

Sustainable Universities Initiative
USCA Joint Operations and Academics Project
Final report, May 12, 2004

Submitted by
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The goals of the USCA recycling initiative are to increase awareness about the benefits of recycling and inspire action by the campus community to make conscious, positive choices to preserve the environment by increasing the amount of mixed paper, cardboard, cans, and bottles recycled campus wide. These goals are being addressed by a fully coordinated project joining operations with academic efforts to educate students about recycling so that they will choose to participate in recycling efforts.

This pilot project was divided initially into six steps, all of which have been implemented. A seventh step was added as explained below.

Step 1: Fully incorporate a field trip to the Aiken County sorting, recycling collection, and landfill sites into Environmental Earth Science (AGLY 103) every semester, including summers. Both professors who teach this course (Karin L. Willoughby and Dr. William Pirkle) have agreed to do this and implemented the field trip in Summer I, 2003. This 3 to 4 hour field trip is led by Bill Anderson, Director of Aiken County Recycling, and it proved very effective in getting students to realize the scope of the problem. Sample comment from a student in his lab report on the field trip: "The trip to the landfill was eye opening to say the least. My prior ideas of landfills were dirty places that weren't very well planned, so this trip definitely opened my eyes to what is really going on. The 1st thing that surprised me was the organization and thought that goes into waste disposal. ... Another thing that changed my prior stereotype was the dedication of the site to recycling. There was so much material waiting to be recycled."

Step 2: Change the required team presentation topic used in AGLY 103 to "The Three R's". This was also initiated in Summer I, 2003. Karin L. Willoughby taught the four credit course. Emphasis was placed on **both** researching the need for and effectiveness of doing recycling **and** on presenting the information in a way that would generate interest in and willingness to participate among the general campus population. Enclosed is the assignment sheet used to inform students of the project goals and requirements from the most recent class. Karin L. Willoughby, Christine Inman Norris (Environmental Health and Safety Manager, Department of Operations) and Dr. Pirkle attended the presentations, summer, fall and spring. Presentations emphasized games to play using recycling facts, video-taped commercials and newscasts, skits and posters. Dr. Pirkle was pleased with the general quality of the reports compared to other topics that had been assigned in previous years and readily agreed to incorporate this topic in the future. The following are comments made by some of the 93 participating students on the self-evaluation reports that were required

as part of the assignment. In addition, about 60 other students in Physical Geology and Integrated Earth Science were offered extra credit to view the presentations and some of their comments are listed as well.

Summer comments:

“Doing this assignment was a fun learning experience. From it, I learned the importance of conserving and protecting our earth and its resources so that those resources may be available in the near future.”

“In college we are learning things that we hope to remember for the rest of our lives so why not try to get us in the habit of recycling.”

“I enjoyed making the [promote recycling] commercial and everyone I showed it to has liked it also. This was not one of my easiest group projects, but I know it turned out the way I had envisioned.”

“Before our group met I was constantly trying to think of an innovative way to get people excited about recycling. Before taking this class I would not have cared less about recycling. However, the more I learned, the more I feel the need to recycle and gain the interest of others in this area. ... It has been a fabulous experience...and I hope that I can raise my children to recycle as it were second nature.”

“I would first like to say that I enjoyed this group project. Most of my group are education majors and we are all on a budget. We worry all the time if we will have enough materials in our classes for our students. I thought this would be a wonderful opportunity to see if we could come up with a curriculum that is based on [re]used materials.” (Please note that the last three comments show that the assignment reaches more people than those enrolled in class.)

Fall comments:

“Knowing what I know now from the assignment ...makes me want to recycle everything I can and it makes me want to spread the not so new news to everyone who doesn't know about recycling programs.”

“My behavior has definitely changed; I now know which products are recyclable and I will recycle them.”

“I would definitely recommend using this assignment again; not only do the students who do the assignment learn more and become more aware of recycling matters, but so do the students who come to the presentation[s].”

“Yes (I recommend using this assignment again), because it forces the students to be more involved and prepared in their material....the assignment

encourages more interaction with others instead of regurgitating material in front of the class.”

“Hands-on projects enhance the learning process and I always remember information from projects rather than [from] constant lectures.”

Spring comments: A) from presenters:

“You tricked us! Not only did we have to research the topic, but we had to learn about it. This project made us teach ourselves about recycling and what we should do.”

“This assignment has taught me the importance of recycling and also the consequences we face if we do not recycle. ... This assignment also taught me that there must be a group effort in order for a recycling program to be successful.”

“Even students who do not want to do the project or feel they will not learn anything new about protecting the environment will get some knowledge out of it. You can’t help but learn something new.”

“I thought the team projects went well. I think a lot more people came by and looked than I thought would.”

B) from visitors to the projects:

“...I was really interested in their project, because they were really creative. (on recycling efforts that could be made at Pacer Downs) Their poster board was designed as unique[ly] as their video was. I could tell this project was very time-consuming and it showed they put a lot of time into it.”

“My favorite one [poster] was Keep America Beautiful, because there was a short video available. This video talked about the benefits of recycling and also some easy methods of recycling. I did not realize how simple recycling can be if you keep the bins organized.”

“The girls responsible for this poster (on pollution such as littering with cigarette butts and contaminating ground water with motor oil) succeeded in their attempt to inform students here at USCA of recycling, especially since they focused on typical items students use every day, and the hazards of their littering.”

The above comments are only samples of many duplicative remarks. The only negatives brought up by students were:

1) length of time required of them to be in the Student Activities Building (ten students), which we partially addressed from fall to spring by changing from all posters required at the same time from 10 to 2, to requiring each lab section to

be responsible for a 2 hour time block from 10-noon, noon to 2 and 2 to 4. However, we find that few students come by before 11 or after 2:30, so we will try again to keep presentation time to 2 hours, but have all poster groups within the productive time frame of 11-2:30 in the fall.

2) Six students wanted more “structure” to the assignment, but most students were very happy to be able to be creative in solving the assignment parameters for themselves. Professors on this project currently consider that a little uncertainty in an assignment may be a helpful stressor to those students who don’t enjoy thinking and we have no plans to make the assignment more specific at this time.

3) The least common complaint (3 students) was that the students involved already knew everything about recycling and didn’t feel the project was worth their time. We consider that in this case, the needs of the many outweigh the needs of the few. Also, those who were already well aware of recycling were able to take leadership roles on their teams. Therefore, we don’t plan to change the project in any substantial way to accommodate these students, although we will try to come up with an “extra” that will be challenging to those who already know it all.

Step 3: Nick Kean, a Communications major, was hired as the student recycling coordinator through competitive application and interviews. His tasks were as follows:

A) To assess the present use of the recycling containers on campus in coordination with the Department of Operations. Once the current situation was understood about the use of recycling containers, Operations moved those containers that are not being effectively used. Nick then developed signage to improve correct sorting of materials placed in the containers and to encourage use of the recycling containers.

B) To develop contacts with student organizations on campus to get student volunteers to help with the public awareness weeks USCA will hold in November and April to coincide with America Recycles Day and Earth Day. He worked to coordinate the Nike Reuse-a-Shoe recycling project chosen as a campus wide endeavor for the November recycling awareness week.

C) To develop a monthly Recycling newsletter on campus that is distributed via email. The 1st letter went out in October. Copies of the newsletters accompany this report.

D) To research and prepare two brochures. In January, a second student Joe Pettit, a Communications major and geology minor, was hired. Nick could not work as many hours, so additional help was needed. In addition to the work listed above, each student developed a brochure on recycling issues. These two brochures were handed out during Earth Week and will be made available to

students, faculty and staff. Samples of the brochures are included with this report.

Step 4: November Recycling Awareness Week was held. Students in AGLY 103 gave their presentations in the Student Activities Center. Details are given below.

Step 5: In Spring 2004, AGLY 103 included an On Campus Recycling lab where students in the class worked with Housekeeping on recycling projects. Students helped clean up the parking lots, helped transport materials to be recycled from classroom buildings to the recycling containers and worked with the North Augusta recycling center to separate recyclable materials. This lab was one of thirteen labs in the course, twelve of which were required. We made this arrangement to avoid creating a problem for any student whose disabilities would make the on campus recycling lab difficult or impossible to do. Twenty out of thirty-eight students chose to do the recycling lab. Christine created monthly calendars for February through April with listed times and tasks for the students to choose. A syllabus is included that shows the recycling lab assignment. Two typical student comments: "I didn't realize the students on this campus are so trashy." "Until I did this lab (picking up paper from the computer labs on Spring Break), I didn't realize how much stuff there was on campus that could be recycled."

Step 6: A public awareness week was held in April to coordinate with Earth Day. Teams of students in AGLY 103 provided presentations in the Student Activities building on April 21. In addition to the recycling programs for the week, our student worker, Nick Kean, contacted several car dealerships in the area to determine which dealerships had hybrid cars available for demonstration. The only dealership in the area that had available cars to show was Honda Cars of Aiken. John Kelly, sales associate for Honda Cars of Aiken, brought two Honda Civic hybrids to campus on Wednesday and placed them outside the Student Activities Center. Information about hybrid cars had been placed in the April recycling newsletter that was sent to the campus community, and students, faculty, and staff were encouraged to stop by the cars, take a look, and ask any questions they had regarding the hybrid cars. Additional details are given below.

Added Step 7: Since neither student was able to attend the Carolinas Recycling Conference in March, it was decided that we needed to get student input on how to spend the money that had been set aside for the conference as follows:

Four major recycling obstacles or problems were presented to students, and the students were allowed to vote on how they would like to spend the money. The first option presented to the students was a lack of recycling at University Housing. Currently, there is no recycling program at University housing, and this option would provide containers to every apartment plus large containers to place at drop off sites to collect recycled materials.

The second option presented to the students involves the lack of recycling at University dining areas. This option would provide recycling containers to collect plastic bottles, aluminum cans, and trash in University dining areas.

The third option presented to the students addressed the need for additional recycling containers in academic buildings. This option would provide one indoor Reclaim Recycling Center identical to that in our Humanities & Social Sciences Building. It is the goal of the Operations to eventually have these containers in all buildings on campus.

Finally, the last option presented to the students addressed the lack of storage for the newly added materials to the program, plastic bottles and aluminum cans. This option would provide one Protainer Mini-Cycler with 2 compartments each with its own 100 gallon cart with wheels. This would allow for separation of drink bottles and cans from the mixed paper. We are currently placing the cans and bottles in bags in the container with the mixed paper. However, we are having problems with the bags breaking and the residual liquid from the cans and bottles are contaminating the paper collection.

A PowerPoint presentation describing each problem with its own solution for each of the problem identified above was presented to the students. We had a great deal of class participation in discussing the pros and cons of each identified solution to the problems. After the presentation and class discussion, the students were asked to vote for the option they would like to see implemented. The votes were tallied, and 52% of the class voted for the fourth option. Students felt that it was most important to make sure that the current efforts in recycling are optimized, before expanding recycling efforts. Therefore, we have ordered the Protainer Mini-Cycler and expect to see it in place in by the beginning of June. The remaining votes were split evenly between the remaining options. A copy of the voting form is included as is a print out of the power point presentation. The Protainer Mini-Cycler along with shipping totals approximately \$1012.00. (The shipping cost can vary a bit depending on the price of gasoline at the time the container is to be shipped.)

Since a few students feel very strongly that the Pacer dorms should start recycling, they are trying to start a recycling organization on campus that will be active in the dorms.

Details of the current and planned Department of Operations efforts follow: All recycled materials have been and will continue to be picked up by the Aiken County Recycling Program. We are now collecting mixed paper, corrugated cardboard, aluminum cans, and plastic bottles on campus, and all materials are being sent to the Aiken County recycling program. We are continuing to see an interest in recycling on campus, and we have seen significant increases in the results of our efforts to recycle these materials over the past year. However, we still have room for improvement with our

recycling program on campus. Because we have added new materials to our recycling programs, we have had new issues to face. We lack sufficient storage for the cans and plastics we recycle on campus, but with the addition of the new container we hope to alleviate those problems. Remaining improvements we could make would be to increase the number of recycling containers all over campus and increase the number of recycling pickups we have. It is the goal of the Department of Operations on campus to have indoor recycling centers in each academic building on campus. By increasing the number of containers on campus, we could ultimately increase the number of recycling pickups which should in turn reduce the number of trash pickups, therefore saving the university money. The following numbers show last year and the current status of our increase in recycling efforts on campus. We do not currently have a way to measure the amount of aluminum cans and plastic bottles being recycled.

Cardboard (tons)
Numbers are from
July-April

02-03 11.39
03-04 12.78

Mixed Paper (tons)
Numbers are from
July-April

02-03 8.56
03-04 24.91

To meet our goal of increasing recycling awareness campus wide, not just in one course, we used the educational aspect of this pilot program by having the course assignment of team presentations to be held in the Student Activities center. This has raised the awareness of the benefits of recycling on campus as well as in people's homes. USCA sponsored the following events:

- USCA RAW (USCA Recycling Awareness Week) during the week of November 10th-15th in conjunction with America Recycles Day

In an effort to support America Recycles Day, USCA joined forces with the Greenville County Division of Solid Waste, Nike, and the National Recycling Coalition to participate in the Nike "Reuse-a-shoe" program. Old athletic shoes were collected that will eventually be ground and made into athletic playing surfaces such as basketball courts, volleyball courts, and tennis courts. There were designated drop off sites in various buildings around campus that were checked daily. Flyers were posted at those sites and all over campus providing details of the drop off sites and type of shoes that were accepted. In addition to the drop off locations, we had a booth in the SAC lobby on Friday, November 14th from 10am-2pm where shoes were also accepted.

In addition to the booth in the Student Activities Center, students of Dr. William Pirkle's AGLY 103 class presented posters with the general theme "Why should we recycle; how can we recycle?" The purpose of the poster presentations was to get students involved in recycling by researching the "Three R's" (Reduce, Reuse, and Recycle) and developing a team effort to engage the

public in learning the information collected. Representatives from each student team were present from 10am - 2pm to explain the presentation and engage in discussion with exhibit visitors.

We encouraged all faculty, staff, and students to stop by and view the posters and participate in the Reuse-a-shoe program. In addition, we also encouraged the campus community to commit to support a recycling program by completing the America Recycles Day Challenge Card from the SC Department of Health and Environmental Control. Cards were requested via email and were also handed out at the presentations in the Student Activities Center.

- Earth Week April 19- 23 - "Clean and Green...That's the way we like it!"

Monday, April 19, and Tuesday, April 20, were "Clean Out Your Office" Days. These days were for anyone on campus that had any office materials that needed to be thrown away and that were recyclable (paper, journals, magazines, books, etc.), but haven't had time to clean up recently. People who wanted to participate were asked to email Christine Norris and have all their recyclable materials outside their offices by 1pm of the day designated for their building. Student recyclers came by each afternoon to remove the recycled materials for them. Trash bags or cardboard boxes were provided to assist with the clean up.

On Wednesday, April 21, students gave their recycling presentations at the Student Activities Center from 10 am to 4 pm in the main Lobby. Two Honda hybrid cars were available immediately in front of the building.

For Thursday, we asked people (via the newsletter) to participate in Earth Day Energy Day and to minimize energy use. The Student Government Association supported Earth Week by each day wrapping the equivalent number of trees used up every day in paper from the computer labs. A newspaper clipping about this project accompanies this report.

We plan for the recycling program at USCA to continue to grow as we begin to educate our ever changing campus community. Given the large numbers of students, faculty, and staff, the possibilities for recycling are endless. Support continues from both the Department of Operations and from the Biology and Geology Department as each element of the pilot project was deemed successful and will be continued in the future. In addition to strongly positive comments from the students involved, USCA's efforts have earned the university state recognition. Leadership in environmental stewardship was recognized by the South Carolina Department of Health and Environmental Control, earning USCA state honors for the **OUTSTANDING UNIVERSITY WASTE REDUCTION/ RECYCLING PROGRAM**. Selection criteria for the award

included measurable growth in recycling programs, innovative approach, leadership, and community education.

In summary, we think the best way to express the success of this project is in the words of one of our students: “My personal opinion about the team presentation project was excellent. I thought the project was the most fun part of the class. It allowed me to express my ideas about recycling, reduce and reuse. It also allowed me to be creative with the project. It was very much a worthwhile endeavor. This project taught me so much more about recycling and the different recycling projects around campus and county. It also felt good to be part of the new project (the one the class voted on) for bringing new recycling bins to campus. It was fun on the day of the presentation to look at everyone’s ideas and how creative they had been with their projects. I like this project so much because it allowed you to work as a team. I mean no one person could have done the project alone. And it showed that when you come together as a team a lot can get done. Because I loved working with my team and enjoyed putting together a poster and a video, and teaching my fellow students that recycling is important, I highly recommend doing this assignment again. It is amazing how much new knowledge you will gain from it.”