Overview: During the 2000-2001 Academic year, Francis Marion University was awarded two grants dealing with recycling effort and student participation in recycling on campus (Honors Waste Stream Audit by Lisa Pike and Recycling Pilot Study by Tim Shannon). The Waste Stream Audit turned into a major project for the Spring 2001 semester. The money from this grant was used in conjunction with Tim Shannon’s recycling grant (his was approved for a pilot study to determine the feasibility of recycling on campus). Tim and I supervised 3 students enrolled in a Biology 497 (special topics) course and 2 work-study students (funded by the SUI Fellow grant). The students designed and implemented the project over the course of the semester. This included the purchase of recycling bins and other materials, as well as the production of recycling flyers (education).

The purchased items were distributed to the student apartments in such as way as to turn the project into a scientific experiment. Out of our 13 apartment buildings, and 120 apartments, approximately 40 apartments were given nothing, 40 apartments received bins only and 40 apartments received bins as well as educational flyers, posters, and presentations on why recycling is important. The students collected and weighed trash and recyclables from the apartments twice weekly for 6 weeks. They ran ANOVA and paired t-tests to study differences and found that the apartments with recycling bins reduced the amount of trash they threw into the dumpster by 30%. They also found that the apartments receiving education had a higher rate of recycling than the apartments with just the recycling bins alone.

The students presented their findings at several conferences including the National Honors Conference in Nashville, Tennessee (paid for by FMU), the South Carolina Academy of Sciences in Conway and the Tri Beta District meeting in New Orleans (the last two paid for by FMU and the two SUI grants (Lisa’s Fellow Grant and Tim’s Recycling Grant).

The students also prepared a poster describing their project and results and mounted it in the biology department hallway after presenting it at the FMU research fair in April. Please see attached Press Release (for the Patriot Newspaper, the student newspaper, published April 2001) for a detailed description of the project.

With the money remaining in Tim Shannon’s and Lisa Pike’s accounts, more ten gallon recycling bins were be bought so that each apartment and dorm might receive one, to encourage separation of recyclables from trash right from the start. We also utilized the leftover grant money from other FMU SUI grants to purchase additional tote bins for recycling. A work-study student painted the appropriate signs on the bins and in January 2002 they were distributed to students who requested them. Although we wanted to give a bin to every dorm room / apartment there was a problem with logistics and the housing office. Housing office officials were concerned about charging a fee for missing bins at the end of the year. Because there was one bin per room, not one bin per student, the concern was over the fact that as students changed rooms and / or roommates during the semester the bin might move from room to room as well, and get lost, leaving the office with the problem of which student to charge for a missing bin. To try to get around this problem, we signed out bins to individual students for their use in their dorms / apartments. The bins will be returned at the end of every school year, stored over the summer, and signed out again each Fall. A separate budget was also set up for the collection of the “lost / damaged bin” fee, which will allow for replacement / cleaning of bins after the school year ends.

There was also a problem with physical plant coordinators involving recycling glass. Since recycling hasn’t and probably won’t make the university any money, and because there is currently no market for glass and because glass is heavy and, when broken, dangerous to handle, the physical plant coordinator asked that for the first year at least we leave glass out of our recycling efforts. The coordinator did allow
us to speak with vendors and remove glass from vending machines. Grant money was also spent on printing a brochure for students and faculty describing why and how to recycle on campus, which was distributed with the bins and which will become a part of orientation materials. This brochure includes the locations of 4 large Fibrex recycling centers purchased through a DHEC Collegiate Recycling Grant. A web page on how to recycle at FMU has been completed and put on the FMU web server at http://alpha1.fmarion.edu/~sui/recyclefmu.html.

The recycling project was publicized on NPR as well as the local Florence news channel and in the student newspaper. The project was also written up in this year’s edition of NWF’s Campus Ecology yearbook (http://www.nwf.org/campusecology/index.html) and won the Carolina Recycling Association’s Spotlight Award. All in all, the project went very well. The students doing the study were excited and enthusiastic, and learned about sustainability issues as well as the scientific method. In addition, the students in the apartments where the study was done were very vocal in their concern about recycling and the need for it on campus. FMU students now have the opportunity to recycle on campus and the recycling program is highlighted in orientation materials, on the FMU web page and in the biology department.

Attachments: Press Release, Recycling Brochure, Web Page, Student Powerpoint Presentation,
A Green Victory!
(The Patriot Newspaper, April 2001)

Recycling is coming to FMU! One major environmental problem that most states face is the fact that the landfills are rapidly filling up, and it is increasingly difficult to open a new one. One way to extend the life of a landfill is to decrease the amount of trash that goes in - and a great way to achieve this is by recycling. So, recycling makes monetary sense - and it's a good environmental practice as well. Recycling saves energy, time, money and reduces the amount of air and water pollution. For example, a ton of paper made from 100% wastepaper, instead of virgin fiber, saves 17 trees, 7,000 gallons of water and 60 pounds of air-polluting effluents, 4100kwh of energy, three cubic yards of landfill space and taxpayer dollars which would otherwise be used for waste-disposal costs. Aluminum can recycling saves 95% of the energy needed to make aluminum from bauxite ore. Energy savings in 1993 were enough to light a city the size Pittsburgh for 6 years. California blackouts? Not a problem.....

At Francis Marion, we realize that practices at the classroom and academic office level on college and university campuses offer many opportunities for environmental action. These opportunities are also a way to teach by example, a very effective teaching method. This past year a special topics course was created to infuse the recycling program at FMU with new energy. This project was student designed and utilized student workers and used the campus as a laboratory. Assistant Professor Lisa Pike created this course, and received several grants to fund the project / equipment. Assistant Professor Tim Shannon and Kay Lawrimore, N.B. Baroody Professor of Marketing also mentored the students involved in the recycling study, and helped to obtain grant money.

In an attempt to encourage students to recycle, a course was designed to test whether education about recycling and opportunities for recycling had an impact on student participation in the campus recycling effort. The project involved research, experimental design, data collection and interpretation, marketing the recycling concept, presentation of results at national conferences and a term paper. And, collecting trash and recyclables twice a week for 7 weeks.

The project design entailed 13 apartment blocks, with 8 four - person apartments in each. The buildings were divided into 3 groups. Group A (4 blocks) received weekly education about recycling as well as individual recycling bins. Group B (4 blocks) received the bins only and Group C (5 blocks), received nothing other than the introductory notice explaining the experiment. Trash and recycled items were collected weekly and weighed. Block A received weekly education - a marketing scheme designed to encourage recycling.

Results show that students living in campus apartments can and will significantly reduce their waste stream when given recycling bins and some education about recycling. Groups A and B, who received recycling bins in addition to trash cans (“opportunity”) reduced their waste stream by approximately 30% when they recycled; furthermore ANOVA tests showed that the presence of recycling education did result in significantly more recycling. The students also made several recommendations regarding university recycling policy. These include: better placement of recycling bins (next to trash cans so that there is a choice), better storage of collected recyclables, a student recycling committee / recycling coordinator, better information about campus recycling and recycling at campus functions (such as orientation, and the annual arts alive festival). Media exposure was an added bonus as students were interviewed by the press and presented their research at the Tri-Beta meeting in New Orleans. Ms. Pike is authoring a web page and brochure detailing how to recycle on the FMU campus; it will be completed by the end of the Fall semester 2001.

And look for more recycling in the student housing areas soon! This year, thanks to grants from SC DHEC (Department of Health and Environmental Control) and SUI (Sustainable Universities
Initiative) the University has purchased 4 large recycling centers and over 400 ten gallon tote bins for dorm / apartment rooms. Students will be able to sign out a bin this January, for free, and use it to separate their recyclables from their trash. When the recycling container is full, students will dump it at the recycling center.

**How:** Sign up for your Free Recycling Bin at the Housing Office or as you exit the Dining Hall on January 7th - 10th. *If you do not return the bin at the end of the semester there will be a $15 charge.

**When:** January 7th - 10th, sign out a personal recycling bin as you exit the dining hall, between 4:00 and 6:00 pm. You may also sign one out from the Housing Office during daytime hours.

**What:** Save your Aluminum and Steel / Tin Cans, and Plastic Drink Bottles and any Plastics labeled #1 or #2. When your Bin is Full, Take it to the nearest Recycling Center and empty it! It's Easy to be Green!

* We Don't Recycle glass, plastic wrap, tin foil, paper towels, napkins, paper bags, Styrofoam, plastic straws, cereal boxes or candy wrappers

* Bins were provided by SC Department of Natural Resources, Waste Minimization/Recycling Office & the Sustainable Universities Initiative

**Where:** For Cans and Plastics, there are 3 Recycling Centers near the Student Apartments / Dorms and 1 in the Founders Hall Breezeway. Paper Recycling is found in the main offices in all Academic Buildings & Library & Computer Center & Housing Office. Look for the Blue Bins!