveyed, twenty-nine counties responded. Substantial data was collected and analyzed on the storm debris management practices of counties throughout the State. A comprehensive letter report detailing the findings of this groundbreaking research was submitted to DEP on February 14, 2008. A copy of the survey instrument and letter report are attached.

The project team is developing plans to convene a workshop, in conjunction with SWANA's WasteCon in Tampa, FL on October 20-23, 2008, to highlight project findings and recommendations. Designed based on feedback from the comprehensive survey of Florida disaster debris managers conducted for this project, the workshop will go well-beyond traditional disaster debris management training courses and focus primarily on implementing tactical plans that maximize recovery and beneficial use of disaster debris. Through a series of intensive case studies and interactive discussions, the workshop will feature several best practices in storm debris management and beneficial use. Workshop attendees will receive a CD containing several new best practices guides, as well as many other take-away resources to maximize diversion and beneficial use of disaster debris. A copy of the workshop event information is attached.

| The project team also participated in online Disaster Debris Management Training Webinars hosted by American Society of Civil Engineers (ASCE). The Webinars were conducted on the following dates:

- Disaster Debris Management I: Disaster Debris Preparation, November 29, 2007
- Disaster Debris Management II: Disaster Debris Response, December 6, 2007
- Disaster Debris Management III: Disaster Debris Recovery, December 13, 2007

*Environmental Assessment of Products Derived from Yard Trash:*

KCI has been working on a project titled, *Environmental Assessment of Products Derived from*



*Florida Yard Trash.* This project was initiated as a follow-up to a specific request from the DEP to evaluate contamination in yard waste derived products. The project assessed the issue of contamination from three perspectives: a review of existing published literature, an inventory and environmental assessment of herbicides and pesticides utilized in Florida, and lab analyses performed by major compost and mulch handlers in Florida. All work was coordinated by KCI. The literature review was performed by Aziz Shiralipour.

The research and draft report were completed in Year 6. The final report has been completed and submitted to DEP during Year 7. The report was uploaded onto the FORCE website during the first quarter of Year 7. *A copy of the final report is attached.*

*City of Tallahassee Water Efficiency Project – USGBC LEED® Silver Certified Building:*

The City, with funding assistance through FORCE, obtained two Leadership in Energy and Environmental Design (LEED) credit points to obtain LEED building certification through the United States Green Building Council's (USGBC) certification program for utilizing water conservation and organics products during the renovation of their Solid Waste Services (SWS) building.

The City requested funding in the amount of \$15,000 from FORCE for water efficiency points under the City of Tallahassee's project to obtain a LEED silver certification for their SWS Building. These LEED points include the use of organic material, xeriscaping with native vegetation and no use of irrigation to conserve water usage. The project was initially expected to be completed by March 2007; however the City requested a grant extension until June 2007, which was granted by FORCE. The extension approval letter for the City of Tallahassee was mailed on May 9, 2007. The project was completed and the water conservation landscape was installed without irrigation. The City obtained LEED silver certification and a metal sign is located in the buildings entryway noting FORCE's contribution. The final report was uploaded onto the FORCE website in the second quarter of Year 7. *A copy of the final report and a photo of the sign is attached.*

*Organics Educational and BMP Listing for Website:*

This project has been completed.

*UF Local Extension, Sumter County - Earth Tub:*

This project has been completed.

*UF-Wright Environmental System/Dr. Charles Kibert:*

With DEP support, the project team decided not to extend this project. Sandra Howell, FORCE Co-Director, sent the University of Florida (Dr. Kibert) a letter stating the reasons (two year delay to begin the project) for the decision. The decision was made to donate the equipment to the University. The University was asked to submit an invoice for any expenditures and a final report. Bruce Welt, University of Florida (UF), followed up in an email and stated that donating the system without funds was a problem. His main focus at this time is to look at the intent of the project and

follow through. During the first quarter of Year 7, the system was operational but not running because they were waiting on finding training for staff to operate the system. FORCE encouraged them to contact the vendor, read the operating manual, and contact Alachua County, Waste Alternatives department, which had previously operated the system.

A second letter was sent from Ms. Howell on May 23, 2007 stating that there would be no extension and that Sumter County had neither received a final report nor any outstanding invoices, and a final report is still expected by the County. Mitch Kessler, FORCE Co-Director followed up with Mr. Welt by telephone, however, this conversation did not bring closure to the donation of the equipment. Mr. Welt notified Mr. Kessler that UF would bill FORCE/Sumter County monthly for the equipment if funds were not granted. Miriam Zimms of Kessler Consulting, Inc. provided Sally Palmi, Alachua County Recycling Coordinator with an update on the UF project during the RFT Annual 2007 conference. Copies of both letters sent to UF are attached.

During the second quarter of Year 7, a third letter was sent to Dr. Kibert from Ms. Howell on July 24, 2007 to bring closure to the donation of the WES equipment. The letter stated that the University's non-response is considered an acceptance of the equipment donation, Dr. Kibert did not respond to this letter. On August 3, 2007, Sumter County received an invoice from the University for \$6,709.65, well past the April 6, 2007 deadline. In addition, no backup documentation of expenses was provided. The contract between the University of Florida and Sumter County required both timely reporting and invoicing, neither of which occurred. As a result the County did not process an invoice for an expired project which ended in March 2007. The University had already been notified of the required documentation and procedures for payment. With DEP's support, a letter stating the County's position on the submitted invoice was sent to Dr. Kibert and the University on August 14, 2007, with no response back. Copies of both letters sent to UF are attached.

*Food Waste & Yard Waste Composting Research Project:*

The objective of this research and demonstration project is to compost food residue & yard trimmings; evaluate operations, environmental parameters, and compost quality; develop recommendations for the DEP; and share project results with the Florida composting community. The results of this project combined with other efforts undertaken by FORCE (e.g. the regulatory report and the yard waste contamination project) are intended to encourage change in current status quo of the Florida composting community.

As indicated in Section 1.2, the Minor Permit Modification was approved; however due to the difficulty in identifying a local food source for feedstock the project was moved from Sumter County to Reedy Creek's processing facility in Orlando, Florida. The demonstration project team conducted in-depth planning and event coordination and preliminary research was performed, such as literature review of nation wide food and yard waste research projects and lab testing cost analysis.

The food and yard waste demonstration project was kicked-off on October 29, 2007 at Reedy Creek's composting processing facility in Orlando, Florida. A total of four windrow piles using two

3:1 ratios and two 4:1 ratios of food and yard waste mix were constructed. The supply of food and yard waste was provided by Reedy Creek. Samples of raw compost were taken and sent to Test America and Woods End lab for testing. Reedy Creek staff was responsible for daily temperature monitoring and scheduled turnings. An odor analysis was also conducted on raw compost piles. Further leachate testing and odor analysis was conducted on November 7, 2007. End of active (45 days) composting samples were taken and sent to both previously indicated labs on December 11, 2007. Finished screened compost samples were taken and sent for lab analysis on March 6, 2008. The demonstration project concluded on March 31, 2008 and a letter report featuring results and recommendations has been completed. A copy of the final report is attached.

#### **4.4. Conferences and Meetings**

Project Manager, Miriam Zimms, gave a presentation at the RFT conference held in early June 2007. The presentation, titled “FORCE Review and Status” gave an update on recent FORCE projects. A copy of the presentation and conference agenda are attached.

FORCE also prepared a presentation, given by Chris Snow, RFT Organics Chair, at the 2008 Recycle Florida Today Issues Forum and SWANA Sunshine Chapter Winter Conference, held in St. Augustine, Florida on January 24, 2008. A copy of the presentation is attached.

As noted in Section 4.3, FORCE Directors and TAG members assisted the DEP in developing the Organics Recyclers Regulatory Review Public Meeting agenda and workshop held in Orlando on May 9, 2007. The FORCE team members also participated in the DEP TAG Compost Rule Revisions meetings held in July, September, and November 2007.

FORCE project team members participated in an EPA online composting seminar on October 18, 2007.

#### **4.5 Demonstration Farm Operations**

See section: 4.3 – UF/Rockwood project update, which is occurring on the FORCE 40-acre farm.

## **5.0 EVALUATION, MONITORING, AND TESTING**

### **5.1 Scientific Advisory Council (SAC) Protocol Development:**

No activity to report this year.

### **5.2 Feedstock and Products Testing:**

No activity to report this year.

### **5.3 Environmental Monitoring:**

No activity to report this year.

## **6.0 PROJECT MANAGEMENT**

Ongoing communication between the DEP, Sumter County and KCI has determined that the FORCE website, Newsletter, and 1-800 number would be continued for three years past the FORCE completion date in Year 7 or until all remaining funds are expended, whichever is earlier. The contractual paperwork for the limited scope activity was initiated in Year 7.

### **6.1 Personnel:**

The County felt that the FORCE project team had the goals and management of the FORCE objectives on track in Year 7 with a working combination of team players that understand the County's commitment to organics and its commitment to the requirements of the DEP contract and project objectives for the State. Appropriate Sumter County FORCE staff continued to be paid through FORCE funds for time spent on FORCE activities. KCI continued to provide support to County staff.

Christie Revenaugh replaced Stacie Stokes as the new FORCE Specialist for Year 7. Ms. Stokes continued to work with Ms. Revenaugh and KCI to bring closure to outstanding items in Year 6. Ms. Stokes needed to resume her position and duties at the Sumter County solid waste facility due to staffing and budget cuts. KCI provided technical support to aid in this transition.

### **6.2 Administrative Fees – Indirect Costs:**

No activity to report this year.

### **6.3 Annual Work Plans and Budgets:**

All four quarterly reports were prepared and transmitted to the DEP. The Year 6 annual report and all corresponding attachments were prepared and transmitted to the DEP during the first quarter of Year 7. Lastly, the Year 7 annual report was completed.

### **6.4 Project Coordination and Administration:**

Mitch Kessler of KCI is the project Co-Director along with Sandra Howell. KCI continued to play its role as project technical consultant and worked with the County on every task, where applicable. In addition, KCI provided contractual support and management in conjunction with County staff. In addition, KCI trained the FORCE Specialist on all aspects of the project including contractual items, invoicing, R&D project coordination, database maintenance, and administration.

The FORCE project team convened by telephone conferencing or meetings as needed in Year 7 to discuss all facets of the project.

The FORCE project team prepared and researched information for the Year 8 FORCE Innovative Grant Proposal. The County submitted the proposal to the DEP on August 30, 2007 to meet the September 4, 2007 deadline. The proposal was ranked 28 out of 33 applicants. *A copy of the grant proposal is attached.*