South Carolina Sustainable Universities Initiative

Year 4 Annual Report

(January 1, 2002 – December 31, 2002)
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Overview

SUI continued to build on past successes this year. We saw increasing evidence of institutionalization and adoption of our ideas by the larger community. We each use different metaphors for how our efforts influence others. Those with a medical bent refer to “infecting” them, while others think of our approach as being like fungus spreading throughout the forest—moving unseen under the leaves, popping up in unexpected places, and traceable to the original only by those “in the know.” Either way, we are beginning to see change.

We have come to realize that the biggest factor in predicting success is the set of characteristics that a “champion” brings to the effort. The effective champions may not be the most knowledgeable about environmental matters, but they do understand the process of change and are good at bringing others into a project and sharing credit. Our role is to inspire, assist with ideas, information, and funding in greater or lesser degrees, and help prospective champions understand how the change will benefit both the environment and their organization.

As we look toward the end of our five-year grant period, we are amazed both by how much has been accomplished and how much is yet to be done. This leaves us feeling proud and a bit humbled by the task remaining.

Distractions:

State budget woes have cast a shadow over our efforts for the past two years. The universities have sustained total budget cuts of approximately 30% over the last two years, with an additional 10% beginning in July 2003. In some cases, this leads faculty and administrators to be more hesitant to try new ideas, even when they might save money in the long run. A university-wide reorganization effort at Clemson has energized some, and left others enervated. At USC, an external review of the School of the Environment distracted many of our collaborators.

Highlights:

During 2002, we had several exciting developments that drew attention to SUI, and more importantly, to our goals. For example:

- Our January “celebratory event” was successful in accomplishing multiple goals; it brought business deans and vice presidents together with progressive business leaders, allowed SUI participants to hear each others’ successes, created a forum for 13 college and university presidents to sign the SUI statement of purpose, and gave us the opportunity to share our success with the Governor and legislators.
- “Sustainable Environment” was identified as one of eight emphasis areas as part of Clemson’s reorganization. While “environment” might have been selected regardless, we
believe that the selection of “sustainable environment” depended in large part on the presence of SUI on campus.

➢ USC’s Department of Environment, Health and Safety became the second such department in the U.S. to complete an Environmental Management System (EMS) certified under the ISO 14001 standards. USC is the only higher education EMS developed before the US Environmental Protection Agency found fault with the institution.

➢ Clemson’s new master plan includes sustainable design as one of three overarching design principles that will guide all construction on campus.

➢ Both Clemson and USC are committed to meeting US Green Building Council Leadership in Energy and Environmental Design (LEED) standards in future building projects; MUSC is considering a “green” approach to its new hospital.

➢ A survey done at USC as part of another effort revealed that a modest $214,500 investment in mini-grants has so far produced $2.27 million in additional external funding. We expect that similar ratios might be found at the other institutions.

➢ “Bragging” about matters environmental by both Clemson and USC Presidents. The former sent a letter detailing a long list of environmental accomplishments to the entire Clemson community, while the latter highlights the new “green dorm” in nearly every public address.

We have publicized SUI in toto or specific aspects thereof through a number of venues. On the international level, Bruce Coull presented a paper on behalf of the SUI executive committee at the Environmental Management for Sustainable Universities (EMSU) 2002 conference, held in South Africa in association with the World Summit on Sustainable Development. We also wrote a chapter for Sustainability on Campus: Stories and Strategies for Change, due from MIT Press in late 2003 or early 2004. USC’s “green dorm” was featured in several national publications, as were smaller articles about other “greening” activities. USC graduate student Julie Bixby and others published an article outlining one of her projects in a publication for those teaching science in higher education. Once again, SUI projects at Clemson and USC, as well as an overall article about SUI featuring the sustainability agreement signed by 13 presidents, were included in the 2002 NWF Campus Ecology Yearbook. MUSC initiatives were featured in EPA’s Best Practices for Health Care website. The College of Charleston’s Green Building Initiative has received a great deal of local press, and the team continues to provide educational tours to the public. Francis Marion students published accounts of SUI funded work in national publications and Piedmont Tech’s SUI funded nature walk opened to great local acclaim.

Lessons Learned:

One insight gained this year is the double-edged sword our “campus as laboratory” can be for staff. Several staff members who have worked with student projects found it extremely rewarding, and made a point of saying that they felt it enriched their jobs to actually engage in the education process as they worked at an educational institution. However, they also noted that it was very time intensive, and that the time spent was not necessarily rewarded by their supervisors. In one instance, a certificate of appreciation from the relevant faculty member
allowed the staff member to include his efforts in a monthly report, lending legitimacy to time spent. As we continue to institutionalize SUI on our respective campuses, we will explore this issue in greater depth in order to facilitate continued staff cooperation.

We have also learned that while colleges and universities seem to lag behind some other sectors in many operational arenas, we are beginning to be seen as leaders in green building. This is something we should take advantage of, and use to encourage change in the rest of state government. Two examples will illustrate the effect our schools are having beyond their borders. The College of Charleston’s “green retrofit” of an historic property was featured on a public radio broadcast (produced by Clemson’s Donna London) with immediate results in the community (see excerpt from faculty newsletter, below) while the “green dorm” project at USC has led to changes both in other units on campus and in the local utility (see Appendix 1.)

Congratulations to the Green Building Team (www.cofc.edu/~greenbuilding) on their great work in spreading the news about energy efficiency!

During a recent "Your Day" broadcast on SCERN (South Carolina Educational Radio Network) featuring the Green Building Team, Dr. Angela Halfacre and team member Katharine Owens spoke about the Green Building project at 114 Wentworth Street and described how green renovation can be accessible to all types of living situations and economic levels.

The owners of the Vendue Inn (www.vendueinn.com) were listening to the broadcast and learned about Winsulators, the interior storm windows that the Green Building Team had installed at 114 Wentworth. As a result, the Vendue Inn has decided to use this energy-efficient product on their windows as well.

Finally, we (at least those of us with children at home) have decided that fostering sustainability in the universities is a lot like raising teenagers. We have to be flexible, continually on guard against backsliding, on the alert for “teachable moments” and ready to interact when the “teenager” wants to, rather then when we think its time. A sense of humor is helpful.

As in years past, the report is organized along the same lines as our initial proposal. Each section describing what we did in Year 4 is introduced with a brief description of what we had planned and what we learned—by successful completion of our plans, by not-so successful completion of our plans, or (most typically) by following a path we didn’t or couldn’t anticipate several years ago.
Goal I: Faculty and Teaching

**Faculty Development – Workshops and Conferences**

*What We Planned/Lessons Learned: Our major event during 2002 was the “Plenary Conference” held in January. In Year 4, we anticipated having conferences dealing with community and ethics. However, we have already noted that gatherings which allow faculty to present a paper are more enthusiastically received than conferences which purport to “educate” or “inform” faculty. We have also concluded that unless we have a faculty member or administrator quite interested in providing leadership for the conference, participation from the universities will generally be limited. Finally, we have learned that as SUI matures, material of interest to our collaborators is often best presented in conjunction with others. Thus, in addition to the Plenary Conference in January, SUI has co-sponsored and/or helped organize several smaller conferences.*

**Plenary Conference**
**Columbia, January 28, 2002**

We were very pleased with this event, which addresses several needs and attracted a varied group of attendees. Overall, about 100 people participated in one or more aspects of the meeting. Participants ranged from a few graduate students to Deans and Presidents, as well as business leaders. In addition, a number of legislators and the Governor attended the concluding reception. We received very nice notes from a variety of participants, thanking us for including them. We were particularly pleased with the Business Roundtable, which showcased South Carolina firms emphasizing sustainability. Deans, Vice Presidents and one college President in attendance were told that businesses like BMW in Greer and Springs Industries in Lancaster expected university graduates to have an understanding of sustainability and an environmental ethic. We could not have scripted a more effective message.

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**South Carolina Stormwater NPDES Phase II Workshop**
**Columbia, February 13, 2002**

We participated in order to encourage higher education facilities managers to attend in order to understand the new stormwater management regulations, including the link between compliance and environmental quality.
Water Quality Forum  
Clemson, May 2002  
SUI was one of several sponsors of an open meeting to allow any university faculty member to share an interest in water quality issues, with the intent to build interdisciplinary coalitions.

Green Building and Sustainable Design Workshop, Carolina Recycling Association  
Charleston, October, 2002  
Although SUI was not a co-sponsor of this event, we assisted in identifying speakers, including an SUI affiliate school. Angela Halfacre and several of her students at the College of Charleston made a major presentation about their SUI-funded “green building” work to the group.

"Waterways: The Legacy and Future of Policy, Planning, and Use of Water”  
Myrtle Beach, November 2002  
This is an annual meeting, the primary sponsor of which is a state utility. Several SUI faculty members participated, a number of faculty and students attended, and a meeting of our affiliate schools representatives was held in conjunction with the event.

UNC School of Public Health teleconference-- Urban Sprawl: What's Health Got to Do With It?  
January 18, 2002  
SUI at both Clemson and USC sponsored showings of the teleconference. Tapes were made and subsequently used in classes by at least two faculty members (Environmental Health Science and Mechanical Engineering)

Campus Risk Assessment and EH&S Personnel  
Columbia, March, 2002  
We invited EH&S personnel from all the SUI schools and “sister” school Furman to attend a meeting to compare notes and discuss the value of EMS as a management tool. Approximately 15 attended, and there was some additional one-on-one communication after the meeting.

Although we considered having several other meetings for operations staff during the year, we did not, largely because of concerns over budget cuts limiting travel.

Faculty Development – Travel & Enrichment  

What We Planned/Lessons Learned: We anticipated sending two faculty members from each institution to meetings that would “expand their horizons” and enhance their ability to contribute to sustainability. SUI has continued to be a popular source of funding for travel related to sustainability and the environment, although requests for support appear to have decreased a bit this year. We presume this related to overall budgetary issues and not to declining interest.
Margaret L. Thompson, Clemson Public Policy Program, to "Waterways: The Legacy and Future of Policy, Planning, and Use of Water"

Mike Matthews, USC Chemical Engineering, to Workshop on Sustainability and Industry: Energy, Material Consumption and Human Behavior, Cincinnati, Ohio; and to Oxford College, England, for Gordon Research Conference.

Wally Peters, USC Mechanical Engineering, spoke at the 6th Nordic Conference on Environmental Social Sciences (NESS), Finland.

Christopher Preston, USC Philosophy, to “Teaching for the Environment in Higher Education; The Promise of the Earth Charter”, Damariscotta, Maine.


Fill Critical Faculty Gaps

What We Planned/Lessons Learned: The faculty hired at USC and MUSC continue to contribute significantly to the overall sustainability effort within the state, and, in the case of Dr. Roberts at MUSC, nationally and internationally. A permanent faculty member has not been hired to fill the environmental policy slot at Clemson because of difficulties in finding a good fit between available faculty available “for hire” and the needs of the program. (We’re beginning to learn that, at least in some cases, there may be good reasons for “gaps”!) However, funds have been used to bring adjunct faculty to campus to teach policy courses.

Clemson: Susan Marshall, an area attorney, continues as adjunct faculty to teach Environmental Policy and Law.

MUSC: James Roberts and Routt Reigart (SUI Steering Committee) have been active in a National Environmental Education and Training Foundation (NEETF) initiative to integrate pesticide issues into primary health care education and practice. Dr. Reigart served on the Expert Panel that created the Initiative’s Implementation Plan, while Dr. Roberts is a member of the Initiative’s September 2002 National Forum planning committee, a coauthor of National Competency and Practice Skills Guidelines for medicine and nursing, and a designated spokesperson for the initiative. Both Roberts and Riegart continue to draw attention to children’s environmental health in their classes, research, and service.

USC: Christopher Preston received a grant from the New Directions Initiative centered at the Colorado School of Mines, designed to build stronger links between science and the humanities.
At USC, he has used the Winyah Bay area as a focal point around which to organize faculty from different parts of campus with common interests in environmental issues. His project “Humanizing Environmental Research on the South Carolina Coast” is featured on the New Directions in Earth Sciences and the Humanities web site. He discussed his work in a Science Studies Group seminar, and organized a conference to explore the links between humanities and sciences in April of 2003. He continues to teach environmental ethics classes open to both graduate and undergraduate students in all majors and to participate in the Humans and Nature colloquium series sponsored by the Donnelley Foundation.

**Honors College**

**What We Planned/Lessons Learned:** As noted earlier, our plans for integrated programs between the Clemson and USC Honors Colleges failed for a number of reasons, having to do with both administrative issues (FTE’s, tuition, etc) and the complexity of making two already complex programs find common ground. We had planned for a regional or national student research conference co-sponsored by the Honors Colleges at Clemson and USC and offered as part of USC’s Sustainable Futures Semester, planned during 2002 and offered in the spring of 2003. Unfortunately, when the USC Honors College Dean assessed interest among his colleagues, he found that budgetary constraints made travel from out of state unlikely. Within the state, we learned that because of varying semester schedules, a conference date that made sense for some schools was in the middle of exams for other schools. Thus, the conference became a USC event and was merged with a related undergraduate research conference.

USC Sustainable Futures Semester: During the fall of 2002, six new Honors College seminar courses were designed to explore the theme “Sustainable Futures” during the spring of 2003. Plans included common colloquia, plenary speakers, and a closing conference, all of which were included in the spring 2003 semester.

**Freshman Year Experience**

**What We Planned/Lessons Learned:** The primary lesson learned is that patience pays—we have a draft U101 video that will be shown in classes in the fall. The success of the English 101 programs taught us that there are multiple ways to achieve the objective of reaching incoming freshmen.

U101: The long-awaited video has been made, shown to several focus groups to generally favorable reviews, and is currently being edited. An instructors’ booklet is also being prepared. The material in the University 101 presentation (*Introduction to Sustainable Living*) is available on the SUI web site, and has been requested by people at several other schools. Because of an exceptionally dynamic group of SUI graduate students, the number of presentations scheduled rose significantly this year, to approximately 25. The number of students reached was over 450. In addition, there were several presentations in English 101, in a local high school, and in a graduate social work class. Student presenters received numerous thank you notes and compliments.
A page devoted to sustainability was again included in the book *Transitions*, required in the U101 classes. (Thus, even if faculty are not able to fit the presentation into their course schedule, we hope students will at least be exposed to the idea through their text book.) This year, several instructors selected the book *Stuff: the Secret Life of Everyday Things* for use in class. Unfortunately, at least one class “mutinied” causing the instructor to tell us that she felt she couldn’t use it again. Apparently the students found the message to be too depressing, and consequently wanted to avoid it. (Interestingly, there is a caveat in the book itself warning of this problem.)

**English 101**: This class continues to reach large numbers of students and at the same time, provides graduate teaching assistants with an “edge” over their competition. (See more extensive commentary in mini-grant section.) This year, graduate instructors collaborated on a special newsletter for the environmentally themed classes, and significantly expanded the website: http://www.cla.sc.edu/engl/writingprograms/FirstYrEnglish/Environment/

We are confident that most of the students are “touched” in some way by the course. One section, focusing on urban environments, sent students into the community to document conflicts arising over potentially incompatible uses—the homeless shelter located across the street from the county library, for example. We understand that students struggling to understand these issues “grew” in significant ways over the course of the semester.

Finally, though only three students showed up for the AC Moore gardens (volunteer project) the three still have not stopped talking about their experience. It seems that either Rudy or Ben Coonrod was talking about grubs or worms in the soil and the students just thought it was really cool.

(Corinna McLeod, graduate instructor, Dept. of English)

**Speakers & Seminars**

*What We Planned/Lessons Learned*: This aspect of the program has unfolded as planned, although we arranged fewer speakers in Year 4 than in previous years.

Clemson hosted a number of speakers under the aegis of the interdisciplinary biocomplexity project funded by SUI. Meetings were open across the campus, and speakers were publicized within relevant circles.

Gregory Jennings, professor of biological and agricultural engineering at N.C. State, spoke on "Water Quality Progress in North Carolina: Working Toward Solutions," in a visit partially supported by a Clemson SUI mini-grant.

Clemson’s student environmental group, SEA, hosted USC biology professor Jim Morris for a presentation on global warming.

The Clemson/SUI supported “Tigers for Tigers” program brought tiger expert Ron Tilson to campus for a public lecture on Earth Day.

Clemson’s Policy Studies Program brought Jerry Emison, senior advisor in the Office of Planning, Analysis and Accountability of the US EPA to campus to discuss “Building a Personal Profession for the Environment.”

USC’s student environmental group SAGE and the SOE hosted an environmental film festival.

USC’s Department of Civil and Environmental Engineering hosted Thomas Chrisman, University of Florida School of Engineering for a seminar on water use and wetlands.

**Mini-Grants**

**What We Planned/Lessons Learned:** This has continued to unfold more or less as planned. We continue to have our expectations exceeded in some cases, disappointed in others, and we continue to see results unfold from mini-grants funded several years ago. We believe that we’ve been a successful catalyst for change, and have resigned ourselves to funding some “duds.” Persuading faculty to keep us informed of developments related to mini-grants continues to be a challenge, although the USC School of the Environment external review prompted many mini-grant recipients to respond to an inquiry about related activity. The results of the informal survey are shown in Table I in the Appendix. Although Mike Matthews (Chemical Engineering) has the most spectacular results, with a $1.42 million NIH grant, approximately $214,500 in mini-grant expenditures through 2003 at USC yielded $2.27 million in external funding for sustainability related topics. The same funding produced 26 publications or presentations. Clemson researchers have similar results, notably a $100,000 award to Mary Haque for continuation of her work uniting university and K-12 students through the implementation of outdoor learning environments for SC schools. The same effect is shown another way, in the Flow Chart in the Appendix, which demonstrates how just one project at Clemson grew into a multi-faceted effort to incorporate sustainability into the curriculum. Similar charts could be prepared for other mini-grants. A summary of mini-grants distributed in Year 4 is also included in the Appendix.

In addition to the follow-on activity shown in the table and chart in the Appendix, there are several pending NSF grants related to SUI mini-grants, including one at SC State University.
Evidence of institutionalization also comes in the form of courses that continue to incorporate sustainability. Many of our mini-grant recipients have taught courses in addition to the initially funded course, or have developed courses as a result of interest in sustainability-related research. (For example Mike Matthews received research funding, but recently also developed a sustainable engineering undergraduate research program for the USC Honors College and held a “sustainability” social for Chemical Engineering students, while Charlie Pierce, also a research grant recipient, has incorporated sustainable design concepts into the civil engineering curriculum.

At Clemson, Geoff Zehnder’s Calhoun Fields organic demonstration garden has educated faculty, students and the general public about community supported agriculture, organic practices, and the value of locally grown food. While students learn about organic gardening and farming, members of the Clemson community learn to appreciate the value of local agriculture through the Campus Supported Agriculture program (a variant on the more common Community Supported Agriculture.) Members of the community pay a nominal membership fee and in exchange receive fresh produce.

A clemson extension agent who has both a TV show and a regular newspaper column (and thus a “bully pulpit”) visited the garden and incorporated it into his TV show. He also has included more information about organic gardening in his columns, so we feel that indirectly, we’re reaching a large number of homeowners across the state.

Dr. Zehnder has also received a Department of Agriculture Sustainable Agriculture Research and Education planning grant and has organized a group of individuals to brainstorm approaches to additional funding to encourage the development of local markets. He is coordinating the Sustainable Agriculture focus group developed as a part of Clemson’s eight emphasis areas.

Dr. Zehnder’s efforts at the Calhoun Fields Laboratory have been augmented by Peter Skewes, who held a ribbon cutting on the “SUI Free Range Poultry House” last year. Dr. Skewes is teaching students to consider alternatives to traditionally produced poultry. Dr. Skewes is also spearheading the establishment of the Clemson Farmer’s Market, which will showcase produce, meat and dairy products produced on campus as part of the educational program. The Market will also help students understand the value of locally produced food and equip them to ask
questions about where and how their food is produced. SUI is providing financial support for the Farmer’s Market.

MUSC’s grant to Pediatric Fellow Matthew Davis also has generated far-reaching links. Michael Schmidt and Dr. Davis were asked to present Davis’s study of ways to educate parents about antibiotic use at a meeting of Bayer executives in Germany. It has also led to a partnership with the Michigan Public Health Institute and the Michigan Antibiotic Resistance Reduction Coalition. Finally, Dr. Davis presented his research (“Impact of a Waiting Room Video on Parental Expectations for Antibiotics”) at meetings of, and received travel awards from, the Southern Society for Pediatric Research and the Ambulatory Pediatrics Association.

MUSC’s continued support of the Faculty Mentoring Center at the MUSC library has developed into strong links between SUI and the Duke Endowment-funded Hands on Health program. Hands On Health has already won awards, even though it is still a “work in progress.” By organizing information the way lay people think, the website has become a valuable resource for a variety of individuals and organizations. For example, the African Methodist Episcopal (AME) churches have an externally funded health initiative that uses Hands on Health to provide content. SUI is supporting an intern who will augment the Environmental Health component of the widely-used program. In addition, the library has just received EPA funding to support an EPA Fellow to work on this issue (See http://www.handsonhealth-sc.org).

SUI received national exposure through the Habitat for Humanity toolkit *Tree Conservation and Home Site Development Guide* developed by Mary Haque and supported partially by SUI. The publication won a 2002 American Society of Landscape Architects Regional Merit Award presented at the Tri-State meeting in Atlanta, Georgia.

Many thanks to each of you and to the Sustainable Universities Initiative for helping fund the development of a toolkit for Habitat for Humanity (HFH) during the 1999-2000 mini-grant cycle...The book is “hot off the press”, and the National Garden Clubs, Inc. will begin to distribute 1100 copies free of charge to HFH affiliates via their network of local garden clubs this week. The National Wildlife Federation will soon begin selling the remaining copies via their web site.... Our goal is to communicate ideas for sustainable development in a “friendly” manner that can be understood and appreciated by people from a variety of educational, cultural, and socio/economic backgrounds. The book addresses many neighborhood, community, environmental, and educational issues, and we hope that it will successfully promote good design, sustainability, and environmental stewardship both locally and globally. Many thanks again for all of your support over the past four years.

Mary Haque
Clemson Horticulture
While most people think of science and engineering in conjunction with sustainability, projects in the humanities and social sciences have been very successful. Carolina Alumni magazine (April 2002) carried an article on David Voros’ project combining painting with study of coastal habitats entitled “Painting in Paradise.”

Interestingly, projects in the English Departments at both Clemson and USC were possibly the most successful we’ve seen to date. USC’s environmentally-themed sections of English 101 continued to be successful, including the incorporation of one section in the TRIO program, a special program geared toward first generation, low income college students. The program was further expanded by the addition of an environmental literature option to the usual offerings of English 102. A significant number of students from the themed sections of English 101 opted to continue in an environmentally-themed 102 section, many asking for the same faculty member. Students in the English 102 sections read about landscapes, among other things, and worked with the campus landscape architect to relate creation of a landscape to the development of an essay. One interesting piece of anecdotal evidence attests to the degree to which these courses “connected” with students: one class presented their professor with a gift of bees from the Heifer Project at the end of the course.

Clemson’s English project matched students in eleven sections of Business Writing or Technical Writing with clients on campus or in the nearby community. The students gained practical, “real world” experience that will serve them well in their chosen profession. They learned to cope with the joys and frustrations of team efforts, with jobs that change course at midstream, and with pressures of deadlines and limited resources. At the same time, they learned about specific issues related to sustainability in and around campus. They produced 192 separate deliverables, ranging from “white papers” analyzing possible approaches to “green building” for the Clemson Housing Department to ads promoting conservation and recycling for campus print and electronic media, to recipes and promotional brochures for the new campus agriculture and farmers market initiatives. They also worked with community organizations, assisting in a community consensus-building effort in the nearby town of Seneca, and preparing instructions for parents and other volunteers involved in constructing and maintaining the storybook gardens at the new Clemson Elementary School. One faculty client said that he would have had to pay at least $30,000 to obtain the equivalent services from a professional vendor, and added that he wasn’t sure the product would have been as carefully targeted to the Clemson audience.

Finally, the English programs provided that “special something” that allowed TAs and junior faculty to stand out among their peers. At USC, Corinna McLeod won the Educational Foundation Outstanding

Corinna will probably tell you herself if she hasn't already, but (after deliberating over several good offers) she's accepted a tenure-track position at Grand Valley State University in Michigan. Where, incidentally, they're interested in having her develop a program similar to our “Writing About the Environment” program. (emphasis added.) The SUI project is really helping our TAs do well in one of the worst job years in recent decades for humanities Ph.Ds -- thanks!

Christy Friend, Ph.D.
Associate Director of First Year Writing
USC Dept. of English
Teaching Assistant award for the entire university. She also received an Outstanding Service Learning Award from the USC Office of Community Services. Todd Richardson, another TA who taught in the project, received an Award of Excellence from students in Patterson Hall, the first-year dorm. Students of Denise Shaw and Kim Becnel took first and second place, respectively, in the SUI writing contest for papers they wrote in the ENGL 101 environmental sections. Clemson’s “sustainable” Business/Technical Writing classes were one of two projects to be featured in the annual celebration of Communication Across the Curriculum.

Just wanted to let you know that yet another instructor from our “Writing About the Environment” program has landed a great tenure-track job. Todd Richardson has accepted a job as assistant professor of American Lit at the U of Texas - Permian Basin. Todd tells me that...they were impressed by the breadth and variety of his teaching experience, and two of the five courses he’s taught (“Writing About Humans in Nature” and “Nature Writing”) he developed and taught as part of our project. It's just amazing that our folks are getting such good jobs, since this is a horrible year for humanities positions--20% fewer jobs available than last year.

Christy Friend, Ph.D.
Associate Director of First Year Writing
USC Dept. of English

Both English projects have been, or will be, well publicized. Four of the graduate students involved in the English 101 project had a panel accepted by the major national conference for college writing teachers: the Conference on College Composition and Communication. According to Dr. Friend, “this is great news for us, because this is a huge conference, attended by 7000+ college profs from English departments all over the country. The acceptance rate for papers is low, so it's a big honor to be selected.” Papers by both the USC English 101 project and the Clemson Business/Technical Writing project have been accepted for presentation at the Ball State conference on sustainability in September 2003. The USC project was a feature story in *fye*, a publication of the National Resource Center for the First-Year Experience and Students in Transition. At least one major research university expressed an interest in adapting the program. (See below.)

I am writing on behalf of the office of Theme Housing Programs at Virginia Tech to request reprint permission for an article featured in the Winter 2002 edition of "Fye" (vol. 14, no.3). Specifically, we would like permission to reprint the article "Service Learning Bursts University Bubble," by Lark Patterson, that begins on the cover page of that edition of Fye.

We would like to reprint this article for use in a "First Year Experience" course taught to approximately 250 entering Virginia Tech students this fall. This course includes a component on service learning, and we would like to use this article to aid in the lesson. Thank you in advance for your help in this matter.

Sincerely,
Heather Lyons, Office Asst.
Theme Housing Programs
Virginia Tech
Goal II: Student and Community Programs

What We Planned/Lessons Learned: Students continue to be involved in community volunteer projects, but we’ve found it very difficult to track their involvement. We’ve observed before that as sustainability is embraced by more and more individuals, they see little reason to report back to us in a formal way once they’re “off and running.” One frustration we’ve experienced is the difficulty of finding meaningful volunteer work that doesn’t involve picking up after other people. Litter pick ups seem to be the “environmental” volunteer project of choice, but we find that they tend to discourage students from further involvement with conservation related issues. Other environmental projects require either a longer time commitment or more education/experience than most casual volunteers have. (For example, we’d love to involve students in inventorying wildlife on university properties, but few are knowledgeable enough to participate.)

Student interest in environment/sustainability continues to be lower than anticipated. While there are individuals and small groups who are passionately interested in the environment and social justice, the student bodies as a whole show relatively little interest or commitment. We are considering arranging a retreat for student environmental group representatives to assist them in strengthening their organizations. On the other hand, we’ve seen an upsurge in state agency interest in sustainability over the last several months, with an increasing number of agency personnel turning to SUI for information or advice.

Student Led Initiatives
Members of student environmental groups at both Clemson and USC encouraged students to sign the Graduation Pledge during Earth Day events. (The Graduation Pledge originated at Manchester College and is spreading around the country. Students agree to consider the social
and environmental aspects of jobs they may take.) Those who signed were given wallet-sized cards to remind them of their commitment. The template for the card was requested by students at Princeton and several other schools, and is now available on the Graduation Pledge site on the Manchester College web site.

Leaders from the Clemson and USC groups were able to coordinate informally at the Santee Cooper Environmental Conference, attended by four or five students from each school. Both groups are having difficulty maintaining a critical mass of participants, and seemed to benefit from sharing their frustrations.

Clemson’s student environmental group SEA “tabled” on several occasions, educating fellow students on issues such as tiger conservation and global warming. At the latter event, dubbed an Earth Barbeque, they made their point by offering passersby the opportunity to toast marshmallows painted with food coloring to resemble a globe. SEA, Student Government, Housing, and the Recycling office are collaborating on a series of “eco-advertisements” for Clemson newspapers. One ad focused on water conservation (entitled Thomas "Green" Clemson) ran in November of 2002. Others are in the planning stage. The group also continued its successful recycling program during football games, with proceeds going to fund group projects. Students circulate through the tailgating crowd reminding them to use the recycling bins placed at strategic locations.

SUI also provided funding to begin the program Tigers for Tigers at Clemson, using Clemson’s mascot to encourage interest in saving endangered tigers and their habitat. The group’s long term goals include establishing conservation/education internships at the Riverbanks Zoo in Columbia, creating a seminar course about tigers and tiger-range countries and reaching out to other schools with tiger mascots, from elementary schools to colleges, to help them create similar programs. They also hope to host a tiger conservation speaker each year. This year’s speaker was internationally known tiger expert Ron Tilson, who spoke at Earth Day.

“Tigers for Tigers fits in very well with Clemson University’s goals,” said Quyen Nguyen, a senior psychology major from Graham, N.C., and the project’s other co-coordinator. “It increases international awareness and brings us together to focus on something that is very positive.”

(from a Clemson University Press Release)

In particular, the SEA’s Tigers for Tigers project has accomplished a great deal this semester...Ten of my honors and graduate students in Biogeography have created the substance for a new web page on the lands, people, and tigers of Asia, to be up this summer. There were 39 entries for the logo contest, many of them superb, and it took many long meetings to choose among them. Finally, numerous students, and a few faculty, have come to us and volunteered to aid in the effort. Next year will be even better. This would not have been possible without the support of your administration, and of the Sustainable Universities Initiative, through Dr. Alan Elzerman. Thank you.

Sincerely,
David Tonkyn, Biological Sciences
Faculty Advisor to SEA and T4T

(from an email to President Barker)
SUI provided partial support for Clemson student Erica Hartwig, who was offered an internship in Nairobi with the policy and law division of the United Nations Environmental Programme. She was also able to assist the group at their booth at the World Summit on Sustainable Development in Johannesburg, South Africa. Erica shared her insights with various groups on campus after her return.

USC’s SAGE hosted an environmental film series, and presentations by a Student Conservation Association representative about expense-paid internship opportunities. SAGE was also very active in promoting bicycle use on campus, working with Critical Mass. (Critical Mass is a widespread effort to create awareness of bicycle opportunities by generating a “critical mass” of cyclists in visible locations. During one such rally, members of the city’s cycle-mounted police (affectionately known as “copcycles”) rode with the students.)

Students served as the core of USCycle, a group of faculty, staff and students interested in promoting bicycle use on campus. The group presented suggestions to the campus master planners for designated bike lanes, surveyed existing bike racks and made recommendations to administrators regarding additions, and discussed joint needs with city and state transportation planners.

USC’s Interfraternity Council sponsored a recycling contest that produced nearly 1000 pounds of aluminum and plastic containers. This was the first time fraternities had actively participated in recycling efforts. In 2003, many fraternities moved into new housing away from the main campus. Members have inquired about recycling in their new locations.

USC’s SUI continues to provide match for the National Science Foundation’s Research Experience for Undergraduates (REU) in Environmentally Conscious Manufacturing. Each year, Bruce Coull lectures to the students (from all over the country) on environmental ethics.

**Awards and prizes**

USC continued to offer the environmental writing contest through the English 101 program, with prizes awarded at Earth Day and winning essays published on the web site.

**Community Network**

We continued to include a wide array of community members in notices of campus activities related to sustainability. These opportunities ranged from small seminars with outside speakers to large public lectures.

SUI also provided a “neutral meeting ground” for two statewide meetings: (1) an EPA/SC Energy Office presentation to initiate the state’s Million Solar Roofs program and (2) a Green Power Certification Group beginning the process of certifying green power in south Carolina. While neither of these programs is directly relevant to the universities, university representatives attended both, and the meetings serve to keep university personnel in touch with external forces and trends.
We have also been able to link members of the community with each other, sometimes bypassing the universities entirely, but performing a useful service, nonetheless. One example includes work with the Evergreen Network, led by Herman Miller, and focused on developing a network of those interested in green building and environmentally preferable building materials.

(email from Director of Strategic Planning for SCANA to Lill Mood, convener of a League of Women Voters sponsored committee on public transportation)

…. How we balance the need for continued growth with sprawl and the increased strain that it will put on our limited transportation infrastructure will take the thoughtful contemplation of many many people before we resolve the issue. I believe it will become one of the more important issues of our time before we are through. More than you wanted to hear I am sure but blame Trish and Bruce Coull. They made me this way. Look forward to seeing you on the 7th.

John

PS: You deserve a trophy of some kind just for being willing to convene a group on the subject.

Goal III: Campus Operations

What We Planned/Lessons Learned: We’re finding that environmental projects are developing a life of their own in the facilities and operations of our campuses. Our efforts are reinforced by national groups such as the Campus Safety, Health and Environmental Management Association, Association of Higher Education Facilities Officers, and the National Association of College and University Business Officers, and national publications designed to appeal to higher education facilities managers. Funding, as always, is an issue. We’re hoping to do a better job of capturing cost savings associated with progressive action. Over the next few years, we expect to see progress in green building-related initiatives and EMS development.

General

The Environmental Advisory Committee (EAC) at USC and the Clemson University Environmental Advisory Committee (CUEC) continue to serve a very valuable role in providing a setting for discussion and resolution of environmental problems on campus. More importantly, the committees educate their members simply by bringing them together, and this education frequently has far-reaching effects. Recently, USC’s purchasing officer, a member of the EAC, passed information about green purchasing on to the state’s purchasing officer, with a note that it might save the state money in the long run. Aramark, Clemson’s food service contractor, is represented on the CUEC. The Aramark representative has said that he picked up ideas from other members of the CUEC, leading to his interest in “greening” the food service operations. He has said that renovations to Clemson’s Harkum Dining Hall will include some “green elements.” His search for ideas led him to agree to be a client for the Technical Writing project, which created a multitude of ads, a web site, and other materials to aid in his efforts. Recently, we received an inquiry from a student at another campus served by Aramark, asking how she could encourage her campus to emulate Clemson’s approach.
Another example of “far-reaching effects” produced by the campus environmental committees is the conversion of standard computer monitors to flat screen LCD monitors. The idea began at MUSC, which is converting as older monitors are replaced. USC’s Michael Koman (partially supported by SUI) picked up the idea and collected research from Dell and others. He requested a review of the data from SCE&G, USC’s utility provider. Based on information gathered, USC Housing switched their 175 computers to LCD monitors, for anticipated annual savings of between $8,000 and $15,000. According to Gene Luna, Director of Student Services and Housing, “…this is one more step in greening ourselves...we’ve also persuaded health services and Educational Support Services to begin a similar conversion.” The analysis persuaded others, and now several large computer labs on campus have made the switch, with others poised to follow. Koman’s analysis indicates that if the entire university switched to flat screen monitors, savings could be as much as $976,400 annually, depending on usage. Anecdotal evidence from reliable sources indicates that the labs are now more comfortable, since temperature management has become much easier. At the same time, SCE&G, persuaded by its own analysis, has begun switching to LCDs. The most far-flung link is a request Michael Koman received from an employee of Saudi Telecom who apparently found a reference to the LCD switch on USC Housing’s web site via Yahoo.

Dear Koman,
I would like to help with following matter. We want to carry out the same project to did which is Conversion of CRT monitors to LCD 'Flat Screen' monitors. I would like you to give me more information such web sites and company that standardized use of flat screen. This would help me convince my boss to carry the project. Your kind assistance would highly be appreciated.

Thanks,
Jeylani Osman
Project Coordinator, Saudi Telecom Co.
Riyadh, KSA.

Overall, we’ve seen spectacular progress on two fronts: green building and Environmental Management Systems (EMSs.)

**Green Building**

Clemson’s President Barker has stated that all new buildings on campus will be constructed to LEED (Leadership in Energy and Environmental Design) standards. Clemson currently has two LEED registered projects, totaling seven buildings, including the new Advanced Materials Research Building. Clemson’s Office of Housing is renovating a duplex to serve as an experimental “green house” similar to Furman’s Eco-Cottage. The Sandhills Research Station, an old extension site, has become the Institute for Economic and Community Development, with a mandate to reach out to organizations across the state. As a part of that outreach, the renovation of existing buildings and construction of new buildings will incorporate “green” design and construction principles. In addition, much of the property is being maintained as habitat and/or converted to wildflower meadows or xeriscaped gardens.

MUSC’s President Greenberg has expressed support for “greening” the new hospital, currently in the design phase. In support of that end, Clemson’s Architecture and Health Program, in cooperation with MUSC, SUI and the City of Charleston, will sponsor a workshop in September.
to examine the relationship between the built environment and human health. The new hospital will serve as the context in which these issues will be explored. We expect that the workshop will generate a number of practical suggestions that can be incorporated into the design of the new hospital and subsequent buildings in the health complex.

The USC “green dorm” continues to attract attention, especially once ground was broken last fall. President Sorensen mentions it in nearly every speech, and has committed to following the same path with other new buildings. We have been told that the new School of Public Health will be certified under the U.S. Green Building Council’s LEED (Leadership in Energy and Environmental Design) program. We also are hoping that the new research park under consideration will be “green.” The regional campus at Beaufort is developing a new site, which will be designed and constructed using “green” principles. USC Beaufort is cooperating with Clemson and Georgia Tech on the effort. The green dorm has sparked a unique partnership between academics and operations at USC. The Provost recognized the potential for the building to be used as a teaching tool, and created a committee of faculty members under the chairmanship of Bruce Coull to oversee the effort. The committee has been working closely with Housing to ensure that the building will be integrated into the curriculum to the maximum degree possible.

We expect to continue to be quite involved in green building efforts over the next year. There is some discussion of partnering with the SC Energy Office to sponsor a LEED certification training course at one or more campuses in S.C., and we expect to play some role in coordinating statewide efforts to enhance green building.

**Environmental Management Systems**

USC’s Department of Environmental Health and Safety received ISO 14001 certification for its EMS in August of 2002. The EMS incorporated both environmental and safety standards, and is entirely electronic, eliminating the need for frequent updates of numerous binders. The registrar was very impressed with the effort and suggested that it be patented and sold to others as a CD. (As with all enterprises involving attorneys, this has proven to be quite complex.) The EH&S EMS serves as a starting point for EMS development in Facilities Services and Housing at USC. It is also being adapted by MUSC, which plans to add a third element—risk assessment—to the mix included in the EMS. Phil Barnes, with USC’s School of the Environment, will serve as a consultant to the MUSC EMS team. Dr. Barnes has also made a presentation on EMS at Clemson, where discussions are underway.

EPA’s Sector Strategies program has recently been expanded to include colleges and universities, entailing encouragement of EMS development among other things. We have been asked by EPA to share our model, and to offer suggestions about EMS implementation. The USC EH&S EMS has also been the model for many Department of Defense facilities, as Dr. Barnes is also working with DOD installations.

In a related development, Dr. Barnes is developing an international EMS network, which he hopes will create an exchange for students from universities in the US and Europe to familiarize
them with procedures used in various parts of the world and prepare them for the global marketplace. Thus far, faculty at USC, Clemson, University of Massachusetts—Lowell, and the University of Tennessee have expressed an interest. Dr. Barnes is seeking funding through the International Education and Graduate Programs Service, U.S. Department of Education, and through the European Commission’s Department of Education and the Marie Curie Foundation, via several European collaborators. Dr. Barnes has also offered his services to a number of industries in the community, both on a contractual basis and as part of his service work.

**General:**

This year “move out” recycling programs at both Clemson and USC did very well. Clemson’s Lighten Your Load Program had a successful first year, with over 11,000 pounds of material collected for local charities. The program was featured on the National Wildlife Federation’s Campus Ecology Yearbook website, as USC’s was last year. USC’s Take it or Leave It, in its second full year, saw an increase in clothing and food collections, and a decrease in discarded waste. Approximately 40 tons of food, clothing and appliances were donated to local charities, for an estimated savings of $30,000 in waste management costs. Michael Koman, Housing’s Environmental Manager (partially supported by SUI) summed up this year’s efforts as follows:

> “Bottom Line: Great improvement with both a significant level of re-use by students of cinder blocks, a significant reduction in disposed waste, and an increased level of donations of food, clothing, and small appliances. Our goals of more product reuse and less give away and disposal have been exceeded.”

Clemson’s recycling program received the top collegiate recycling award from DHEC in 2002; each of the SUI founding schools has received this award over the life of the program.

USC had an Arbor Day celebration for the first time, planting trees with children from the campus daycare and hearing from a variety of speakers.

Transportation officials at Clemson and USC have been very cooperative. The Clemson Area Transit (CAT) system is a model for university transit systems. SUI recently funded a project to improve signage and “usability” for the system, in cooperation with officials from the city of Clemson. Derrick Huggins, USC’s Director of Vehicle Management and Transportation has initiated several projects, including conversion of all USC buses from diesel to biodiesel using grant funds from the State Energy Office to pay for the difference in cost between the two fuels. According to Leann Herren of the Clean Cities program, “this will have a major impact on air quality around the university, especially as additional shuttles are added.” Mr. Huggins is also working to purchase alternatively fueled vehicles to service the area around the new green dorm, and hopes to add more to the fleet with time. Finally, he has encouraged the USCycle effort, providing funding for the first phase of bike rack additions in accordance with recommendations of the committee.

At MUSC the vermicomposting project, simply referred to as “the worms” by the local middle school children, continues to be a success, with requests for tours and information from K-12 schools, colleges, universities and municipalities. What started out as an experiment in the
planning grant has become well institutionalized, bringing intangible benefits as well as good compost to the University.

USC Housing was named a finalist in a competition being conducted by the Southern Association of College and University Business Officers (SACUBO). Their “Green = Green” paper, describing cost savings associated with their various “green initiatives” was not the winning entry, but did receive widespread publicity. In a note to Bruce Coull, Gene Luna noted that “our submittal is related to the various "green” initiatives we've been developing as a result of our work with the Sustainable Universities Initiative, the USC Environmental Advisory Committee, and the School of the Environment. Thanks.”

Campus as Laboratory

A number of courses incorporate sustainability-related work. At Clemson, students in classes supported through SUI rehabilitated waterways near campus, worked with area churches and schools to reduce environmental impacts and restore habitat, and assisted with a range of campus initiatives from the proposed farmers market to recycling in dorms. At USC Environment 101 Classes measured bicycle use on campus, while advanced biology students are developing phytoremediation for stormwater runoff associated with the green dorm. Demonstrating the institutionalization of a sustainability focus, one of Wally Peters Ph.D. students, now a post-doctoral researcher, continued Dr. Peters’ tradition of having students solve a problem related to sustainability on campus in courses she taught.

Clemson interns have undertaken tasks ranging from managing the CUEC to managing the organic gardening operations at the Calhoun Fields Laboratory.

At USC, interns have assisted with EMS efforts in Housing and Facilities, worked on Christopher Preston’s Science and Humanities Workshop, assisted Housing with the green dorm effort, managed the USCycle bike study group, prepared a lab manual for Environment 101, organized volunteer projects for English 101 students and presented “Introduction to Sustainable Living” to approximately 1/3 of the U101 classes.

GOAL IV: MANAGE PROGRAM/SHARE RESULTS

What We Planned/Lessons Learned: This year involved considerable synthesis and introspection, beginning with the January event. In general, we feel that we’ve shared information about the program effectively, and that our current emphasis needs to be on more specific projects, rather than the program as a whole. Difficulties in quantifying savings continue to frustrate us, as does the seemingly simple task of capturing all that has happened as a result of SUI. We are exploring a variety of ways to measure overall progress, including GRI and the European AISHE model.
General Communication and Coordination
We continue to share information about upcoming conferences, grant programs, student opportunities, etc. through targeted email messages to our extensive database. Much of our time is spent “linking”—nurturing project ideas, connecting people with compatible interests, etc. Examples include connecting a local electronics shop owner with individuals responsible for campus recycling of electronic equipment and sharing information about MBA internships developing environmental and social enterprises in Latin America with appropriate faculty. We have been able to assist state agencies in sharing information; for example, SC Energy Office’s interest free loan program for energy system upgrades (which several SUI schools have taken advantage of) and upcoming conferences. We continue to field the usual requests for information, surveys, and student inquiries, ranging for a request for the USC energy policy from the state of North Dakota to a survey request from a Dartmouth student. Our web site www.sc.edu/sustainableu continues to serve as our primary means of communication, and receives heavy usage.

At the request of the Orion Society, SUI formally endorsed the Earth Charter. We have also joined ULSF, the National Wildlife Federation’s Campus Ecology Program, and the U.S. Green Building Council on behalf of the entire group of schools.

Publications and Presentations
We’ve continued with the usual talks to church groups, etc. More formal presentations and papers have included:

Bruce Coull made a presentation on SUI to the Humans and Nature International Forum, at St. Catherine’s College, Oxford University.

Trish Jerman discussed Green Building at SUI schools during a panel at the Carolinas Recycling Association Annual Meeting.


We will have a chapter on SUI in Peggy Barlett and Geoff Chase’s book Strategies for Sustainability (MIT Press, in press) and in the book of publications from EMSU 2002 that Walter L. Fhilo is editing. Both chapters will list the three principle investigators and Trish Jerman as authors. Bruce Coull presented the paper in South Africa on behalf of the group.

An article stemming from the first EMSU conference, “Developing an Environmental Management System for a Multiple-University Consortium” by Phil Barnes and Trish Jerman appeared in Journal of Cleaner Production, in February 2002. It has resulted in several inquiries from abroad as well as the states.

Gina Cooper, an SUI funded MEERM student, built on earlier Habitat for Humanity work by Wally Peters, publishing her results in Habitat for Humanity International’s Green Team Spirit,

MUSC’s vermicomposting project was featured in an EPA fact sheet entitled *Environmental Best Practices for Health Care Facilities*, Nov 2002. The publication is available on the web as well as in fact sheet form at http://www.ciwmb.ca.gov/wpie/HealthCare/EPATote.pdf

MUSC’s Christine von Kohlnitz was asked to prepare an article describing the school’s experiences with waterless urinals by the Campus Consortium for Environmental Excellence (C2E2) for an EPA Best Management Practice catalog. The catalog can be seen at http://www.epa.gov/ne/assistance/univ/bmpcatalog.html

Projects at both Clemson and USC were included in the National Wildlife Federation’s Campus Ecology Yearbook. The SUI Declaration, signed by 13 members of the Initiative, was also included in the 2002 Yearbook.

We continue to benefit from earlier publications, as the email excerpt below shows:

```
In any event, my interests in Clemson really stemmed from a journal article that I recently read out of “South Carolina Business” It was titled “Embracing Sustainability”. The article goes into some depth regarding a partnership that you at Clemson have forged with 2 other SC universities The Sustainable Universities Initiative). In short, this is EXACTLY the type of content and program I am looking for.
```

**Campus-Specific Management**

**Clemson:**

President Barker has been a very strong advocate for Clemson’s focus on sustainability. As noted elsewhere, he has stated that all future buildings will be constructed to LEED standards. Prompted by mention of Clemson in a USC Today article about schools committed to conservation, he sent a letter to the entire Clemson community listing environmental accomplishments. (See following page.) “Sustainable Environment” was selected as one of eight interdisciplinary focus areas during Clemson’s reorganization for the future.

Interestingly, Clemson’s Chief Business Officer hosted a meeting with the fiscal staff of Furman. In a message to Alan Elzerman, he noted “that part of our discussions with Furman include commitment to sustainability and I will pass on to the committee any activities we jointly approach in this area.”
Clemson’s Environmental Committee established itself as the hub for environmentally related activities on campus. The CUEC has spearheaded the development of a first-ever environmental policy for the campus, which should be presented to the Board of Trustees this coming year. The committee serves as a mechanism for sharing information and making recommendations on issues ranging from the campus master plan to student projects.

Several new degree programs or centers were announced by the Trustees, including a degree in environmental design and The Center for Community Growth and Change, which will encourage efficient and fair management of growth in the cultural, natural and developed environments.
Dear Clemson:

I noted with pride that Clemson was among universities included in a recent “USA Today” article for its investment in environmental conservation. The reporter quoted the National Wildlife Federation as including Clemson, Michigan, Oberlin and Colorado among “a significant minority” of institutions that “come quickly to mind” as being serious about environmental protection.

You may not be aware of the level of activity currently under way. It is an impressive list. Here are just a few examples:

- The Clemson University Environmental Committee has been revitalized and is meeting regularly to help ensure a coordinated and university-wide approach to environmental activities.

- University Facilities has a comprehensive tree protection program in place for new construction, renovation and underground utility repairs and additions. All campus trees are inventoried and assessed for maintenance and health needs. Integrated pest management principles are used to minimize pesticide use. Irrigation system maintenance computer programs are being tested to find ways to conserve water. Facilities also has an extensive and growing recycling program.

- The Students for Environmental Awareness organization has created a new “Tigers for Tigers” program to build awareness of and support for preserving tigers in the wild. They recently sponsored an Earth Day lecture and hope to establish conservation/education internships at the Riverbanks Zoo in Columbia, create a seminar course about tigers and tiger-range countries and collaborate with other schools that have tiger mascots. Dozens of other student groups incorporate environmental activities into their community service projects.

- University Housing has a new "lighten the load" recycling program, offering students the option of disposing of furniture they no longer need as they move out of residence halls. Usable furniture will be recycled rather than sent to landfills.

- The Clemson Environmental Institute is reaching out to the Upstate business community to discuss ways to promote new economic ventures in fields relating to environmental issues, materials and technologies. Environmental activities can benefit the economy as well as quality of life.

- A program called the Sustainable Universities Initiative was created by Clemson, USC and MUSC to educate students and citizens about the link between the economy, the environment and society. Funded by a private foundation, the program sponsors research and educational programs around the state. Clemson faculty and students have been leaders in this initiative from the start, and recently earned funding for nine new projects through its competitive mini-grants program.

- Our environmental engineering program continues to be ranked as one of the top 20 programs of its kind in the nation, according to U.S. News and World Report’s guide to graduate programs.

- Campus Sweep, sponsored by Student Government, continues to grow, involving more faculty, staff and students each year in this one-day blitz to clean and improve the beauty of the campus.

The list could go on. Concern about the environment is one of Clemson’s many points of distinction. It should be a source of pride to all of us.

James F. Barker, FAIA
During ongoing discussions of general education requirements, Alan Elzerman has continually raised the point that students should have an appreciation for and understanding of the physical world around them and environmental and sustainability issues, including related social, ethical, political and economic factors. Recently, the College of Engineering and Science Curriculum Committee added the following wording to the category of Scientific and Technological Literacy: Analyze the earth as a sustainable system, with environmental conditions dependent upon the interaction of both natural and human agents.

**MUSC:**

Michael Schmidt is MUSC’s designated bioterrorism spokesperson, and consequently has been very busy working on the local, state and national level. He has, nonetheless, been able to attend the CleanMed conference to learn as much as possible about “greening” health care facilities. President Greenberg has expressed interest in using “green building” principles in the development of the new MUSC hospital and discussions are underway with several key individuals.

The director of University Risk Management has required that his entire staff undergo EMS training and will add a third element—risk assessment—to the mix included in the EMS. This will be the first of its kind in the country and the director, Mr. Wayne Brannan, hopes to institutionalize this into the management structure of the University.

**USC:**

The EAC is becoming more widely known on campus, and is becoming a central clearinghouse for complaints and concerns (e.g. spraying pesticides) as well as for information requests. It has served as an umbrella organization for several efforts involving faculty, staff and students. One such subcommittee brought together people with an interest in pooling resources to develop GIS technology that will improve management of resources on campus. Another was the bicycle committee, USCycle, discussed elsewhere. The EAC sparked action to resolve issues related to recycling at athletic events and in the newly constructed “Greek Housing Village.”

The Environment has been selected as one of five “research themes” for USC, and Bruce Coull has been asked to lead a group making recommendations to the (Acting)Vice President of Research regarding water-related research.

**SUI Affiliates**

*SUI Affiliates are the 13 additional state supported schools that opted to join SUI when the legislature appropriated additional funds. Reports of their mini-grant work are available on the SUI web site (http://www.sc.edu/sustainableu/PhaseIminigrants.htm); a few additional notes follow:*
Francis Marion University:
The recycling project funded in Year 3 was written up and published in the special student edition of the International Journal of Sustainability in Higher Education. The same project received an award at the 2002 Annual Meeting of the Carolinas Recycling Association.

The joint Environmental Science/Professional Communication course focusing on communicating the dangers of mercury in fish to members of the community has received rave reviews, and sparked a request from the state environmental agency for additional work. The work has been presented at two conferences, with a third presentation scheduled for October. Papers presented are:


Coastal Carolina University:
SUI Fellow Dan Abel reports that “Students for Environmental Action (SEA) won the award for club of the year at CCU. Beth (Gunter) is president and her activities have been supported by my SUI funds, so this is yet another SUI accomplishment.”

TriCounty Technical College:
The environmental impact component of Gerald Long’s Industrial and Engineering Technology project was featured on a web site available to similar programs around the country.

College of Charleston:
The “green” historic renovations of a 19th century house, now an office building, were covered in the October 3 George Street Observer (page 2) and featured on the US Department of Energy Rebuild America website regarding winsulators (http://www.rebuild.org/sectors/newsdetail.asp?newsid=1360&mktid=6). The project was also featured in an article about energy efficient power in the October 16 City Paper.

The service learning and research team held several open houses and presented information on the project to a variety of classes, as well as to the Carolina Recycling Association's Mid-Year
Meeting on October 4, 2002. They also participated in Center for Effective Teaching and Learning (CETL) Panel on "Research Teams" in November.

The group developed a number of successful partnerships, and, most impressive of all, persuaded faculty members to donate weekend time to make many of the recommended changes themselves.

**Midlands Technical College:**
The Public Service Announcements developed by theater and speech students at Midlands Technical College so impressed USC’s Director of Housing when he saw them at our January event that he arranged to show them on the USC Residence hall closed circuit television station.

**Piedmont Technical College:**
Dale Smoak and his colleagues created a nature trail, which serves as a teaching tool for biology and other science classes as well as a fitness trail. The grand opening of the SUI Trail was covered in local papers, and reports are that many on campus are quite excited about the project.

**In Conclusion**

We continue to be pleased by the cascading effect of SUI efforts. We are, however, concerned that the budget cuts of the past several years and the ones forecast for next year could interfere with the institutionalization of our message. What has become routine in some areas of campus operations and the academic enterprise might be curtailed since in times of limited funds, institutions are less likely to adopt new methods or ways of thinking, as they perceive them to come with costs that they cannot afford. In this next year the SUI team is going to have be vigilant to insure that the gains we have made over the past 4 years are not reversed. This next year will serve as a test to see how successful SUI has been in making sustainability a consideration in both academic and operational decisions on our campuses.
APPENDICES

1. Example of Expanding Influence in Operations

2. Impact of One Mini-Grant

3. Year 4 Mini-Grants

4. Financial Summary
APPENDIX 1 – EXPANDING INFLUENCE IN OPERATIONS

SUI

EAC

Gene Luna

Student Services/Health

Residential Life

Housing Environmental Manager (M. Koman)

EMS

Clemson

Washer Conversion

Students

Trade Publications

Other Schools

Electric Vehicles

Parents and Students

Other USC units

“Take It or Leave It”

Students

State Procurement

Clemson

Community

“Green Dorm”

Trustees

USC Construction, Architects

State Procurement

SC Architects

SC Energy Office

US DOE

Research

Schools Outside SC

Other Schools

Entire University

Saudi Arabia

SCE&G

LCD Monitors
### Appendix 3 -- 2003-04 Summary of SUI Minigrants

#### USC 2003-04 Minigrant Summary

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<thead>
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<th>Name</th>
<th>Amount Awarded</th>
<th>Project</th>
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<tr>
<td>Duhe</td>
<td>$9,982.50</td>
<td>The Sustainable Newsroom of the Future: Can Media Newsrooms Become Sustainable and Still Break the News?</td>
</tr>
<tr>
<td>Feller</td>
<td>$2,750.00</td>
<td>Energy Use of USC</td>
</tr>
<tr>
<td>Friend</td>
<td>$20,000.00</td>
<td>Reading and Writing About the Environment: Developing Theme Courses that Incorporate Sustainability Issues into the English Curriculum</td>
</tr>
<tr>
<td>Pierce/Cooper</td>
<td>$10,000.00</td>
<td>Exploratory Research: A Self-Cleaning Drainage Material</td>
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*Note: Several other mini-grants will be awarded, pending resolution of questions*

**USC Total** $42,732.50

#### MUSC 2003-04 Minigrant Summary

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<thead>
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<th>Name</th>
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<td>Environmental Health/Ethics Course</td>
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</table>

**MUSC Total** $28,000.00

#### Clemson 2003-04 Minigrant Summary

<table>
<thead>
<tr>
<th>Name</th>
<th>Amount Awarded</th>
<th>Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Davis</td>
<td>$7,586.00</td>
<td>Development of Building Cost Guidelines Based on Environmental Life-Cycle Analysis for University Facilities in South Carolina</td>
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<tr>
<td>Freedman/Allison</td>
<td>$10,000.00</td>
<td>Development of a Protocol for Applying the LEED-EB Green Building Rating System to Clemson University</td>
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<tr>
<td>Haque, Valentino</td>
<td>$8,000.00</td>
<td>Clemson University Youth Stewardship Garden: Promoting Sustainable Decision Making</td>
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<tr>
<td>Lee</td>
<td>$10,000.00</td>
<td>Dynamics of Interdisciplinary Teams in Sustainability Research</td>
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<tr>
<td>McInnis</td>
<td>$8,742.00</td>
<td>Development of Vermicomposting at Clemson University</td>
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<tr>
<td>Smith, Haque</td>
<td>$10,000.00</td>
<td>Incorporating Sustainability Projects into Business and Technical Writing Classes: Expansion and Improvement</td>
</tr>
<tr>
<td>Wagner</td>
<td>$8,250.00</td>
<td>The Nature of Clemson: A Natural History Guide to the Clemson University Campus</td>
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**Clemson Total** $62,578.00

#### 2003-04 Affiliate Member Summary
<table>
<thead>
<tr>
<th>Name</th>
<th>Amount Awarded</th>
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<tbody>
<tr>
<td>Libes</td>
<td>$3,000.00</td>
<td>Creation of a Coastal Carolina Watershed Academy</td>
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<tr>
<td>Neff</td>
<td>$6,500.00</td>
<td>Reducing Greenhouse Gas Emissions at the College of Charleston</td>
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<tr>
<td>McNulty</td>
<td>$3,471.00</td>
<td>Bringing Environmental Issues to Children’s Literature</td>
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<tr>
<td>Pike</td>
<td>$5,276.00</td>
<td>Travel for North American Association of Environmental Education 32nd Conference</td>
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<tr>
<td>Pike</td>
<td>$3,000.00</td>
<td>Course Modification, Environmental Science</td>
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<td>Pike</td>
<td>$2,400.00</td>
<td>Travel for Greening the Campus V: Connecting to Place</td>
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<tr>
<td>Pompe</td>
<td>$3,000.00</td>
<td>Sustainability Themes in Photography Courses</td>
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<tr>
<td>Boiter/Fowler</td>
<td>$7,500.00</td>
<td>Lighting on Demand</td>
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<tr>
<td>Parker</td>
<td>$2,300.00</td>
<td>ISO-14000 Training - Lead Environmental Auditor Certification</td>
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<tr>
<td>Bolus</td>
<td>$3,000.00</td>
<td>Green Builders Certification Course Development</td>
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<tr>
<td>Bollinger</td>
<td>$4,700.00</td>
<td>Improving Recycling in Residence Halls: A Partnership</td>
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<tr>
<td>Dia</td>
<td>$500.00</td>
<td>Field-Laboratory of Natural Resources Sustainable Use at Congaree Swamp National Monument</td>
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<tr>
<td><strong>Affiliate Total</strong></td>
<td><strong>$42,447.00</strong></td>
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<tr>
<td><strong>GRAND TOTAL</strong></td>
<td><strong>$175,757.50</strong></td>
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## SUI Year 4 Financial Summary

<table>
<thead>
<tr>
<th>CATEGORY OF EXPENDITURE</th>
<th>CU</th>
<th>MUSC</th>
<th>USC</th>
<th>SUI</th>
<th>SC/SUI Total</th>
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</thead>
<tbody>
<tr>
<td><strong>Effect Change within Faculty</strong></td>
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<tr>
<td>Workshops</td>
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<td>New faculty</td>
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<td>Mini-grants</td>
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<td>Speakers, symposia</td>
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<tr>
<td><strong>Student and Community Programs</strong></td>
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<td>Student Led Initiatives &amp; Travel</td>
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<td>Community Network</td>
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<td>Other (USC NSF undergrad res. Match)</td>
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<td>Other (CU Reliance Env Ed mbshp)</td>
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<td>Special Project: U101 Video</td>
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<tr>
<td><strong>Operations</strong></td>
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<td>EMS work</td>
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<td>Other (Operations staff travel)</td>
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<td><strong>Manage Program/Share Results</strong></td>
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<td>SUI Supplies, mbrshps, travel, etc.</td>
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<td>SUI Phone (ld/vm/support)</td>
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<td>$ 184.00</td>
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<td>SUI Salaries inc. std assts &amp; fringe</td>
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<td><strong>Total expenditures</strong></td>
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<td><strong>Year 4 Grant funds available 1/2002</strong></td>
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<td><strong>Affiliate Schools</strong></td>
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<td>Mini-grants</td>
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<td>$ 91,769.00</td>
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<tr>
<td>a. Overall SUI budget included in USC</td>
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