Greening the Campus

Institutional Environmental Change at Tulane University

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# Greening the Campus: Institutional Environmental Change at Tulane University

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ABSTRACT

This study explores the barriers to institutional change at Tulane University and attempts to develop ways to overcome them. The central conclusion is that the inability for Tulane to make the campus environmentally sustainable in terms of operations and education is due to the lack of an institutionalized internal lobbyist and leader dedicated to environmental issues. An institutionalized “office of environmental affairs” with an “environmental coordinator” is needed to provide leadership. Policy, resources, means and ends, and education for environmental change are also lacking and should be procured and developed. These conclusions, which can be used as a metaphor for change in general in higher education, are based upon the institutional change literature and a model for change developed from that literature; an analysis of greening history at Tulane; models and lessons-learned from other universities going through the greening process; and information from interviews with Tulane students, staff, faculty and administrators. The study concludes with a “blueprint” for greening Tulane, which includes a proposal for an “office of environmental affairs” to institutionalize the greening process. Appendices provide comprehensive data, information and suggestions on past and potential future greening initiatives at Tulane and elsewhere, including economic analyses which show that greening the campus saves money.
I never knew such a dank corner of Tulane’s campus existed. Maybe I made a wrong turn. Surely this was not the basement of J.L. Hall, the beautiful dormitory named in honor of the founder of Newcomb College, the women’s division of Tulane. Its wide, tall hallways, and the grand ballroom with the chandeliers . . . could this place be in the same building and on a campus as beautiful as Tulane’s? 

Leaks in the ceiling were maintained with buckets, and the spillover created a musty atmosphere. Exposed pipes wound close above my head. The dimly lit corridors, devoid of human traffic, scared me. It seemed like something out of a bad horror film. Who would live down here? They would never put students in such a place; why would there be offices? Why ever would the Recycling Department be shoved down into this cellar?

Wait, there’s the Key Shop. He told me if I found the Key Shop, I had gone too far. At least I knew I was in the right area. Okay, next the double doors. Which set? There were two. I guessed at the first, knocking timidly. No response. I was on time, maybe a few minutes late. He said he would be here. . . . I knocked a little louder on the second set of doors. No response. I hadn’t seen anyone since I walked down the corridor. Then someone burst out of the first set of double doors and walked up and out of the building in a hurry. They left the doors open, and I poked my head in. This was no office: boxes of junk, an old bike, a broken coffee table. Then a phone rang. “Recycling, Keith speaking.” I found him behind a partition that delineated his corner office.

I spent the next hour listening to Keith Hook, coordinator of Tulane’s Recycling Program, talk about the successes and failures of recycling at Tulane. The 1994-95 fiscal year was shaping up to be a successful one for Recycling. In the article I wrote as a result of that interview with Keith, I reported that the Program had already recycled over one million pounds of waste and had made over $15,000 in revenue from selling the recyclables before the fiscal year was even finished.

We talked for some time about what still needed to be done. Tulane needed to increase its recycling rate because of the impending closure of Recovery One (the landfill for greater New Orleans) and the expected doubling of the cost paid per ton to dispose of waste at the landfill (tipping fee). Waste reduction, campus-wide recycling, landscape composting and dorm recycling were the ways to achieve this. President Kelly had appointed a committee, the Tulane Environmental Project (TEP), in 1990 to address campus environmental issues. The TEP decided that recycling was first on its agenda, and recycling was institutionalized solely because of their efforts. The administration supported the TEP initiatives, and Keith, although he had faced many obstacles in the past, was optimistic. But students were initiating ad hoc dormitory recycling programs (usually unsanitary and unsuccessful) and wondering why the University was not more supportive.

I was hooked. I had been involved in establishing a recycling program at my high school, and, as a first-year student at Tulane, I was an Environmental Studies coordinate major. Thus began my initiative to improve recycling, and other environmental initiatives, at Tulane.

Now, four years after I met Keith and eight years after the inception of institutionalized
recycling at Tulane, campus-wide recycling is still struggling (faced with turnover, potential and real budgetary cuts, and the loss of the campus Recycling Center); landscape composting is minimal and unorganized; dorm recycling is a moderate success; and TEP has not met in years. Few other environmental initiatives have resulted in measurable successes. I have been to innumerable meetings with students, administrators, faculty and staff from all divisions of the University, trying to improve the Recycling Program and to get environmental issues incorporated into the core of the University. The TEP, Keith, previous Recycling Coordinators and the Green Club have prepared reports indicating the direction the University (primarily the Recycling Program) should take to initiate positive environmental change. Together, with many others, we have labored countless hours (even whole summers) to green the University and provide the entire campus access to recycling. We have made agreements to eliminate styrofoam use; but it and other disposables are still the status quo in food services. An environmental sociology class did a campus environmental audit outlining campus environmental problems and making suggestions. Interest in the document was tepid, it raised a few eyebrows and elicited a few responses from those whose departments were criticized, but reactions were primarily about semantics. Little action resulted from the release of the report to the campus community. After every lurch forward, there seemed to be a giant step backwards. Our every attempt to reform the Recycling Program has been hampered, delayed or resisted. And campus recycling is only the tip of the iceberg when approaching campus environmental issues.

It is with much trepidation that I confront many of my mentors, professors, advisors, peers and respected friends in this study; these confrontations are in no way personal. I do so in the hopes that my arguments are convincing and that together we can move Tulane towards environmental sustainability. Eventually, the fruits of our labors will spread to society, and it too will move closer to sustainability. Though I do not always make it explicit, this study chronicles much of my personal history at Tulane. My experiences with campus greening – my three year tenure as President of the campus environmental organization, the Green Club, my involvement with the Environmental Studies Program (as a student and employee of the Program), and my initiatives as a student leader – have taught me much. Additionally, I am in a unique position among student activists to learn about the campus and follow-up with environmental change initiatives since I stayed at Tulane for a fifth undergraduate year. This study is the result of five years of experience at Tulane and two years (including two summers) of extensive researching and interviewing; additionally, I posted an early draft of this document on the Internet, sent out copies for review, and gave presentations in classes and at numerous conferences. Many people contributed to this work and my understanding of the issues involved, and to them I am truly grateful. Finally, Sarah Creighton’s superb book *Greening the Ivory Tower* (MIT Press, 1998) came out after I finished the bulk of the work on this study. Her findings and mine are mostly parallel, with only some diverging points. I believe that the fact that our works converged in so many ways signals a rapidly developing coherence to the arguments for campus greening.

The following is my vision for Tulane University to become a model for environmental responsibility in academia.
Executive Summary

How do institutions change? How can change occur at an institution of higher education such as Tulane? What (or who) prevents well-meaning changes from occurring? This study uses environmental concerns at Tulane University as a case study to examine the institutional change process. Agents of change should be able to use the examples and conclusions in this study as a basis for making changes at Tulane or any institution. The thesis is that the inability for Tulane to make the campus environmentally sustainable in terms of operations and education is due to the lack of an institutionalized internal lobbyist and leader dedicated to environmental issues. The argument is supported with a model for institutional change (developed from an extensive literature review), a historical analysis of non-environmental and environmental change initiatives at Tulane, a review of campus greening programs in institutions of higher education in the United States, and a series of interviews with Tulane students and employees. In conclusion, an Office of Environmental Affairs (OEA) with an Environmental Coordinator is needed to provide continual and focused leadership. Policies, resources, means and ends, and education are also lacking and should be procured and developed. These elements, from the model for institutional change, are incorporated into a “Blueprint for a Green Tulane,” which outlines the steps necessary for institutional environmental change to occur. The central component of that change is leadership from the Environmental Coordinator and from students, who will in turn carry their leadership in the environmental sustainability movement beyond the campus and help create a more sustainable world.

Background information on “greening the campus” and on Tulane University.

“Greening the campus” means increasing environmental awareness and/or action on campus – in the operational facilities and processes of the campus as well as in the human communities of the campus and surrounding areas. Greening the campus involves working towards some or all of the goals set forth in the Blueprint for a Green Campus (see Table 1). Although the fundamental theme of greening is education, this study focuses on campus operations, the greening of which is pedagogical, not just educational.

The economics of campus environmental initiatives in higher education are well documented: greening the campus saves money (see Table 2). Investing in campus greening is therefore an economic, educational, and environmental investment with handsome returns – both financial and social.

In addition to saving money, campus greening allows students to learn how to infuse environmental sustainability into the larger society. Students must be able to practice (and see the University practice) the lessons of environmental sustainability which they are taught in the classroom. Tulane has committed to environmental studies, along with three other areas of interdisciplinary interest: urban studies, international studies, and information technology. Together, the four are conducive to environmental responsibility and stewardship.

Tulane University is located in uptown New Orleans in the state of Louisiana; the distinction “uptown” comes from the area being up-river from the historic French Quarter, the original and southernmost French settlement on the 2,552-mile-long Mississippi River. The Mississippi River Basin drains 30 states, or 1.15 million square miles of land (41% of the landmass of the continental United States). The River is the dominant feature of New Orleans,

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1This summary is the same as the article submitted for publication as "Institutional change and leadership in greening the campus" in Sustainability and University Life (Peter Lang Publishers, 1999).
and Tulane is beginning to design research agendas and teaching curricula around it. Doing so is particularly appropriate, since Paul Tulane, the benefactor of the University, was a River pilot.

Tulane was established in 1834, with 11 students and 7 faculty in a rented hall, as the Medical University of Louisiana to study and treat “the peculiar diseases which prevail in this part of the Union” (Tulane University 1997). Tulane is now diversified into 11 academic divisions with approximately 6,500 undergraduates, 4,800 graduate students, and 8,000 employees, of which approximately 1,750 are full- or part-time faculty. A University-sponsored study determined that 24,000 Louisiana workers owe their jobs directly and indirectly to Tulane. Additionally, the University injects approximately $1.5 billion into the local economy each year (Strecker 1998). With its historical location on the Mississippi River, traditional focus on health and education, and significant impact on the local economy, Tulane has a formidable presence in the southern United States.

Presently, Tulane is in a time of profound change: a presidential transition. Tulane’s new President, Dr. Scott Cowen, sees the academic year 1998-99 as a “Renaissance of thought and action” to redesign Tulane for the future. The present state of strategic planning is an opportune time for institutionalizing the greening process. An initial assessment of the Tulane environment (an environmental audit, discussed below) shows that much needs to be done, even though Tulane is not at ground zero with respect to greening. Environmental change, however, will not happen spontaneously; a bold change agent must take an active approach to ensconce environmental values into the core of Tulane’s mission: its educational, service, research and operational structures.

**Institutional Change.**

*A Model for Institutional Change*

Figure 1 is the model of institutional change. It is derived from the literature on institutional change in higher education. Additionally, case studies in non-environmental and environmental change at Tulane and in academia support the model. The key element is a leader who is an administrator or faculty member but not a student, because students lack power and connections and are temporary (students, however, do play absolutely integral roles in the change process, as discussed below). In addition to the leader, leadership from the administration in necessary to support the change agenda.

The model is a conceptual framework for understanding and implementing change. It is dynamic: the dark arrows represent normal “flow,” whereas open arrows represent feedback. The model is dynamic not only in itself but also between applications; different circumstances result in different paths. For example, education (the “end”) may result in further advocacy for new changes (thus the dotted line, effectively making the model cyclical); also, procuring policy may return the advocates to the advocacy stage before getting resources. The model is not rigid; for example, policy may be skipped entirely – but the results of the change may not be permanent as a result. Dividing the change process into the segments of the model is artificial but necessary. Institutional change is not spontaneous, and greater understanding of the process will increase the likelihood of success for change movements.

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2 The 11 academic divisions are as follows: three undergraduate and one graduate Liberal Arts and Sciences colleges with 30 degree-granting departments, and schools of Engineering, Architecture, Law, Medicine, Public Health and Tropical Medicine, Business, and Social Work.

3 The complete literature review is available in the *Greening the Campus* study.
Advocacy is the impetus to begin change. It is the product of diffuse, irregular efforts of (primarily) students and faculty found in the “shadow” of the university – the area outside of the “mainstream” of campus life and separate from the traditional governing structures of the institution (David Ehrenfeld, personal communication, 1998; Mansfield 1998; Bowers 1997). Advocacy is usually a grassroots or bottom-up effort, but top-down advocacy is just as important: the two converge in the middle to create the integrated advocacy required for institutional change.

Advocacy results in policy. Development of specific and general policies should be consensual, with the input of all appropriate parties. Policies should be applicable, enforceable and non-rhetorical in order to support, justify and communicate the change goals. Additionally, policy development and having policies in place is a form of education (a mean and end) about the change agenda. (Creighton 1998, MacTaggart 1996, Strauss 1996, Keniry 1995, Smith 1993, Hamburg and Ask 1992, Lane 1990, Cerych and Sabatier 1986, Fantini 1981, Gitell 1981, Altbach 1974.)

Advocacy and policy procure resources. Roughly prioritized, the primary resources are personnel (a leader, support staff, an office), financial resources, information and data, power (or direct access to power), and the ability to offer opportunities and incentives for improvement and positive change. Resource allocations should be in line with the missions of the institution, and a continual supply of necessary resources will maintain the desired changes. (MacTaggart 1996, Keniry 1995, Smith 1993, Hamburg and Ask 1992, Dominick 1990, Lane 1990, Cerych and Sabatier 1986, Gitell 1981, Altbach 1974.)

Leadership is the key and defining element of the model for institutional change. Advocacy procures the leader, who is supported with policy and resources. The leader is in an institutionalized position dedicated to the change agenda. He or she is the change agent: the communicator and facilitator of the change process, the advocate and lobbyist for the change agenda. The leader needs power or direct access to power. The institution – especially the administration, who should also act as leaders for change – must support the leader. Finally, the leader should be charismatic: important character traits include communication, interpersonal and listening skills; visionary planning; and the capability to accomplish meaningful projects. (Creighton 1998, Berry and Gordon 1993; also Riggs 1997, MacTaggart 1996, Dolence and Norris 1995, Keniry 1995, Smith 1993, Lane 1990, Farmer 1990, Dominick 1990, Wood 1990, Rainsford 1990, Cerych and Sabatier 1986, Gitell 1981, Altbach 1974; Orr 1990, 1992, 1994, 1995 and 1996.)

While the leader is the key element to the model, it is also the place for the potential tragic flaw: How can one person do so much and be so great? Some solutions to address this potential weakness include an additional leader or leaders, support staff, a guiding committee (one that provides broad administrative leadership, ideas, a modus for communication and potential resources) and, most importantly, involving students in the change process. The integral roles of a committee and students are discussed below.

The leader develops well-defined means to achieve agreed-upon ends. Neither the means nor the ends can be rigid. Means are the implementation plans; they are many and specific, and they address education and process re-engineering (physical and administrative). Ends are goals; they are few and broad in scope. Examples of ends might be ecological literacy of graduates and an environmentally sustainable campus. (Alinsky 1971; also Keniry 1995, Dolence and Norris 1995, Smith 1993, Eagan and Orr 1992, Lane 1990, Wood 1990, Farmer 1990, Altbach 1974.)

Education is the primary mean and end. Campus decision-makers must be educated on the change agenda – on the mechanics of its means and its desired ends. The same issues should be communicated to the entire campus, since education about the change agenda is not spontaneous. For example, in environmental change, the campus community will not

Some theory ties together the model for institutional change in higher education: Change does not happen spontaneously (Ackerman 1997, Bowers 1997, Williams 1991, DeYoung 1986). The changes pursued must be realistic. They will take time to achieve and will never be 100% complete (MacTaggart 1996, Steeples 1990, Cerych and Sabatier 1986). Operational changes affect some people significantly, while most are affected only minimally; transformation, not revolution, is needed. A two-dimensional framework of change is appropriate for Tulane⁴: depth is the degree to which a change requires a departure from existing values and practices, and breadth is the number of areas within the institution that a change is expected to introduce modifications. Wide / deep changes result in opposition, whereas narrow / shallow changes do not take hold. Changes are most likely to succeed when they are moderate in depth and breadth of change (Cerych and Sabatier 1986). Institutional environmental change with regard to campus operations is moderate change (Hamburg and Ask 1992).

**Institutional Change at Tulane (Non-Environmental)**

Past change initiatives at Tulane show that, despite numerous barriers, both moderate and profound changes are possible – given an empowered leader (or leaders) with resources and policy who introduces means and ends to implement change. Six cases exhibit non-environmental change: Tulane’s management of the Housing Authority of New Orleans (HANO); multicultural affairs; bisexual, gay and lesbian affairs; Tulane College’s Programming Office; Tulane 2000; and the University Transformation Program. People did not immediately embrace these issues (they were not spontaneous); advocates and leaders convinced the campus that they were meaningful changes. For example, Tulane’s management takeover of HANO was not a spontaneous move – the leader who initiated the project believed that Tulane’s involvement was appropriate and in the best interests of HANO, Tulane, and the citizens of New Orleans.

Multicultural affairs; bisexual, gay and lesbian affairs; and programming issues in Tulane College show that it is necessary to establish offices responsible for oversight and implementation of changes. Advocacy began the establishment of all three, and all established policies and procured resources (an office, a budget, a director, etc.). Then institutionalized leaders implemented educational programs (means) to achieve broad goals (ends).

Two recent reforms were much more ambitious in their scope: Tulane 2000 sought to stabilize the University’s budget (and subsequently focus the institution’s academic priorities) with broad cutbacks, increased revenues and reallocations of resources; and the University Transformation Program sought to improve the quality of staff services and classrooms, along with starting an extracurricular program for first year students, instituting an information technology helpdesk, and establishing an international studies office. Both initiatives had a leader (the President and the Provost, respectively) and resources to develop and implement policy to make change.

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⁴ Cerych and Sabatier (1986) put forth a three-dimensional model, but the third dimension is for multi-institutional systems (“level of change”), such as state schools with many campuses that are completely unconnected except for their central source of state funding. While Tulane has eleven different schools, they are all under the same administrative superstructure.
The necessary elements of achieving change characterize these preceding examples, and most fit into the strategic goals of the University (urban studies, international studies, environmental studies and information technology). Missing, however, is a concerted effort to make Tulane more environmentally responsible. While environmental research, and to some extent education, have improved (due to grant monies), the third and critical element of an environmentally focused institution of higher education – operations – has not been greened.

Institutional Environmental Change at Tulane

The above model shows that an institutionalized leader needs policies and resources in order to develop the means and ends and the education to move Tulane towards environmental stewardship. At Tulane, that leader should be an Environmental Coordinator in an institutionally supported Office of Environmental Affairs (OEA), which reports the Tulane Environmental Committee (TEC), the creation of which is the key advocacy needed to begin the institutionalization of the environmental change process at Tulane.

Tulane needs a general environmental policy and specific policies for certain greening projects such as recycling and procurement; the University cannot rely on the strategic goal of environmental studies to provide that policy. Resources (in the form of personnel, money, information, power and incentives) are needed for the greening initiative. The leader develops the means to achieve an environmentally sustainable campus that carries the message of environmental stewardship into society. Motivation (education) is critical: the OEA must communicate environmental concerns to the entire campus in order to accomplish greening goals. The leader should place special emphasis on key decision-makers to catalyze and maintain their support.

Institutional environmental change at Tulane is possible. Campus greening goals do not alter the basic mission of the University, in fact they complement them: environmental studies meshes well with information technology, international studies, and urban studies. Although much remains to be done, Tulane is not starting at ground zero. The environmental change needed at Tulane is moderate in the breadth and depth of change that would affect the University. With the advocacy to procure policy and resources, an institutionalized leader can provide the means, ends, and education necessary for institutional environmental change. An Environmental Coordinator is key to coordinating environmental programs in the many divisions of Tulane.

The History of Greening at Tulane.

The three divisions of the university are research, education and operations, and each has been greened to some extent. Case studies in each area support the model.

Environmental research has been the most successful division. It is a popular area because of the income associated with research grants and the opportunities for publishing. Also, quasi-policy (the environmental studies focus) and resources (multi-million dollar grants) led the development of extensive environmental research programs. The leadership of Dr. John McLachlan of the Center for Bioenvironmental Research (CBR) has developed, coordinated, and maintained environmental research program opportunities. The research division received a subjective grade of “A-” in the spirit of the Green Gradecard for the Green Wave environmental audit (discussed below).

5 The Green Gradecard did not use any standardized grading procedure; the students who conducted the audit relied on subjective judgement to grade each area of the institution. The same subjectivity was used in this study, although the research behind the subjective decisions was much more extensive.
Tulane’s Environmental Studies Program (ENST) has a history that epitomizes how institutional change occurs. In the early 1970s, students lobbied for the creation of the ENST. The coordinate major program (where students major in another field in addition to Environmental Studies) stagnated until the early 1990s, however, because the program was not allocated a budget and had only the devotion of one professor, who was not compensated for his involvement. As a result of the then new environmental studies focus of the University, the program progressed: new faculty became involved and established an environmental education committee, and grant monies provided the resources to offer course development grants, purchase equipment, hold training seminars, and hire a part-time program coordinator. As a result, the program prospered, and enrollment increased dramatically. But the faculty leading the program could not dedicate enough of their professional time to the program; they treated it as if it were a University Senate committee. The student environmental organization, the Green Club, worked cooperatively with the ENST on numerous projects, including the campus environmental newsletter the *Environmental Forum*, the development of campus environmental email listserves, and the design and publication of the *Enviro Counter Culture Catalog: A guide to environmental classes at Tulane*. The *Enviro Catalog* has received wide acclaim from within and outside of the University. In 1998, the grants ended, and the University refused to provide a budget for the ENST and its more than 50 students. The CBR stepped in to fund the Program, but that funding also came from grants. Thus, the future of the environmental education program at Tulane is in question because of the lack of institutional support (i.e., a budget). Additionally, the Program is still directed by faculty members who are over-extended in their administrative commitments. While the ENST has potential to be a top program at Tulane and in the southern United States, the lack of administrative support and the absence of a full-time dedicated leader are hindering such success. The education division received the subjective grade of “B-”.

The Green Club and the Tulane Environmental Project (TEP) have been significantly involved in the greening of one operational aspect of Tulane: recycling. Recycling at Tulane began in the 1970s as a volunteer effort. In the late 1980s the Green Club formed to address more institutionalized recycling. In the early 1990s, the Green Club leadership petitioned the University to establish a committee to green the campus. Tulane’s President at the time, Dr. Eamon Kelly, established the TEP and appointed Professor of Environmental Law Oliver Houck as chair. The TEP was active for two years. In the first year the members of the TEP researched and implemented a recycling program, hiring a full-time coordinator and receiving a minimal University budget. (In their second year they began a recycled procurement program to “close the loop,” but that initiative was limited to a few paper products.) Peaks and troughs in student leadership and activism (advocacy), the coming and going of numerous recycling coordinators over the years (leadership), and variable administrative support (resources) have led to peaks and troughs in the success of recycling operations. The Green Club has attempted other operational greening programs (e.g., a “Green Dining” initiative in Tulane dining areas that has had minimal impact), and the administration took on an economics-based lighting retrofit (which did not include any education initiatives for saving energy and had no explicit environmental motives), but no other significant environmental operations initiatives have been institutionalized. The operations division received a subjective grade of “D-” / “D”.

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6 For more information on Tulane’s innovative faculty enrichment seminars, visit [http://www.tulane.edu/~efes](http://www.tulane.edu/~efes).

7 The *Catalog* is on the Internet at [http://www.tulane.edu/~greenclb/catalog/](http://www.tulane.edu/~greenclb/catalog/).
The history of greening at Tulane supports the model described above and reaffirms the need for a leader. Research has had a supported leader, and that division has been successful; numerous centers and laboratories at Tulane focus on environmental research. As for education, the Environmental Studies Program cannot rely completely on whimsical outside grants; it should be a University-supported program with a leader. Recycling and procurement programs are in need of improvement; each should develop coherent policy and comprehensive means to achieve those ends. Additionally, other campus greening programs for operations need to be established for Tulane to live up to its reputation as an environmental (research and education) university.

The Environmental Coordinator of the OEA could work closely with the ENST, CBR, Green Club, Recycling, and various schools and departments. The OEA could coordinate campus greening projects with students, staff, faculty, administrators, and the local community in the education, research, and operations divisions. All divisions need the support of the University administration and past greening leaders. An environmental audit of Tulane and lessons from academia support for the model for change and provide ideas for greening programs at Tulane.

The Greening Phenomenon in Higher Education.

The Green Gradecard for the Green Wave environmental audit highlights many areas that are in need of improvement at Tulane, especially when it is compared with other institutions of higher education. Experiences in academia offer caveats, lessons-learned and examples on which Tulane can build – and even exceed. The greening initiatives in academia support the model for change, and they show the sound economic, social and environmental implications of such programs. (Creighton 1998, Eagan and Keniry 1998, Keniry 1995, the Blueprint 1995, Smith 1993.)

Environmental audits are powerful tools for gathering information about the environmental quality of the campus. They are the starting point for environmental change, and they provide information to educate the campus, the community and especially those involved in the audit. Tulane’s audit, the Green Gradecard for the Green Wave, which an Environmental Sociology class conducted in the Spring of 1997, evaluated various areas of the University and issued letter grades with respect to environmental performance. Environmental Studies, an energy saving lighting program, and hazardous waste policies received “A-” grades, while recycling, investment practices, and procurement of chemicals and pesticides received failing grades. Overall, the audit graded twenty-two areas, and Tulane’s “Green GPA” came out to a 1.9 / 4.0, or a “C” average (see Table 3). The audit concluded that the University should make an “institutional commitment to incorporate environmental decision making into all facets of [campus] operation . . . [and] establish a standing University Committee for Environmental Affairs.” The Gradecard supports the model for change in that it advocates for institutional policy and resources that would allow for administrative (leadership) efforts to implement environmental change.

Programs at other institutions concerned with environmental curricula and campus environmental consciousness illustrate the essential role of leadership to provide education; their success is reflected in campus environmental cognizance. Progressive environmental building, land-use and transportation (parking) policies have social, administrative and economic benefits.

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8 The Green Gradecard for the Green Wave is available on the Internet at http://www.tulane.edu/~greenclb/audit/audit.html. The term “wave” is used because Tulane’s mascot is the “Green Wave.”
Energy and water conservation programs are financially sound and serve as education about the importance of conserving natural resources. The greening of food service operations has health, environmental, and economic benefits for the campus and local community. Waste issues (recycling, hazardous waste and medical waste) are visible to many in and out of the campus community; greening them is fiscally responsible, is educational, has positive impacts for the environment, and improves the image of the institution. Green procurement provides market stimulation to keep recycling and waste reduction initiatives available and economical. Finally, environmental research and socially responsible business and investment procedures have impacts that can be felt around the world. Case studies from progressive and innovative institutions in the above areas provide examples of what and how Tulane can green (see Creighton 1998, Keniry 1995, Smith 1993, Eagan and Orr 1992). Additionally, many of the case studies support the model for change. These greening initiatives contribute to achieving sustainability – on campus and beyond.

Hearing from the Tulane Community.
A series of interviews with Tulane students, staff, faculty, and administrators further support the model. Five of the six questions support the thesis of this study, that a leader is needed to institutionalize and carry out greening efforts.

The four main institutional change barriers, as determined from the interviews, are:
- institutional / organizational (lack of communication, lack of advocacy and the lack of a leader),
- financial (lack of allocation of resources),
- cultural (lack of education),
- educational (lack of a modus for education).

Greening programs should relate to:
- operations (administrative and physical) and
- education (individual and community learning, both in and out of the classroom).

The results of the interviews clarify roles of each tier of the University community:
- students as learners, educators, and advocates;
- staff as learners and empowered “doers”;
- faculty as advocates and educators (who should practice environmental sustainability, especially if they teach it); and
- administrators as leaders in all aspects of the greening process.

The responses for the roles of administrators reiterated every element of the model and focused on the need for an Environmental Coordinator to lobby the administration on environmental issues. Finally, interviewees affirmed that it is possible and appropriate to green Tulane. With initial input from the Tulane community gathered, a proposal for greening Tulane can now become more formalized.

The “Blueprint for a Green Tulane.”
The “Blueprint for a Green Tulane” is based on the model for change. The “Blueprint” is the outline of the steps needed to implement institutional environmental change at Tulane.

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9 The “cultural barrier” is complicated, and more research is needed on this subject. Many interviewees simply blamed the “culture of New Orleans” or the “Southern disrespect for nature” as reasons why environmental cognizance was minimal at Tulane. While such reasons may be true, the present author believes that other, more quantifiable, mechanisms are responsible, and a more detailed study could determine them.
Included in it is the proposal for the establishment of the Office of Environmental Affairs and the creation of an Environmental Coordinator position, both of which are explained below in more detail since they are the pivotal elements for the greening of Tulane. Presidential approval and action are the final stages.

**Advocacy**

**RE-ESTABLISH / REINVIGORATE THE TULANE ENVIRONMENTAL PROJECT (TEP) AS THE TULANE ENVIRONMENTAL COMMITTEE (TEC).** It is necessary for President Cowen to initiate the new TEC. The TEC would be charged with approval of an annual agenda for campus greening and a review of the year’s projects as coordinated by the Office of Environmental Affairs (OEA). A working group from the TEC and the OEA could develop the agenda and continually work with the OEA.

The Environmental Coordinator of the OEA would report to the TEC, and the Committee would, in turn, answer to the President (see Figure 2). It is necessary for the President to approve all appointments to the Committee, which would need a Chairperson of the President’s choosing to act as the Presidential liaison. The TEC would meet once (perhaps twice) each academic year with representatives from the students (e.g., the Associated Student Body and the Green Club), the staff (e.g., the Staff Advisory Council), the faculty (e.g., the University Senate, the Center for Bioenvironmental Research and the Environmental Studies Program), and the administration (e.g., the Executive Working Group). The representation will also involve explicitly the three primary divisions of the University: research, education, and operations.

The representatives on the TEC should be the key players on campus with regards to environmental change. As such, it will be the convergence of grassroots advocacy (which has been displayed for years) and top-down advocacy (which has yet to be shown) for environmental change. Simultaneously, the TEC will hold the power for making that change (i.e., the responsibility for planning in the OEA). The working group of the TEC could cooperate with the OEA throughout the year.

The TEC is the pivotal coordinating and advocacy body for environmental issues across the University, and the OEA is the leadership entity for carrying out environmental change. The TEC, the OEA and the Environmental Coordinator are interdisciplinary, interdepartmental, and interdivisional entities focusing on comprehensive institutional greening.

**Policy**

**PUBLISH A STATEMENT THAT TULANE WILL BE A LEADER IN ENVIRONMENTAL RESEARCH, ENVIRONMENTAL EDUCATION AND ENVIRONMENTAL STEWARDSHIP.** The statement should outline the core values of environmental responsibility that Tulane will espouse. With such a proclamation, the TEC working group would gather input from the University community via “town meetings” and would draft a University environmental policy statement for TEC approval. The President and the various legislative bodies of the University should then ratify the policy. Additionally, it would be necessary for the University to sign on to national and international environmental platforms, e.g. the Talloires Declaration and the Valdez Principles; such involvement brings national and international attention as well as assistance in implementing sustainability on campus. Finally, specific policies for projects such as recycling and procurement should be developed.

**Resources**

**SEEK FUNDING FOR INSTITUTIONALIZING THE OFFICE OF ENVIRONMENTAL AFFAIRS.** Funding sources should be internal and external. Internal funds could first come from a cooperative funding procedure, whereby each of the academic deans along with the vice-
presidents who would be primary representatives on the TEC would contribute $3,000 – $5,000 for the job search and first year’s salary of the Environmental Coordinator. With a job search estimated at $3,500 to $4,000 and with salary and benefits estimated at $36,000 to $36,500 (for a senior program coordinator position), a total of approximately $40,000 is needed; with eight academic deans and three vice-presidents, the cooperative funding program could work. To date, no one approached about the cooperative funding measure has resisted it, however, they did mention that they would be more willing to participate once they know that the President is in support of the OEA proposal. This literal buy-in into the OEA is important for developing cooperation among the various entities.

External funds could come from alumni gifts and endowments for programs (such as scholarships and speaker series) and grants for projects and operating expenses. An endowment of $1 million would secure the OEA in perpetuity; the Office of Development could assist in such fundraising. Some grants pending in the ENST are already including such monies in anticipation of the OEA; the ENST has found, however, that granting agencies will not pay for employee salaries but will provide monies for students, programs and operating expenses. A study sponsored by the Nathan Cummings Foundation suggests that granting agencies and foundations fund specific campus projects that have the potential for success and could serve as a model for other institutions to use. Additionally, the report suggests that the monies be used as “seed money” for projects that will eventually sustain themselves (Strauss 1996).

Other potential funding mechanisms include a University budget, internal “loans” repayable with savings from cost avoidance programs, and a student environmental fee. The more innovative the design of the OEA, the more marketable it is; as such, the OEA could easily raise outside funding – especially from alumni.

Other important resources include personnel (especially a leader and student employees, discussed below), information and data, and an office. Initial sources of information and data on greening initiatives (or lack thereof) at Tulane are provided in the corpus and appendices of the study Greening the Campus: Institutional environmental change at Tulane University and in the Green Grade Card for the Green Wave environmental audit. In the future, an annual report of the OEA submitted to the TEC (e.g., the “State of the Tulane Environment”) could chronicle important information and data. Finally, the OEA has been allocated office space in the new Environmental Science Building complex, where it will be in close proximity to most of Tulane’s environmental research and education programs. The CBR, Green Club and Environmental Studies Program can provide necessary office supplies, including a computer, until funding is raised.

Leadership

EMPOWER THE OEA TO MAKE A POSITIVE IMPACT ON CAMPUS. The Environmental Coordinator of the OEA should work closely with various campus entities and constituents to develop and implement greening initiatives. (Discussed below.)

Means and Ends

EDUCATE THE CAMPUS ON ENVIRONMENTAL ISSUES. This education could be via large- and small-scale seminars and programs for students, staff, faculty, and administrators; continued research into and implementation of greening initiatives; a comprehensive measurement system; the development of an environmental management plan; classroom and curriculum initiatives; and other programs. The TEC should initially prioritize projects for the OEA to undertake, and after the first year the TEC will approve annual plans and review past performance. The “ends”
should be outlined in general and specific policies. The Environmental Coordinator might also teach environmental classes, such as “Ecological Design” or “The Campus and the Biosphere.”

The Office of Environmental Affairs.

Leadership

The OEA will house the leadership that will make environmental change at Tulane: the Environmental Coordinator. The Director of the OEA (the Environmental Coordinator) should report to the TEC. Dr. John McLachlan and the CBR would essentially provide a “home” and some day-to-day operational oversight for the OEA, while the TEC would provide the approval and guidance for long-range operations; Dr. McLachlan might also chair the TEC. Such an establishment is necessary because of the access to the varied power and resources of TEC members, in addition to the valuable experience with successful environmental change initiatives of the CBR and its director. The TEC would involve the people who guide the University in its daily and long-range operations and would ensure that environmental concerns are heard. The TEC could appoint a working group (with ample student involvement) to cooperate with the OEA throughout the year on projects and programs. The organizational structure is presented in Figure 2.

The OEA should be “bootstrapped” to each division and tier of the University: research, education and operations; and students, staff, faculty and administrators. Bootstrapping means creating official and unofficial connections which prevent atrophy or abolishment of the OEA and which foster collaboration and cooperation between all areas of the University. Such connections would be established via the TEC: research programs with the CBR; educational and service programs with the Green Club, the Environmental Studies Programs, and the deans of all the colleges and schools; and operational connections (the ones which will receive much of the focus) with the Vice-President for Finance and Operations and the Vice President for Administration and Strategic Planning. Many other connections would also exist, including those with Janitorial Services, Student Programs, Orientation, Admissions, Housing and Residence Life, Athletics, and campus institutes (such as the Center for Research on Women, the Payson Center for International Development and Technology Transfer, the National Center for the Urban Community, the Center for the Study of New Orleans and the Mississippi River, etc.). These connections will “bootstrap” the OEA to the core of the University and provide mechanisms for gathering and disseminating information and for effecting change.

Having an Environmental coordinator – the leader – is absolutely critical to the institutional environmental change movement. The leader should be a full-time employee with appropriate experience and degrees; the leader cannot be a student, although students are the second key to success in the movement.

Students

Students from the Green Club, ENST, student organizations and the general student population will be pivotal to the feasibility and success of the OEA. Not only would students carry out office duties in the OEA, they would also participate and benefit from the myriad programs of the Office. To maintain their involvement in the OEA, ENST and OEA fundraising endeavors could provide work-study funds for student workers, scholarships for leadership and academic excellence, and research assistanceships for student projects. Such funding could also be used to recruit incoming students.

As “customers,” students are effective advocates for change; they could advocate and stand up for issues in student milieus by, for example, representing the OEA on various campus

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10 See http://www.tulane.edu/~enviro/pmba/enst481.htm for an example of such a class.
committees. Through the OEA, students would have an organized outlet for environmental activism, volunteerism and research opportunities as soon as they arrive on campus. They would provide a constant source of enthusiasm and ideas for the program, continually clarifying the raison d'être of the OEA. Students in the OEA would be involved in an active learning and service community.

The students could gain valuable leadership and job skills in their time working with the OEA. They could take part in efforts to educate other students and employees through various programs, such as greening seminars, Internet sites, and publications.

Not only can students contribute to the success of the programs and projects of the OEA, but they will also be active participants in their own ecological education. Students in ENST courses could do service learning projects in the community as well as research on campus environmental issues, effectively using the campus as a laboratory for environmental problem solving – and for learning how to make positive environmental change.

Programs of the OEA can also help create connections for students, especially between students and place (i.e., Tulane and New Orleans). And the connections they make at Tulane through the OEA – with outside agencies, community members, with professors and, most importantly, with each other – would insure the lasting success of the OEA because of the broad and dedicated alumni support network that could develop. The innovative programs of the OEA and ENST would surely attract new students.

The OEA will depend integrally on students; it will also empower, support and educate them. The relationship will be one of symbiotic, collective leadership and learning. Campus sustainability programs are an extraordinary boon for the students, the entire university community and, subsequently, modern civilization: the students will carry their lessons and skills with them into society, disseminating environmental sustainability wherever they live.

Programs

Potential programs of the OEA range from large-scale projects (such as conferences with national or international organizations) to smaller-scale projects (such as office recycling education in a particular department), and they would encompass all the divisions and tiers of the institution, the areas of Tulane’s strategic interest, and areas covered in the Green Gradecard for the Green Wave. All programs would strive for ecological literacy. Through the TEC, Presidential invitations could be sent to key faculty and administrators to strongly encourage them to attend the seminars and events, and in doing so, the OEA could be educating campus decision makers and crystallizing their involvement with campus stewardship programs.

The OEA would not necessarily run all the programs, but it would help coordinate efforts, provide information and experience, and advocate for new programs. Students are an integral part of the programming function of the OEA, and they comprise the crucial links between the Office and the myriad departments, programs and organizations on campus and in the community. The successful projects of the OEA should be chronicled in campus newspapers and newsletters, as well as in local or national media. Projects of the OEA would likely begin focused on campus; once the Office builds momentum and accomplishes some major campus greening tasks, programming could move into the local community. The program possibilities of the OEA are seemingly endless. (See Table 4 for some potential programs.)

Conclusion.

An extensive literature of experience and research supports the development of the OEA, and if it is developed using the model for change from this study, then chances for success are greatly improved. While the proposed OEA and Environmental Coordinator position may not be the panacea for all institutions, it is relevant for Tulane. An alternative to the OEA could be to
develop a new division at Tulane, for example, a “Dean of Environmental Programs” similar to the establishment Tufts University developed in the early 1990s. But such centralization would not engender the cooperation and coordination essential to the design of the OEA and Environmental Coordinator at Tulane, a university with many divisions, schools, and colleges. Thus, the ideal situation for Tulane is a committee reporting scheme (the TEC) explicitly linking and coordinating efforts from the students, staff, faculty and administrators and in research, education, operations, and service.

It is estimated to take one year to establish the OEA: development and fundraising (fall, 1998), fundraising and hiring (spring 1999), and implementation (and continuing fundraising) in the summer of 1999 in time for the fall semester, when programs would begin (and fundraising would continue). The three most important things needed immediately are:

- **Advocacy**: President Cowen’s blessing, support and directive for establishing the TEC.
- **Policy**: a commitment from President Cowen that Tulane will be a leader in environmental education, research, and operations, upon which the TEC will expound to create an official University environmental policy.
- **Resources**: funding for the salary of the Environmental Coordinator (to come from a cooperative funding initiative supported by President Cowen).

With these three requests granted – with the convergence of grassroots and top-down advocacy – Tulane can begin a concerted effort towards institutional environmental change. That change will not happen spontaneously: only with dedicated policy and resources will institutionalized leadership develop the means and ends to educate the campus and move Tulane towards sustainability.

This year – which President Cowen has hailed as a “Renaissance of Thought and Action” – is the year to make environmental change at Tulane. Tulane has proven its commitment to “thought”: environmental research and education programs are performing well. Now the administration must commit to the “action”: taking active steps to being responsible environmental stewards on our planet, in New Orleans, and on our campus.

**Acknowledgements.**

Many people contributed to the research and ideas that went into this study, and to thank all of them would be impossible. J. Timmons Roberts, Michael Zimmerman, and Charles Reith all contributed many dedicated hours of conversation, review, critique, and support. John McLachlan, Teresa Soufas, Yvette Jones, Christine Murphey, Dana Thomas, Melissa Vernon, and Kristin Traicoff all provided thoughtful comments and suggestions. Heartfelt thanks also go to the inspirational discussions with Julian Keniry and David Orr. And although any inaccuracies of logic or language are my own, Laura Robson supplied immeasurable support and countless editorial comments.
Table 1. The *Blueprint for a Green Campus* (1995) outlines a “green” campus as one that:

- integrates environmental knowledge into all relevant disciplines;
- improves undergraduate environmental course offerings;
- provides opportunities for students to study campus and local environmental issues;
- conducts a campus environmental audit;
- institutes environmentally responsible purchasing practices;
- reduces campus waste;
- maximizes energy efficiency;
- makes environmental sustainability a top priority in campus land-use, transportation, and building planning;
- establishes a student environmental center; and
- supports students who seek environmentally responsible careers.
Table 2. Annual revenues and savings for 23 campus conservation projects from the National Wildlife Federation’s *Green Investment, Green Return* report (Eagan and Keniry 1998).

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<thead>
<tr>
<th>Category</th>
<th>Project Description</th>
<th>Savings</th>
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<tbody>
<tr>
<td><strong>Transportation</strong></td>
<td>Reducing Car Use at Cornell</td>
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<tr>
<td></td>
<td>Increasing Bus-Riding at UC-Boulder</td>
<td>$1,000,000</td>
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<td><strong>Energy Conservation</strong></td>
<td>Saving Energy at SUNY-Buffalo</td>
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<td></td>
<td>Re-Refined Oil at UI-Urbana-Champaign</td>
<td>$3,500</td>
</tr>
<tr>
<td></td>
<td>Chemical Re-Use at the Univ. of Washington</td>
<td>$14,400</td>
</tr>
<tr>
<td><strong>Management of Hazardous Chemicals</strong></td>
<td>Reducing Weed-Killers at Seattle University</td>
<td>$1,300</td>
</tr>
<tr>
<td></td>
<td>Fewer Lab Chemicals at the Univ. of Minnesota</td>
<td>$37,000</td>
</tr>
<tr>
<td><strong>Composting</strong></td>
<td>Fertilizer from Food Waste at Dartmouth</td>
<td>$10,000</td>
</tr>
<tr>
<td></td>
<td>Landscape Waste &amp; Scrap Wood at UC-Boulder</td>
<td>$1,300</td>
</tr>
<tr>
<td><strong>Recycling</strong></td>
<td>Award-Winning Program at UC-Boulder</td>
<td>$107,000</td>
</tr>
<tr>
<td></td>
<td>Dining Services Recycling at Harvard</td>
<td>$79,000</td>
</tr>
<tr>
<td></td>
<td>Paper Recycling at UW-Madison</td>
<td>$120,000</td>
</tr>
<tr>
<td></td>
<td>Analyzing Wastes at UW-Madison</td>
<td>$21,000</td>
</tr>
<tr>
<td><strong>Total Savings &amp; Cost Avoidance:</strong></td>
<td></td>
<td>$16,755,500</td>
</tr>
</tbody>
</table>
Table 3. Gradecard from the *Green Gradecard for the Green Wave: Environmental Sociology Audit Project, April 22, 1997*

<table>
<thead>
<tr>
<th>AREA</th>
<th>GRADE</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum</td>
<td>A-</td>
<td>Strong, growing, funded</td>
</tr>
<tr>
<td>Buildings</td>
<td>C</td>
<td>New buildings OK, old poor; no renovation plans</td>
</tr>
<tr>
<td>Energy Use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>lights</td>
<td>A-</td>
<td>Upgrade program underway</td>
</tr>
<tr>
<td>heating/AC</td>
<td>D</td>
<td>Leaky buildings, overuse</td>
</tr>
<tr>
<td>Water</td>
<td>C</td>
<td>Overuse, poor conservation</td>
</tr>
<tr>
<td>Food Services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bruff Cafeteria</td>
<td>B-</td>
<td>Mostly reusable dinnerware, some vegetarian meals, low food waste, no donation, some recycling</td>
</tr>
<tr>
<td>University Center</td>
<td>C+</td>
<td>Mostly disposables, improving, as Bruff</td>
</tr>
<tr>
<td>Recycling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>academic buildings</td>
<td>B</td>
<td>Program needs more workers, infrastructure</td>
</tr>
<tr>
<td>dormitories</td>
<td>C</td>
<td>Need more institutional follow-up</td>
</tr>
<tr>
<td>campus grounds</td>
<td>F</td>
<td>Need bins on grounds</td>
</tr>
<tr>
<td>Composting</td>
<td>F</td>
<td>No composting of yard/food wastes</td>
</tr>
<tr>
<td>Procurement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>paper purchasing</td>
<td>B</td>
<td>2-sided / recycled paper policy exists, use varies</td>
</tr>
<tr>
<td>cleaning/pesticides</td>
<td>F</td>
<td>No environmental or safety considerations</td>
</tr>
<tr>
<td>hazardous waste policies</td>
<td>A-</td>
<td>Good policies exist</td>
</tr>
<tr>
<td>compliance</td>
<td>C-</td>
<td>Little or no awareness and action</td>
</tr>
<tr>
<td>Medical Waste gathering</td>
<td>C</td>
<td>Good safety regulations; poor information</td>
</tr>
<tr>
<td>Consciousness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>knowledge</td>
<td>B</td>
<td>Students aware of needs</td>
</tr>
<tr>
<td>action</td>
<td>D</td>
<td>Wasteful behaviors abound</td>
</tr>
<tr>
<td>Research</td>
<td>B</td>
<td>Much positive research, some poor funders</td>
</tr>
<tr>
<td>Investments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>business partners</td>
<td>B-</td>
<td>Pepsi, Marriott, BFI</td>
</tr>
<tr>
<td>endowment</td>
<td>F</td>
<td>No social/environmental screening</td>
</tr>
<tr>
<td>donors</td>
<td>D</td>
<td>Shell, Freeport-McMoran have poor environmental records</td>
</tr>
<tr>
<td>GREEN G.P.A.</td>
<td>C</td>
<td>1.97 Average Overall on 22 items</td>
</tr>
</tbody>
</table>
Table 4. Potential programs of the OEA.

- **Audits:** Continue general and focused campus environmental audits independently and in classes.
- **Recycling / Waste:** Education about and coordination of activities for campus recycling and waste minimization.
- **Procurement:** Increase recycled and less-hazardous product procurement, and develop a “Green Wave Seal” program, where local businesses and industries that conduct business in an environmentally responsible manner are awarded University contracts and receive local recognition for their accomplishments.
- **Water:** Retrofit water faucets and shower heads; organize watershed (Mississippi River) programs.
- **Energy:** Study and recommend the installation of energy efficient lighting (including solar), motion sensors, heating / air conditioning improvements, and other energy saving programs.
- **Dining:** Minimize use of disposables, increase locally grown food purchasing / consumption.
- **Transportation / Planning:** Address campus parking problems with a ride-share program or other appropriate transportation demand management program; cooperate with campus planning on new building designs.
- **Grounds:** Develop ways to maintain the campus landscape with indigenous flora and fewer chemicals.
- **Laboratories / Research:** Coordinate waste minimization programs and establish a chemicals exchange to save money and minimize disposal hazards.
- **Publications:** Assist with Green Club efforts and regularly publish the *Enviro Counter Culture Catalog* and the *Environmental Forum* newsletter; develop web sites focusing on Tulane’s campus greening initiatives and student recruitment publications.
- **Community:** Coordinate projects with the Community Action Corps of Tulane University Students (CACTUS), the Campus Affiliates Program, and the National Center for the Urban Community, such as establishing greener playgrounds in local housing projects.
- **Seminars:** Developed seminars to train environmental and non-environmental administrators, faculty, staff, and students on campus stewardship projects or on incorporating environmental literacy into their classes, offices, and lives.
- **Conferences:** Green non-environmental conferences (less paper, fewer disposables, etc.). Sponsor conferences that are related to core themes of the University, such as the Mississippi River and New Orleans, or environmental, urban, international or information technology studies.
Figure 1. Model for institutional change.
Figure 2. Proposed organizational chart.

President

Tulane Environmental Committee *
(campus-wide committee)

TEC Regular Working Group:
Students, Staff, Faculty
(Administrators when necessary)

OEA Environmental Coordinator

CBR

* Tulane Environmental Committee

Appointed with Presidential Approval; Yearly Meeting for Agenda Setting / Approval; Representatives from:
Administration: Executive Working Group
+ Operations: VP Fin. & Ops., VP Admin. & Strategic Planning
+ Education: Provost, Deans, Environmental Studies
+ Research: CBR

Faculty: University Senate, CBR, Environmental Studies, faculty

Staff: Staff Advisory Council, staff

Students: ASB, Green Club, students
References.


CHAPTER ONE
INTRODUCTION TO GREENING THE CAMPUS

Change is not a cliche.
- Dr. Eamon M. Kelly,
The Thirteenth President of Tulane University

Introduction.

How do institutions change? What prevents well-intentioned institutional reform? How can institutional environmental change occur at an institution of higher education such as Tulane? Surely administrators are not “anti-environment,” “anti-recyclers” or “anti-health”? In fact, all at Tulane with whom I have spoken whole-heartedly support the improvement of campus recycling, energy efficiency and other environmental initiatives. Blaming financial constraints, of which there are many, is a simple and common excuse. In fact, making campus environmental improvements could save millions of dollars and positively affect the economies and communities of New Orleans and the world. But financial constraints do not explain why those reforms that are not capital intensive (or have payback potential either in monetary or educational benefits) are so difficult to achieve – especially since “the environment” is slated as a core element of Tulane’s mission.

This study explores the barriers to institutional change at Tulane University and attempts to develop ways to overcome them. I will argue that the inability for Tulane to make the campus environmentally sustainable in terms of operations and education is due to the lack of an institutionalized internal lobbyist and leader dedicated to environmental issues. An institutionalized “office of environmental affairs” with an “environmental coordinator” is needed to provide leadership. The administration must provide ample support for environmental issues. Policy, resources, means and ends, and education are also lacking and should be procured and developed. These conclusions, which constitute a model for making change in higher education, are based upon the institutional change literature (Chapter Two); an analysis of greening history at Tulane (Chapter Three); models

1 The verb “to green” (and its related parts of speech) means “to increase environmental awareness and / or action.”

2 Personal communication, in the Tulane class “Organizational Leadership and Management in Developing Countries,” 1/30/98.


4 Bacon-Blood (1997) and Strecker (1998) report that a Tulane economic study shows that Tulane University and the Tulane University Hospital and Clinic have a $1.48 billion economic impact on the state of Louisiana. Tulane contributes $71.8 million annually in taxes, provides over 24,000 jobs directly or indirectly. (See the report from the Tulane Office of Government / Agency Affairs and Institutional Program Development for the original data.)

5 Pope (1997) describes how the patents of Tulane researchers enter the marketplace and benefit humanity, specifically with respect to medicine. Schlueter (1998) reports that Tulane’s Office of Technology Development has generated $6.6 million in gross revenues for technology licensing in fiscal year 1997-98. Such results bring national attention to Tulane, which ranked eighth in the nation in private and 15th overall in technological developments.

6 While throughout this study I discuss “a leader,” that leader will not succeed without the administrative and campus support of the Tulane community. Multiple people at any one time may be this “leader,” though one centralized leader is needed to catalyze that leadership and to garner the necessary support.
and lessons-learned from other universities going through the greening process (Chapter Four); and information from interviews with Tulane students, staff, faculty and administrators (Chapter Five). I conclude with a “Blueprint for a Green Tulane” based on the model presented in Chapter Two, which includes a proposal for an “office of environmental affairs” to institutionalize the greening process (Chapter Six). Additionally, in the appendices I provide comprehensive data, information and suggestions on past and potential greening initiatives at Tulane and elsewhere, including economic analyses which show that greening the campus saves money.

A few employees of the University have been (and remain) this “internal lobbyist” on a part-time ad hoc basis, but the professional duties for which they originally came to Tulane prevent them from dedicating themselves to University environmental issues. Broad administrative leadership on environmental issues in education, research and operations, however, is necessary, and it has been lacking. In many respects, I have acted as this lobbyist. As a student, however, my stay at Tulane is limited not only temporally but also to the degree of dedication with which I can serve the University, which, ironically, is purportedly there to serve me.

This irony leads me to the question: What is the role of a university? Paul Tulane, a founding benefactor of Tulane University, said that his one million dollar donation in the early 1880s was “for the promotion and encouragement of intellectual, moral, and industrial education.” Webster’s Dictionary (Tenth Edition) defines “university” as “an institution of higher learning providing facilities for teaching and research and authorized to grant academic degrees.” But much more than teaching and research and degree granting goes on in a university, which is run like a business. An institution of higher education is first for education and second for research; to support those scholarly pursuits, maintenance of the institution is required. Institutions of higher education are responsible for building our future society, of which the institution is an integral and dynamic part.

How does campus greening fit into that role? To answer that, I will first define what greening the campus is, and then I will discuss the rationale for greening at Tulane.

What Is “Greening the Campus”?

The 1995 Blueprint for a Green Campus from the Campus Earth Summit outlines ten
recommendations for a campus to be “green” and contribute to protecting the environment. The Summit was held at Yale University in February 1994, and 450 attendees came from 22 countries, 6 continents and all 50 states. Together they crafted a set of recommendations for higher education institutions to work towards an environmentally sustainable future. Many leaders in the field of campus greening use the Blueprint as a core to define a green campus. I too will use the outline, expanding upon it indirectly in Chapter Six. A “green” campus as outlined by the Blueprint is one that:

- integrates environmental knowledge into all relevant disciplines;
- improves undergraduate environmental course offerings;
- provides opportunities for students to study campus and local environmental issues;
- conducts a campus environmental audit;
- institutes environmentally responsible purchasing practices;
- reduces campus waste;
- maximizes energy efficiency;
- makes environmental sustainability a top priority in campus land-use, transportation, and building planning;
- establishes a student environmental center; and
- supports students who seek environmentally responsible careers.

Greening the campus, then, is working towards some or all of these goals in addition to the others that a particular campus outlines; greening is literally increasing environmental awareness and/or action on campus. Although it appears to be a massive undertaking, greening ranks about midway on a scale of depth and breadth of institutional change. It is certainly no minor task to change a campus to a green one. Greening the campus, however, is not about “reinventing the wheel” or shifting the entire mission of the institution. As Dr. Kelly stated, “change is not a cliche”; environmental change is possible. Being green does not happen spontaneously; it requires hard work, clear thinking and focused determination.

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12. The “environment” is not just the great outdoors. The work-place and home environments are the ones in which we spend the most time. Built structures, city infrastructure, parks and other people constitute the urban and community environment; the global environment (or biosphere) is comprised of humans, other species, and human-made and natural environs such as cities and wetlands. Protection of the biosphere and all its environs large and small is imperative for preserving our standard of living and our existence. The university, like most institutions, is connected to the environment in many ways, especially through resource flows (into and out of the campus). I assume that environmental problems that threaten humanity and all of life exist, that humans are the cause of them and that we—and our institutions—are also means to fix those problems.

13. For example, see the works of David Orr, a leader in the initiative to change higher education to one that is more ecologically sound in education and operations.

14. While not a campus committee, a group of students and field coordinators at the August, 1998, National Wildlife Federation’s Campus Ecology National Training Clinic in Washington, D.C., came up with the following “brainstormed definition” of what “green” is: low impact, new, sustainable, conservative, liberal, responsible, aware, education, vitality, cooperation, ethical and ongoing effort (in sales, organization, cooperation and strategic planning). The list is broad, and specific environmental concerns are implicit. This “definition” is just to show the contrast in defining the concept of a green campus, and although this list is interesting, I will use the Blueprint list and the definition I developed above.

15. See Chapter Two.

Why Green the Campus?

Rationale for Campus Greening

This study is not simply a justification for greening the campus, it is a “how-to” case study in institutional change. It will focus on the entire university: its physical operations as well as its functions as a research and teaching institution. The “campus” is synonymous with the “university as a whole,” which itself is a microcosm of society. Although the study is specifically written for Tulane, institutional environmental change is a metaphor for institutional change in general; change agents should be able to use the examples, information and conclusions in this study as a basis for making changes, at any institution of higher education.

This thesis also is not about environmental studies as an academic discipline. It is not about revamping the curriculum to have more environmental classes or require an ecological literacy component. And it is not about explicitly educating for sustainability (for example by infusing existing classes with environmental content). Although I discuss environmental education – both in and out of the classroom – of students and of faculty, staff and administrators, this study is not about the merits of an environmental education program per se (i.e. a degree granting “Environmental Studies” department). This thesis is about ecological education in an implicit manner via active and passive involvement with research and education as a part of that involvement in the process of greening campus operations. According to David Orr, a leader in the field of education for sustainability, ecological education seeks to change “the way people live, not just how they talk.”

Such education means changing the substance and process of education contained in the curriculum, how educational institutions work, and the architecture within which education occurs. This study will focus on how the institution works and the setting (or architecture) in which education occurs: the operations of the institution. The greening of campus operations is pedagogical, not simply educational.

Institutions of higher education can diminish adverse impacts on the environment by operating in a more environmentally sustainable fashion. The diminished environmental impacts and the positive environmental benefits of campus greening contribute to improving the health of the

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17 See works by C.A. Bowers, Second Nature and especially David Orr for examples of well-articulated and powerful justifications. For a historical example of such a justification, see CERI (1973), which was an international conference that called for: the greening of all disciplines for all students, the development of programs in environmental education, increasing experiential education (lab and field work, observation, case studies, participation, projects, simulations, and discussion) instead of lecture, and orienting environmental education (and problem solving) toward relevant problems in local and regional communities in order to improve the environment and get information and ideas out of the academy and into society.

18 See Brough (1994) for a discussion of the growing pains of environmental studies. Note that Environmental Studies is an accepted discipline at Tulane, and, in fact, it is one of the four interdisciplinary focal areas of the University (discussed below). It is, unfortunately, lacking in support, resources and leadership (discussed in Chapter Three).

19 At Tulane the former has been successfully attempted and the latter not attempted at all.

20 As done, for example, at Tufts University (see Chapter Four).

21 Orr (1990a, p. 50).

22 Orr (1994a).

23 Orr (1993c, 1994a, 1995a and 1997). Orr sees campus architecture as pedagogy and underscores the importance of the setting in which education occurs. See the discussion of the construction of the Oberlin environmental studies building, for which Orr lead the development, below and in Chapter Four.
biosphere upon which all life depends: decreases in material flows into the campus mean decreases in waste flows out of the campus as well as diminishing negative environmental (and social) consequences of production, less energy consumption means diminished CO₂ emissions (or, in the case of Tulane and New Orleans, diminished reliance on nuclear energy), less water consumption means diminished energy and chemical inputs needed to purify Mississippi River water, use of environmentally sound products increases worker safety and provides the necessary market for supporting sustainability, etc. The list of environmental, social and economic benefits is lengthy. Greening contributes not only to the improvement of the campus environment but also to the physical / biological and the social environments of the world.

Institutional change on campus – greening the campus – is about the larger issue of education for changing modern civilization and moving it closer towards sustainability. The Class of 2000 Report outlines three primary reasons for greening the campus: (1) the obvious environmental benefits, (2) making higher education institutions models for other institutions in society, and (3) the effects students carry into society. While all are important, I argue that the third reason is the most important, for I believe – as do others – that the shift to sustainability will be achieved via institutions of higher education: where future leaders and decision makers are educated. With sustainability infused in their education and day-to-day lives while on campus, then sustainability will be an integral part of their lives after their stay on campus. That sustainability will then be infused into all they do in their work and home-life. Additionally, David Orr argues that institutional environmental changes are needed because “The same institutions that purport to induct the young into responsible adulthood ought not to undermine . . . through their daily operations . . . the health and sustainability of the world their students will inherit.”

Ecological literacy is absolutely necessary, especially as modern civilization recognizes the implications of our impact on the environment. But surveys of the American people find that basic environmental education is lacking. Basic ecological knowledge, analytical skills and practical experience are needed to achieve sustainability. An active and competent citizenry is needed, and that activeness and competence must be learned and experienced in school – especially since educational institutions are traditionally the places where practices that destroy the environment (such

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24 Negative social consequences of production could be, for example, the “sweatshops” that manufacture sport apparel in developing countries.

25 See Chapter Four for a more comprehensive review.


27 To which I would add the obvious economic benefits, discussed below.

28 For example Brown University’s recycling program became the model for the state of Rhode Island, and the environmental concerns Bowdoin College adopted in its chemistry teaching labs became the standard for all chemistry teaching labs.

29 Most notably David Orr, Julian Keniry and Anthony Cortese, leaders in the field of campus greening in both operations and education.

30 Orr (1995a, p. 46)

31 NEETF (1997).


33 Orr (1992b).
as excessive consumption) are inculcated.\footnote{Bowers (1995).} Graduates of higher education should be able “to think critically and analytically about their life decisions” and about the environmental and societal implications of those decisions.\footnote{Environmental Studies 50, p. 1.} Education should prepare a society to be the solution to the present environmental crises; sustainability and experiential education (passive and active) should be a part of the curriculum and operations of institutions of higher education.\footnote{Cortese (1992, 1997a and 1997b).}

The education of environmentally literate citizens – especially those citizens who will be leaders in business, social and governmental milieus – is an active and passive process. Students who learn about environmental problems (and solutions) in the classroom must see the solutions in action on campus; they must be able to practice what they are taught (the active) and also see the University practicing environmental sustainability (the passive) because “[c]olleges and universities educate by what they do as well as what they say.”\footnote{Orr (1991b, p. 5).} David Orr calls this education the “tacit curriculum” and claims that “students are being taught in various and subtle ways beyond the content of courses” as they go about campus life.\footnote{Strauss (1996).} This tacit curriculum has traditionally been ecologically destructive, but it can be changed so that it teaches the skills, knowledge and habits which are important to a liberal arts (and ecological) education. Students learn environmental values by observing sustainable practices, participating in them and / or working for them.\footnote{As Altbach (1974, p. 1) says, institutions of higher education “are no longer placid backwaters serving established elites, but part of the mainstream of society.”} Graduates will then further environmental stewardship and move civilization towards sustainability.

\textit{Rationale for Campus Greening at Tulane}

A discussion of rationale for campus greening at Tulane is necessary to connect greening with the mission of the University and its \textit{raison d’etre} as an institution of higher education. I will discuss Tulane’s role in society and community, Tulane’s interdisciplinary foci, the timing of institutional change at Tulane, the lack of spontaneity of change, the existence of advocacy for environmental change at Tulane, and the economics of greening.

Tulane, as a more environmentally responsible institution, is in a position to make a powerful contribution to society.\footnote{Orr (1994a, p. 66).} The focus at any education institution is the students, all of whom should benefit from the labors needed to effectively green Tulane and from the fruits of those labors. Additionally, if Tulane were to exploit its viable niche in higher education – the combination of environmental, urban, international and information technology issues, combined with the theme of the Mississippi River and New Orleans, as discussed below – the University would attract more and better students and would better retain them.\footnote{Orr (1994a, p. 66).} Aside from the positive aspect of increased revenue for the University and for environmental programs, Tulane would be educating future civic, government and business leaders in environmental responsibility.\footnote{Strauss (1996).}
Tulane is committed to community service and community responsibility. The campus and the surrounding community are an integral part of a university education, which should encourage environmentally responsible behaviors both in and out of the classroom. “The university is in and of the community,” and as a good citizen Tulane has a responsibility for the social and physical environmental dimensions of the community. Environmental issues are a modus of community service and can affect all members of the University community personally and professionally. Service to the community and environmental education play a key role in furthering the agenda of institutions of higher education, especially Tulane’s.

Tulane is in a unique position to go green because of the University’s four interdisciplinary foci: urban studies, international studies, information technology and environmental studies. These foci, along with Tulane’s commitment to community service, all mesh with environmental goals: service to the community and to the campus because we seek to improve our social and physical environs, urban issues because it is the urban environment in which we live and the University seeks

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42 Tulane University Board of Administrators (1997) and Cowen (1998). Penny Wyatt, who is on the committee to address community service and service learning at Tulane, expressed the need for a leader (a hired staff person) to coordinate community service initiatives and to preserve the institutional memory of these initiatives. (Personal communication, 3/27/98.)

43 Dr. James Wright, Professor of Sociology and one of the leaders in the urban studies initiative discussed below. (Personal communication, 2/27/98.)

44 For example, students in Tulane’s Environmental Law Program and Environmental Law Clinic (both top-ranked national programs) are there to get an education; through the Environmental Law Clinic, however, students get valuable experience and provide an important community service to Southeast Louisiana. Additionally, staff, faculty and administrators take part in the Environmental Law Clinic efforts and grow personally and professionally. (Personal communication, Audrey Evans, 2/27/98; see also Marinello, 1993).

45 For example, Dr. Richard Keeling of the University of Wisconsin, Madison, a consultant to higher education on issues of health, self-esteem and community, says that interactions between students, faculty, the community and the ecosystem help form well-rounded people. And by building those bridges to the students, the institution can build bridges to the community (Fettig 1997). “Sense of place” is one of Keniry’s (1995) “benchmarks of success” for achieving institutional environmental change. (See Appendix B.) Additionally, “environmental change must be systems based” (Hamburg and Ask 1992) and thus must include both local and distal communities.

46 They, of course, could be seen from the foundation of urban studies also. The environment, however, is literally all that surrounds us, including the urban, rural, undeveloped, developed, international and informational milieus. As Dr. Kelly stated at the Environmental Faculty Enrichment Seminar in 1996 (discussed below), the environment is included in – and envelopes – the other three strategic goals of the University.

47 Rhodes (1996) discusses the increasing demand for community service and service learning programs at colleges and universities as well as the benefits, such as government grants, for developing them. Many of these programs are carried out in environmentally related contexts, such as outdoor education, clean-ups or restoration projects.
As discussed below, Tulane has taken over management of the Housing Authority of New Orleans to work in low-income housing developments. The Environmental Studies Program and the student environmental group the Green Club have been discussing ways to get involved with the program. As an illustration of the connections and possibilities between urban and environmental initiatives, a University of Illinois, Urbana-Champaign study found that grass and trees planted in housing developments encourages children to play safer and encourages more adult supervision. (ENN, 1998a.) Such a project would be a beneficial addition to the Tulane / New Orleans urban partnership.

Berry (1996) discusses possibilities of community service and service learning opportunities (which, again, can be environmentally related) in an international context. Goenaga (1998) discusses the greening of a university in a developing Latin American country. With Tulane’s many Latin American and other international ties via the Center for Latin American Studies and the Payson Institute for International Development and Technology Transfer, partnerships in greening and sustainable development could easily be established, as Munro and Dagg (1998) discuss.

For a discussion of the linkages between information technology, culture, ecological sustainability and modernity, see Bowers (1995).

For example, Tulane has recently developed a CD-ROM for international sustainable development for global distribution. (Personal communication, Dr. Eamon Kelly, 3/24/98), and the ENST is developing a workshop on using advanced instructional technologies. A product of that workshop will be a CD-ROM with a comprehensive description of the ENST and other environmental programs and research interests at Tulane.

Note that President Cowen does not refer to these as “strategic initiatives” of the University, but rather “four interdisciplinary areas of University interest.” (Personal communication with the Office of the President, 8/10/98.) Although the new language downplays the importance of the four areas (perhaps because President Cowen is still, as of this writing, in the planning stages of his new administration), they have already been permeated throughout the University. Thus, I will continue to underscore their importance to the University.

Now is the time for institutional environmental change at Tulane. In 1999, the new Environmental Sciences Building (ESB) will be completed. It will house state-of-the-art environmental research and teaching laboratories and be the center-piece of environmental studies at Tulane. Immediately next door to the ESB are the Percival Stern Science Center and the Lindy Boggs Center for Energy and Biotechnology, present locations for much environmental research and education. Additionally, in the spring of 1999, the Tulane / Xavier Center for Bioenvironmental Research (CBR), the Tulane Environmental Studies Program (ENST), the Tulane Green Club (the student environmental organization) and some environmental faculty will occupy the remodeled Alcee Fortier building, which is also immediately next door to the ESB. Finally, the CBR will celebrate its tenth anniversary in 1999, marking a decade of research and education dedicated to improving the environment and human health; numerous programs will be held, such as the dedication of the new CBR building, to celebrate this event. This consolidation and celebration of environmental entities is a key to improving the presence of environmental research and education at Tulane. (As I will argue throughout this study, however, attention to greening the operations of the University is what is missing.)

In addition to the appropriate timing of the centralization of environmental research and education at Tulane, another historic event marks 1998-99 as an appropriate time for change:
presidential transition. Dr. Eamon Kelly (outgoing, June 30, 1998) and Dr. Scott Cowen (incoming, July 1, 1998) both recognize that at the time of a presidential transition the University is in a time of profound change.\textsuperscript{53} At Tulane these changes are especially appropriate since Dr. Kelly has been in office for seventeen years. Many changes will ensue with the new leadership of Dr. Cowen, who sees 1998-99 as a “renaissance of thought and action” to redesign Tulane for the future.\textsuperscript{55} The best time to make environmental improvements is during regularly scheduled or expected change. Additionally, colleges and universities are making a new push towards campus greening nationally,\textsuperscript{56} and Tulane must act soon to compete for publicity and resources (grants, information and labor) and to insure its position as the “Environmental University in the South.”\textsuperscript{57} This year, 1998-99, is the time for institutionalizing the greening process at Tulane.

A campus will not automatically rally around environmental issues. Environmental concerns, while they affect the entire population, are not “spontaneous” issues. People must be motivated or encouraged to take environmental concerns (such as recycling, energy efficiency or alternate operation procedures) into account.\textsuperscript{58} These issues are rarely controversial political ones,\textsuperscript{59} such as the issues of abortion, animal testing or affirmative action, all of which can spark heated debates among students and employees alike. Students are less likely to become involved with controversial issues than with the non-controversial environmental issues, which are tangible, readily accomplishable projects that have the potential for making a difference locally.\textsuperscript{60}

Like environmental issues, urban initiatives are not “spontaneous” either.\textsuperscript{61} For example, Tulane has recently taken over management of the Housing Authority of New Orleans (HANO).\textsuperscript{62} This move was the “pet project” of one administrator (Senior Vice-President and General Council, Ron Mason). He pushed the issue and raised support, funding and cooperation within the University community for it; others then began rallying behind it. The University has made much progress with the program, so much, in fact, that CNN, the New Orleans Times Picayune and Time magazine have recognized Tulane\textsuperscript{63} for outstanding work with HANO and the US Department of Housing and Urban

\textsuperscript{53} Personal communication with Kelly (3/24/98) and for Cowen, see Marinello (1998a), which is partially quoted at the beginning of Chapter Two.

\textsuperscript{54} See also Dominick (1990).

\textsuperscript{55} Marinello (1998e).

\textsuperscript{56} Clugston (1998).

\textsuperscript{57} Stetson University in Florida is making a similar move.

\textsuperscript{58} DeYoung (1986), Williams (1991), Ackerman (1997) and Bowers (1997).


\textsuperscript{60} Loeb (1994) and Lerner (1996 and 1997).

\textsuperscript{61} Nor are international or information technology initiatives spontaneous, though the latter, since it affects so many on campus has more of a “demand” factor to it. Also, the popularity of study abroad programs (not only at Tulane, but in American higher education in general) gives rise to some “demand” in international issues.

\textsuperscript{62} Jordan (1998), Breen (1998b) and Mullener (1998). The University has taken over management of 10 housing projects that comprise 10% of the New Orleans population. Students, staff and faculty do sociological research and community service projects in the housing developments.

\textsuperscript{63} In cooperation with Xavier University and the coordinated universities’ Campus Affiliates Program (CAP).
Projects in the HANO initiative could easily be greened, for benefit of the community (in, for example, cost savings and healthier environments) and of the University (by means of cost savings and educational opportunities). The key point, however, is that the service, research and educational programs with HANO would not have just spontaneously occurred: they needed a leader to advocate for them and raise the necessary support and funding to institutionalize the projects and goals of the urban studies initiative. Analogous to this urban studies initiative, the University has appointed staff and faculty and established offices to address international studies and information technology initiatives. Yet no office has been established and no faculty or staff have been appointed or hired with University funding for environmental education or operations. Now—in this era of change at Tulane—is the time to advocate for such an establishment in order to institutionalize the greening process, and the goal of this study is to provide the support for such an argument.

CBR Director Dr. John McLachlan has provided much advocacy for environmental research (and education) at Tulane. He envisions Tulane as becoming “the environmental University in the South,” and he has made progress towards that vision by developing the CBR into an internationally acclaimed environmental research center. He and Drs. Stuart Bamforth, Joan Bennett and Michael Zimmerman have made the ENST a popular and established degree program—albeit one that is wholly dependent on outside funding (which has recently expired). Through my efforts and the numerous students involved with the Green Club, the student body has pushed for a more environmentally responsible campus in terms of operations—but efforts from students alone are inconsistent and not enough.

Faculty, staff and students have agreed that greening the campus is necessary. During the Summer of 1996, the ENST and the CBR sponsored the first ever Tulane Environmental Faculty Development (HUD). Projects in the HANO initiative could easily be greened, for benefit of the community (in, for example, cost savings and healthier environments) and of the University (by means of cost savings and educational opportunities). The key point, however, is that the service, research and educational programs with HANO would not have just spontaneously occurred: they needed a leader to advocate for them and raise the necessary support and funding to institutionalize the projects and goals of the urban studies initiative. Analogous to this urban studies initiative, the University has appointed staff and faculty and established offices to address international studies and information technology initiatives. Yet no office has been established and no faculty or staff have been appointed or hired with University funding for environmental education or operations. Now—in this era of change at Tulane—is the time to advocate for such an establishment in order to institutionalize the greening process, and the goal of this study is to provide the support for such an argument.

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Enrichment Seminar (EFES). As President-elect of the Green Club (which, along with the Tulane Environmental Project has been advocating campus environmental issues since the late 1980s) I was asked to prepare a session on campus greening initiatives. Dr. Timmons Roberts, an Assistant Professor, now an Associate Professor, of Sociology and Latin American Studies and also teaching in the Environmental Studies Program.

See Appendix C for details on all of the resolutions. Green Gradecard for the Green Wave (1997). The results from the audit will be discussed in Chapter Four, and a summary (the “Gradecard”) is presented in Appendix D. The “C-” average is based on Tulane’s grading scale.

Though Dr. Kelly has not stated this explicitly, he has focused on the research and grant aspect when asked about Tulane’s environmental goals. Additionally, responses from interviews for this study reiterate my statement (see Chapter Five). His other focus on environmental issues, when prompted, is the fiasco with the Tulane Environmental Law Clinic, the Governor of Louisiana and the chemical company Shintech (discussed further in Chapter Three). (Personal communication, 3/24/98.)


Or TEP, discussed in historical context in Chapter Three and in present and future contexts in Chapter Six.

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The faculty, staff and students, along with some administrators, of Tulane have advocated for campus greening, yet little has been institutionalized. An often cited reason for the administration not committing to greening initiatives – at Tulane and other institutions – is money. But to dispel such notions, Green Investment, Green Return\(^7\) concluded that greening the campus saves money while wasting the environment wastes money.\(^8\) Environmental improvements tracked at twenty-three campus conservation projects across the country totaled a savings of $16,755,500 in one year. The fifteen public and private universities in the study varied in size from a few thousand to 40,000 students; savings ranged from approximately $1,000 to $9 million per year per project. The projects were from “no-brainers” to complex multilevel initiatives and included transportation, energy and water conservation, materials re-use and re-distribution, composting, recycling, and hazardous chemical management.\(^9\) Energy efficiency\(^10\) and recycling\(^11\) projects are proof that such initiatives save money at Tulane also. Most of the projects in the NWF study were initially met with resistance because of the common notion that protecting the environment costs money. Their success (and the savings that resulted, which were occasionally used to fund more environmental improvements) proves that greening is prudent. The greening of campus operations – as well as education and research\(^12\) – is an investment in the future.

One argument against using economic justifications for greening is that environmental improvements are justified – are the “right thing to do” – because of the impending ecological crisis. Dartmouth Professor of Environmental Studies Noel Perrin summarizes it by saying that one reason for the

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\ldots \text{great gulf between what Dartmouth’s environmentalists preach and what the college practices.} \ldots \text{is that the trustees and the administration simply do not believe the warnings of their faculty environmentalists, that we are wrong in our dire predictions about the environmental damage done by our rampant use of energy [etc.]. In that case, shouldn’t they be troubled by the alarming misinformation we are spreading?}
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\(^7\) Two of the nation’s leaders in campus environmental initiatives authored the National Wildlife Federation (NWF) report: Dr. David Eagan of the University of Wisconsin, Madison, and Julian Keniry, author of Ecodemia and director of the Campus Ecology Program at the NWF. The report was co-sponsored by the American Association of Community Colleges, the Association of College and University Housing Officers International, the Association of Higher Education Facilities Officers (APPA), the Campus Outreach Opportunity League (COOL), the Center for Respect of Life and Environment (CRLE), the Consortium for Environmental Education in Medicine (CEEM), the Nathan Cummings Foundation, Free the Planet, the National Association of Education Buyers Inc. (NAEB), the Office of Sustainability Programs (University of New Hampshire), Second Nature, the Sierra Student Coalition, the Society for College and University Planning (SCUP), the Sustainable Universities Project, the Association of University Leaders for a Sustainable Future (ULSF), and the World Resources Institute’s Management Institute for Environment and Business. (Eagan and Keniry, 1998.)

\(^8\) Broydo (1998) discusses how the US Department of Defense is even going green to save money by not having to do expensive clean-ups of weapons manufacturing and testing sites. And ENN (1998c) reports that the General Services Administration is going green to save money, set a good example and protecting the environment.

\(^9\) A summary of the projects and savings is provided in Appendix D, and many are discussed in Chapter Four.


\(^11\) See Appendix A.

\(^12\) The NWF study does not discuss research or education.
But if they think that we are wrong, they would also have to think that the National Academy of Sciences and the Royal Society of London are wrong. Those August bodies . . . issued their first joint statement ever [on global environmental degradation].

Whether the argument to green the campus is based on economics or the “right thing to do,” the data support the fact that campus greening is responsible – fiscally and morally.

**Conclusion**

This study is not about environmental education *per se* but about the pedagogical value of greening the Tulane campus, which also has significant educational, economic, social and physical benefits. Now is the time to green Tulane. The economics of greening are sound. The faculty and students have advocated for greening. While not at ground zero with campus greening projects, much remains to be done. The mission of the University fits well with an environmental stewardship agenda. As the millennium approaches and we better understand the human-environment relationship and what we must do to improve that relationship, we must shift society towards ecological sustainability. What better place to start than in the centuries-old institution of higher education, and what better institution to begin with than with our own?

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CHAPTER TWO
INSTITUTIONAL CHANGE

We are headed for very interesting times. Higher education will continue to change and go through a transition over the next 10 years unlike anything we have ever seen before: [globalization through technology, the ‘devolution’ of economic support from the government to the private sector, a growing trend of a cost-conscious society to look at education as a commodity, and the ‘partnering’ – or blurring of the lines – between not-for-profit and profit-oriented organizations.] When you add all these things together you realize that higher education is going through a significant period of change as profound as anything we have seen in the past.

- Dr. Scott Cowen, the 14th President of Tulane University

Introduction.

Institutions do change, even the “Ivory Tower” of academia. In fact, higher education today is asking which changes must be made rather than whether or not changes will be required. The mainstream scholarly literature on higher education reform has ignored institutions’ changing orientation to the environment, and this neglect is reflected in President Cowen’s Statement. In this chapter, I will cull lessons about institutional change from an extensive review of the higher education reform literature (scholarly and non-scholarly) and the small but growing body of institutional environmental change literature (mostly non-scholarly). Additionally, my review of campus greening throughout academia and at Tulane; the dialogues, discussions and feedback as a result of conference presentations and posting early drafts of this report on the internet; and my own personal experience and vision all have added to the model.

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1 Marinello (1998a). Dr. Cowen takes office July 1, 1998, after Dr. Kelly’s seventeen year tenure as President.

2 Altbach (1974) states that “there is no question but that universities are among the most conservative of institutions. . . Traditions of academic governance date back to the Middle Ages, and academics often take these traditions seriously.” But, as Altbach continues, the latter part of the 20th century is a time of great reform and change in higher education.


4 By “scholarly literature” I mean articles and books that are peer-reviewed and/or in an academic journal, monograph or conference proceeding.

5 It is also evident from personal communication with Dr. Kelly, who like Dr. Cowen is interested in the concept of change in higher education.

6 By “non-scholarly literature” I mean personal case-studies, non-peer-reviewed articles and books, and reports or articles in non-scholarly publications (such as popular magazines and newsletters).

7 See Chapter Four.

8 See Chapter Three.

9 One presentation is worth noting here: at the National Wildlife Federation’s Campus Ecology Program National Training Clinic I gave an extended workshop on environmental auditing and this study. When I asked the group – about half of whom were hired as new field coordinators for the Campus Ecology Program – what the necessary elements for making institutional change on campus were (before presenting them with my findings), they came up with the following list, which is (fascinatingly and amazingly) similar to the model and conclusions I present in this study: support from administrators and students, people to do the work of change, having a vision or mission, having money, having a model, defining the roles of participants (i.e., students, faculty, staff, administrators), having a time line, involving third-parties, knowing the structure of the institution, knowing the history of changes at the institution, educating people, getting students involved in the process (e.g., by way of a class or committee dedicated to the change topic). Many of these elements will appear in this chapter, others are found in later chapters, especially Chapter Six.
Scholars have done research on higher education reform since the early 1970s. Most published studies, however, have addressed reform of public systems (where local and national politics are an important factor) and not private institutions. The studies come from diverse fields: sociology, economics, political science, public policy, psychology, history and education. They deal with reforming education (curricula, content and teaching methods) or bureaucracies (administrative establishments and control / power structures, such as state boards of regents), but not with changing physical operations. The focus is usually on academics and administration (research and teaching curricula), not staff, students, the campus community or the surrounding community. Some are multinational in scope; others regional or national; and many are oriented towards changing technology in the classroom, on campus and for research. Few studies have dealt with “moderate” levels of change; most were about large scale reform. Few studies on change deal directly with private institutions and environmental issues. Some reports are on lessons-learned from campus greening initiatives, and these are the “institutional environmental change literature.”

As Julian Keniry, author of *Ecodemia*, the most comprehensive source on campus greening and on institutional environmental change, notes: “There is no template for making an environmental program an irrevocable part of the structure and policy of an institution. But the characteristics which distinguish successful and enduring programs can serve as a guide to broadening and institutionalizing

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10 Altbach (1974). Lane (1990) states that the scholarly community has recognized it as a legitimate field since the 1980s.


12 For example, Cerych and Sabatier (1986) and Lane (1990) provide in-depth studies of European higher education. Cerych and Sabatier also offer a comparison with American higher education.

13 For example, Fantini (1981), Feld (1981), Gitell (1981), and MacTaggart et al. (1996) all address either higher or secondary education reforms in specific cases in the United States. MacTaggart et al. provide a comparison and analysis of public higher education institutions in different states. Lane (1990) provides an extensive analysis of the higher education reforms in Sweden.

14 For example, Dolence and Donald (1995), Gilbert (1996), and Brown and Duguid (1996) explore the results of and future changes in information technology and its affect on the university.

15 MacTaggart et al. (1996), Lane (1990), Cerych and Sabatier (1986) and Altbach (1974) are large scale edited volumes that encompass many – if not all or more – of the following common themes: merging institutions, establishing multiple new institutions in a system, establishing a boards of regents, restructuring of governance systems, changing admissions policies and shifts in core educational components.

16 Eagan and Orr (eds., 1992) is one, but the traditional literature on higher education reform ignores the issue of the environment. Non-scholarly studies have dealt with both, and some scholarly studies have dealt with private institutions (see the Steeples, 1996, edited volume) but not with environmental issues. The Centre for Educational Research and Innovation (CERI) of the Organization for Economic Co-Operation and Development (OECD) held two conferences in 1973 and 1974 to address the increasing number of environmental education programs in universities in OECD member countries (of which the United States is one, though the reports focus on European countries). The 1974 conference and subsequent report dealt tangentially with the concept of institutional change, but it was oriented towards education and degree granting programs, not operations nor the institution as a whole.

17 Keniry (1995), Smith (1993), and Eagan and Orr (eds., 1992). See also the Blueprint (1995), the Talloires Declaration (1990), and Second Nature (1997). For example: April Smith’s book *Campus Ecology: A Guide to Assessing Environmental Quality and Creating Strategies for Change* outlines plans for change, but it is not a scholarly study. Instead it is a “how-to” book for performing campus environmental audits; the audits are then used as the foundational data for promoting change. The volume edited by David Eagan and David Orr, *The Campus and Environmental Responsibility*, explores various facets of campus greening, including institutional environmental change. Ecodemia by Julian Keniry is the publication closest to a scholarly study (it is also the best quality in terms of analysis and scope of research).
environmental stewardship.”{18} Although there is no singular model for change, I present a generalized model that is appropriate for institutional change in higher education (as I will show later in this chapter by a review of non-environmental institutional change at Tulane) and for institutional environmental change (as I will show in Chapters Three and Four). The model is abstract and can be applied at any institution, large or small, but it will never be applied in the same manner. The model is not rigid. It is a dynamic model, both in itself and between applications. Dividing it into “elements” or separate categories is artificial and is done here for elucidation; numerous linkages exist between all of the elements. Also, the model is a useful heuristic tool for understanding change, and with an understanding of how change occurs, those at the forefront of a change movement are better equipped to effect change. When applied to environmental change, the model is a conceptual framework; it is only a beginning for the platform necessary for institutional environmental change – a platform which I will develop in the conclusion of this study.

A Model for Institutional Change

Introduction

Institutional bureaucracies accept what is in normative and resist change in order to preserve the status quo;{19} when the status quo no longer meets the needs of the institution, the bureaucracy seeks change. Institutions of higher education all over America have begun institutional environmental change because they have recognized that environmental stewardship is an integral part of education as the twenty-first century approaches.{20} Goals of campus greening must be included in the “normativity” of the institution.{21} The goals of campus greening are not extreme{22} and do not alter the basic missions of a university – especially not, as argued in Chapter One, the missions of Tulane. This chapter seeks to determine how institutions of higher education successfully change and to apply that model to environmental change.

The institutional change literature is comprised of lengthy prose, but the recurrent themes throughout the environmental change literature are commonly “bulleted” or “numbered” items.{23} The recurrent themes throughout the sources from both areas, however, are the following six “requisites of change”:

* **advocacy** is the impetus to begin the change movement,
* **policy** addressing the proposed change(s) is required,
* **resources** for the change movement are imperative,

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{20} Fantini (1981).

{21} See Chapter 4, Keniry (1996) and the works by David Orr.

{22} After Fantini (1981).

{23} Hamburg and Ask (1992). See also the theory section below.

leadership is the key for a successful change movement.\textsuperscript{25}  
well-defined means to achieve-agreed upon ends are important elements for success,\textsuperscript{26} and  
education in and out of the classroom for students and employees is the primary mean and end.\textsuperscript{27}  

I will elaborate on each of these five themes and show that they are necessary for institutional change to occur; it has been the lack of these elements that has prevented institutional environmental change at Tulane. They are summarized in Figure 1, which represents the model upon which I will now elaborate and which I will summarize below.

**Advocacy\textsuperscript{28}**

Advocacy is the impetus to begin change. It results from quasi-institutionalized leadership,\textsuperscript{29} primarily from a diffuse group of students and faculty (occasionally staff, administrators, alumni, donors and parents) who push for changes.\textsuperscript{30} These people are usually found in the “shadow university,”\textsuperscript{31} which is “a loosely knit collection of people, along with their strategies for survival, their stocks of increasingly forgotten lore in unfashionable fields, their traditional wisdom, their knowledge of sound teaching and learning methods, their familiarity with durable construction and repair techniques.” They are people in refugia or hiding places within the superstructure of the university who hold alternative ideas and lessons about running the institution.\textsuperscript{32} Advocacy may also be simply the desire for change, even if the advocates are not well-organized or educated on the issues: they know that something needs to change even if they cannot offer the concrete suggestions themselves.

\textsuperscript{25} Communication is also a common theme; since it is not treated as explicitly in the literature, I include elements of communication in leadership and education: the leader is the communicator and educator. At Tulane, for example, the *Hullabaloo* editorial (*Tulane Hullabaloo*, 1998d; see also Lieberman 1998a) cites a conflict between the Athletics Department and the student pep band could have been avoided (or properly remediated) with effective communication. The editorial continues saying that lack of communication is “a problem symptomatic of all departments of the university.” Additionally, “the pep band lacks a structural institutional commitment” (i.e., external or University administrative leadership) and internal leadership; thus such conflicts and failures are inevitable.

\textsuperscript{26} Means and ends are usually implied or implicit in the literature (or discussed as “planning”), and they are related to policy.

\textsuperscript{27} Education, as well as motivation, about change is usually an implied or implicit theme throughout the literature.

\textsuperscript{28} Many of the elements of the “advocacy” portion of the model result not so much from the literature sources but more from the case studies later in this Chapter and in Chapters Three and Four as well as from discussions at Schumacher College (7/98).

\textsuperscript{29} Thus the reasoning behind the label of “Advocacy / Leadership” found later in the schematic of the model (Figure One).


\textsuperscript{31} David Ehrenfeld, remarks at Schumacher College “open evening” on July 15, 1998. See also Mansfield (1998, p. 13) as well as Bowers (1997) who notes that environmental operational changes are occurring on the “outer fringes of higher education.”

\textsuperscript{32} Ehrenfeld continues: “In these nooks and crannies lurk many people who know which way the train is going – older, tenured faculty, some junior faculty who cleverly hide their perceptiveness and concern behind a promotable facade of the latest, world-class techno-babble, a few students, quite a number of staff members, and even a sprinkling of administrators who have somehow got through the corporate screen without having their minds adjusted. You can find them in many places on campus: in old and semi-forgotten buildings with windows that open and close, occasionally in the most modern offices close to the center of power. Location is not important. What matters, and what makes the shadow university possible, is that sooner or later a surprising number of these people – philosophy professors, environmental scientists, janitors, HVAC maintenance engineers, associate deans, and secretaries – find each other.” (Op cit.)
At Tulane, many “grassroots” groups have advocated for environmental change. Many groups chronicled in this report have been organized and focused, but others are not well-organized or educated on the issues. It is imperative that this bottom-up advocacy be met with a top-down degree of advocacy, so that they essentially meet in the middle and matriculate to the level of integrated advocacy needed to institutionalize change.

Change does not happen spontaneously; it requires hard work, clear thinking and focused determination. Advocacy may result from education, which is an “end” in this model. This link is one of the many dynamic elements of the model.

Policy

Policy that addresses the proposed changes results from advocacy. Establishing policy enables leaders to implement and maintain change. A lack of carefully planned policies is a common barrier to institutional change. Strategic vision and planning create policies, which range from general to specific. Policy changes in employee handbooks and personnel policies are effective catalysts of change and modes of education.

Policies (mission statements) are uniquely designed for each institution. Mission statements

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33 This grassroots advocacy is the common impetus for change, as Orr (1992b, p. 84) says: “The environmental movement . . . forced governments and large economic interests to do something they were not otherwise willing to do. It is quite literally a democratic movement.”

34 See Chapters One and Three for descriptions of the faculty of the Tulane Environmental Studies Program, students in the Tulane Green Club, and diverse coalitions of University community members (the Tulane Environmental Project) have advocated for campus greening initiatives.

35 I return to this in Chapter Six; while there is no lack of grassroots advocacy, there is a serious lack of top-down administrative advocacy and having it is a key element of institutionalizing the campus greening at Tulane.

36 DeYoung (1986), Williams (1991), Ackerman (1997) and Bowers (1997). See also the discussion in Chapter One.


38 Orr (1992b). Ehrenfeld (1995, p 72) says that “An informed university community may . . . be roused to demand cuts in the administration (starting with higher administration), less secrecy, greater faculty and student influence, a moratorium on construction of ‘high-tech’ facilities and increases in tuition, a higher priority for teaching, greater communication and interdependence between the university and its surrounding community, and support for a diversity of low-cost research projects which can function without multi-million dollar grants and which may not generate profitable patents” – all of which results from the publicization of “the importance and the plight of the knowledge that is vanishing.”

40 Policy, however, may be “skipped” in the model and the advocacy may procure resources (or leadership) before actually arriving at the policy stage. This dynamism is represented in Figure One by dual arrows, with the open ones representing feedback as opposed to general flow. David Orr (personal communication, 7/98) provides an example: When implementing a local food purchasing project at Hendrix College in Arkansas, institutional policy for the program came after the advocacy / leadership (Orr and others) had acquired resources (grants first, then secure funding) and permanent jobs (leadership).


42 MacTaggart (1996).


are imperative to provide the impetus and justification for change. The documents must not be formulated in separation from the organizational realities of the institution, and they must be developed by consensus and include as many participants as possible. Additionally, they must be communicated to as wide a constituency as possible, especially while they are being developed.

The policy must be clear, concise and comprehensive. Vague or general policies, however, have the advantage of leaving room for discretion. Rhetorical changes are much easier than operational or applied changes, and policies without implementation are simply rhetorical “changes.” For example, Tulane has made the statement that “environmental studies” is a cornerstone of the University’s strategic mission. Without a commitment to furthering the program or improving the environmental state of the campus, that policy is rhetorical and designed to take advantage of a growing market and to procure grant funding for research — it is not meant to move the University toward living its core values, however the institution may define these core values.

Environmental policies in institutions of higher education are important for securing a better future for humankind. Hamburg and Ask, with their experience establishing an Environmental Ombudsman’s Office at the University of Kansas, believe that environmental policy should be subordinate to the missions of the university so that environmental change is apolitical. Examining institutional operations for environmental stewardship reasons results in environmental policies. At

48 Lane (1990). Fantini (1981) notes that bureaucracies tend to accept what is normative, so policies should reflect the bureaucracy’s values so they are not seen as “radical,” “atypical” or “unconventional.” Altbach (1974) implies that the term “radical” may be applied to students, administrators or faculty, and that their demands for change may be viewed as “revolutionary” or mere “tokenism” depending on the standpoint of the on-lookers.
49 Riggs (1997) notes that one of the barriers to change in higher education is consensual decision making. I argue, however, that with non-controversial issues at hand, consensus making will be easier, though not all-together without problems.
50 MacTaggart (1996).
51 Fantini (1981) and Cerych and Sabatier (1986).
52 Cerych and Sabatier (1986).
54 Lane (1990), also after Farmer (1990).
55 Tulane’s strategic initiatives, while they can provide some justification for the environmental change movement (as discussed in Chapter One), are not policies but, because of their rhetorical nature, are “quasi-policies”; they are not enforceable with regards to operations.
56 As discussed in Chapter One and further explored in Chapter Five.
57 Such environmental core values might be ecological education and service to the community and the environment. Core values are not, of course, always environmental.
58 After Orr (1995a). See also Chapter One.
59 Hamburg and Ask (1992). Altbach (1974, pp. 8-9) says that “politics, of course, plays a key role in all aspects of university life, and perhaps particularly with regard to reform.” Thus, while making environmental change completely apolitical is not likely to happen, moving the environmental change agenda closer to the apolitical side of the spectrum can be helpful.
60 Orr (1990b).
Tulane, institutional environmental change meshes well with the University’s missions: information technology, international studies, urban studies and environmental studies. Tulane needs explicit specific and general environmental policies in order to institutionalize campus greening and live up to its core values as a part of its missions.

Policy has a dynamic place within the model: it is not always required in the early stages of the change movement, although procuring it may make the process easier. Additionally, policy is inextricably linked with means and ends. In sum, consensually developed, applicable, enforceable and non-rhetorical policy is needed to support, justify, clarify and communicate the institutional change mission.

**Resources**

Advocacy and policy procure resources. The five distinct resources necessary for change, in rough order of importance, are: personnel, money, information and data, power (or access to power), and opportunities / incentives. Lack of these (and other less integral) resources is a common barrier to institutional change.

Personnel are a key resource for the change movement. Having a “fixer” or “doer” is imperative to furthering the change process. The leadership function, even if not carried out by an institutionally supported position, is the defining characteristic of change: without the leadership, there is no impetus for change and no change movement. Support in the form of support staff and administrative leadership is another requisite human resource. Space resources are related to human resources: the change movement must have a place from which to operate on campus and cannot end up in a basement: it should be in the main administration hall. The result of true institutional

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61 For example, the University recently developed a CD-Rom on sustainable urban development for developing nations across the globe. (Personal communication with Dr. Eamon Kelly, 3/24/98.) Also, see the discussion of the two Tulane Environmental Faculty Enrichment Seminars (in Chapter Three) that shows how environmental, urban and information technologies can be combined. Finally, the Tulane Environmental Law Clinic has long had close ties with local communities, effectively combining urban and environmental studies for law students. (See Marinello, 1993.)

62 David Orr is a leader (with resources and other requisites of change in the model) but has no policy at Oberlin College. He is an effective leader and advocate, and his position at the College is secure, thus he manages to make change without established policy. For example, Orr’s work developing an environmental building at Oberlin (discussed in Chapter Four) was completed without any College policy. (Remarks at the Schumacher College “open evening,” July 15, 1998, and also in Orr, 1998b, where he laments the fact that the College strategic plan has no mention of environmental values in it, despite his years of work in greening his campus and higher education in general.)

63 Orr went through great difficulties in getting the environmental building accepted due to lack of a committed administration. David Orr, personal communication (7/16/98).

64 Of course, resources, for example, may come before policy, again illustrating the dynamism of the model.

65 MacTaggart (1996) and Dr. Eamon Kelly (personal communication, in the Tulane class “Organizational Leadership and Management in Developing Countries,” 1/30/98). Also after Steeple (1990).


67 Cerych and Sabatier (1986), Wood (1990) and Keniry (1995). Leaders are not always so lucky. Capone (1991) reports that Dr. Anthony Cortese, then Dean of Environmental Programs at Tufts, did not have a full administrative department to complete his task: instilling ecological literacy into the entire University (students and employees).

68 David Orr, personal communication (7/21/98). See also the discussion in Chapter Three about the struggle of the Tulane Environmental Studies Program for office space on campus.
change cannot be an “add-on” to the existing structures; it must be an integral part of the institution.69

Change is endangered without adequate financial resources.70 Funds are critical to the entire reform process,71 and their availability — or lack thereof — can induce both desired and undesired change.72 External funding is one way to initiate change,73 though it is important to obtain matching funding from the university to secure the administration’s support.74 An occasional lack of funding, however, can stimulate even more work towards reform.75 The more costly the change, the less likely it is to succeed; paybacks and savings must not be overlooked and should be included in the initial calculations.76

Information about the institution to be changed and the proposed changes is important for the leaders of the change and for the administration and campus community.77 Third parties (e.g., similar institutions who have undergone or are undergoing similar change, consultants, or non-profit or for-profit organizations) can provide valuable insight into the change process.78 Developing a portfolio of change strategies and changes is a valuable tool for future change projects.79 Having information and data compiled, having access to information resources and being able to use that information and data is an important element to building the policy of a change process.80

Once the human resources are available to procure financial resources and gather information (to build policy), the leaders of the change movement need power or access to the power which lies within the bureaucratic ranks of the administration81 in order to implement change82; power within

69 Bowers (1997) says that add-on programs are “tokens” of change and do not get to the heart of the matter. Orr (1996a, p. 13) notes that “colleges and universities have been complacent in the face of mounting evidence of serious challenges. When moved to innovate, they have mostly done so by tinkering at the edges of the status quo.” See also the discussion of the Office of Bisexual, Gay and Lesbian Affairs in the section on “Institutional Change at Tulane” later in this chapter.
70 Lane (1990), MacTaggart (1996), and Cerych and Sabatier (1986).
73 CERI (1972), Gitell (1981), Fantini (1981), Hofman (1990), Mathews (1990) and Strauss (1996). Strauss discusses foundation funding; Mathews discusses various ways to procure, manage and allocate financial resources to assist in both progressive and reactive change situations; Hofman discusses challenges and opportunities for institutions seeking external funding sources; CERI suggests government funding.
75 Cerych and Sabatier (1986), Mathews (1990), and Hamburg and Ask (1992). I also contend that diminished funding can also encourage conservation of resources and less waste.
76 Gitell (1981).
77 Gilbert (1996) and Elliott (1981). Smith’s (1993) entire work is on campus environmental audits; such audits provide the necessary information for institutional change.
78 Feld (1981) and Steeples (1990). Smith (1993) and Keniry’s (1995) volumes are collections of campus greening data and lessons-learned from many institutions of higher education. Also, Second Nature (see Second Nature 1997) is a non-profit organization dedicated to fostering environmental sustainability in educational institutions and could be of assistance to the greening initiative at Tulane.
80 The Green Grade Card for the Green Wave environmental audit was an important first step in the information and data gathering process. That process, however, should ideally be more structured and institutionalized; it should have more institutional support to make the process more meaningful and comprehensive. And this report is a second step; many Tulane affiliates and external parties have reviewed it.
81 Gitell (1981).
82 Lane (1990).
the institution affects the ability to change it. Without the power to make change or protect changes once they have occurred, change fails – unless the support is so wide and varied that some centralized power is unnecessary. (Thus, it is important for any institutionalized environmental position to be established in either a position of direct authority or in one that answers directly to someone with power.)

Incentives – and not disincentives – should be provided to individuals (especially employees) taking part in change initiatives. An important component of an institution of higher learning is providing access to “communities of practice” in the fields of study students pursue. If Tulane is to be an environmental research and education institution, then the University should also provide the practical side of environmental issues – access to recycling, energy efficiency, community outreach (local and distal), internships, job opportunities, research positions, and other facets of an environmental education not provided in the classroom. When afforded these opportunities (i.e., incentives), students – and their fellow University community members – become better citizens, are more likely to be good alumni or employees and further environmental and community values as well as support for the change agenda.

Finally, resource allocations must be in line with the institution’s strategic goals; continued rewards and motivations will sustain change. At Tulane, “the environment” has already been slated as one of the University’s strategic goals, although few internal resources – if any – have been allocated to environmental programs. The change movement must have human resources, financial resources, information and data, power (or direct access to power) and the ability to offer opportunities for growth and incentives for improvement and positive change.

Leadership

Leadership is the most important element for change. Lack of leadership is a common barrier to any kind of change. The leader is the key defining element of the model for institutional change: it is not a “quasi-institutionalized” position, but is an institutionalized integral part of the institution. Advocacy procures the leadership position, while policy and resources support it. The primary components of the leader are: being the change agent, being the communicator and facilitator,
being the advocate and lobbyist, having power and institutional support, and being charismatic. While the leadership role is the most important to the change movement, it also has the most serious potential flaws, which I will begin to discuss here and return to address in Chapter Six.

The leader is the change agent: the catalyst, the solution giver, the resource linker, the confidence builder, and the “fixer” or “doer.” With such a position established, the change process is much smoother. The leader cannot micromanage, but must lead, inspire, coax, encourage, cajole, support and coach his or her constituents (i.e., the students, staff, faculty and administration of the institution). Instead of allowing the institution to respond retroactively, a leader is needed to monitor and adjust to external factors, to anticipate and be proactive.

The leader is the communicator. Networking and communicating, internally and externally, the results of and prospects for change are critical roles of the leader. The administration and the grassroots must be cooperative and have reciprocal trust for each other. Often, the leadership from the grassroots “matriculates” to the administration, and the leader is simultaneously a participant and observer in the change process; communication between the grassroots and the administration is enhanced in such situations. The advocacy from the grassroots and from the administration – the bottom-up and the top-down, respectively – must converge in the middle, and the leader is the one who facilitates that communication.

While inclusion of a broad base of constituents is important, having a centralized leader (or even a committee) is critical to ensuring that many participants are included in the change process and

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95 Cerych and Sabatier (1986) and Lane (1990).
96 Riggs (1997).
99 Gitell (1981), Smith (1993) and the Blueprint (1995). At Tulane, three “episodes” of environmental leadership have worked well with the grassroots and the administration, but differing results characterize each. They are: Oliver Houck, Blain Paxton and Taylor Root (campus greening in the early 1990s); John McLachlan, Joan Bennett, and Michael Zimmerman (environmental research and education in the mid-1990s to the present); and myself (student activism and campus greening from 1996 to the present). These are discussed further in Chapter 3.
100 Lane (1990) and Farmer (1990).
101 This is hiring from within to meet the needs of the institution. Examples are found in Hamburg and Ask (in Eagan and Orr, Eds., 1992) and in various cases in Keniry (1995).
102 Fantini (1981) and MacTaggart (1996) were both the authors of scholarly publications about institutional change in which they participated. Additionally, all of the articles in Eagan and Orr (Eds., 1992) were written by participants in the greening movement, and Smith (1993) was a participant in the project that resulted in her publication (see Chapter 4). My role as author of this report and as an activist at Tulane for campus environmental change is a parallel. I am at a significant disadvantage, however, because I do not always know what is happening, because my input is not always taken seriously, and because I am not able to fully analyze the inner workings of the institution – all because I am not an employee. My advantage is that, as a student, I am in closer contact to the raison d’etre of the University (the education of the students), and I do not run the risk of being fired / reprimanded for my suggestions. (Randy Broz, President of the Tulane College Senate, has similar sentiments. His story is told below in the section on the “Tulane College Programming Office.”)
104 See the discussion of “Advocacy” above.
that people know where to go for matters regarding the change agenda. This leadership must be stable and focused; a multitude of autonomous actors (or leaders) and the diffusion of authority hinders institutional change. The leader will usually convene a committee, round-table or team which includes representatives from throughout the institution to participate in agenda setting and decision making, such groups are also forums for communication and participation. The leader must be competent (with technical, economic and interpersonal skills, as well as knowledge of environmental issues) in order to facilitate constructive dialogue. Consensus building is important, but should not be used indiscriminately. Institutionalized programs should facilitate such communication and policy development. The goals and policies of the change agenda must be publicly formulated so that the goals and the leaders are not illogically resisted.

The leader is the advocate and lobbyist for the change movement. Usually, the leader comes from the faculty, since students seldom take long-term interest in issues facing the institution

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106 Strauss (1996, p. x) encourages “top administrators to continue on [the] path of building in environmental stewardship” by establishing institutionalized positions and committees to address environmental reforms on campus.

107 MacTaggart (1996).

108 Cerych and Sabatier (1986). In Chapter Three I explain how diffuse leadership characterizes the Tulane Environmental Studies Program, and that this diffusion, while primarily negative, does have some positive benefits.


110 Gilbert (1996), Smith (1993) and the Blueprint (1995). Campus Ecology (1997) notes that having such groups can prepare leaders or initiators for meetings with powerful campus officials by informing them and finding faults or accentuating strong points in arguments.


112 Papadakis (1996).


114 Elliott (1981). For example, the initiation of an environmental literacy component in the University distribution / proficiency requirements should be developed after careful discourse with constituents from throughout the University. For improving recycling or developing a ride-share program, however, such broad-based consensus is not necessary.

115 Tulane has two environmental structures that should be used for such agenda setting, decision making, consensus building and communication: the Tulane Environmental Project (TEP) for students, staff, faculty and administrators, and the faculty-oriented Environmental Faculty Enrichment Seminar (EFES). Both should reach out to as many participants as possible, and both should be incorporated as permanent facets of the University.

Dr. Kelly supports the re-establishment of the TEP (see Chapter Five). Also, Dr. Kelly (op.cit., 1/30/98) stated that the roles of leadership are two-fold: accommodating the institution through the change process and taking an active role in establishing the missions and goals along with developing and implementing policies to achieve them. In an interview (for Chapter Five) with Dr. Kelly, however, he stated that he was (passively) waiting for the faculty to take the initiative to “green up” and change the campus, contradicting his 1/30/98 lecture regarding the active roles of leadership.

116 Lane (1990). Including every single member of the campus community is impossible and unnecessary. If public announcements are made, however, of meetings and forums to draft the greening goals, then at least the campus community will be cognizant of the policy formulation and could participate if they desire. Otherwise, developing policies behind closed-doors and then announcing them will alienate much of the community.

117 Strauss (1996, p. 50) says that “Environmental employees [read: leaders] are particularly valuable because they become the first full-time, year-round campus advocate for sustainability.”
Leadership is collective (Crowfoot 1993), and student efforts along with employee involvement and administrative leadership can result in positive changes (Strauss 1996). Student leadership, however, usually breaks down with each graduating class (Cogan 1994 and Strauss 1996). Additionally, students do not have the experience / training / know-how to be the leaders – but they can begin to acquire such traits by being involved. Academia, however, is the place to train future leaders, so student involvement is critical (Foster 1993). (Discussed further in Chapter Six.)

The leader must have power or access to power. He or she should come with support or actually be from the upper administration, especially the president, and should come from within the movement advocating change (also known as the “grassroots”). The administration – apart from the leader of the change movement – must also provide leadership, encouragement and support for the change initiatives in order to establish campus-wide expectations for the changes. The administration must also aggressively communicate all positive results (in order to praise the change movement and the leader) and thus encourage reforms to “multiply.”

The leader must be charismatic and must “flow like water”: when damned in one place they

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118 Leadership is collective (Crowfoot 1993), and student efforts along with employee involvement and administrative leadership can result in positive changes (Strauss 1996). Student leadership, however, usually breaks down with each graduating class (Cogan 1994 and Strauss 1996). Additionally, students do not have the experience / training / know-how to be the leaders – but they can begin to acquire such traits by being involved. Academia, however, is the place to train future leaders, so student involvement is critical (Foster 1993). (Discussed further in Chapter Six.)

119 Altbach (1974)
120 Crowfoot (1993).
121 Fantini (1981).
123 Fantini (1981). If “information technology” is a cornerstone of Tulane’s strategic mission, then access to and education about information technology should be – and is – infused throughout the campus. Likewise, for “environmental studies.” (See also comments by Dr. Eamon Kelly in Chapter Five that further support this claim.)
125 Cerych and Sabatier (1986). Such active support could include commitment from upper administration (leadership / leading by example), explicit support of environmental initiatives, financial support (both external and internal) for environmental programs and initiatives, campus community education, assurance that the reform is compatible with institutional growth, and incorporation of the program into the standard operation of the institution.
126 Riggs (1997).
127 Lane (1990), Gitell (1981), Fantini (1981), and Cerych and Sabatier (1986).
129 Dolence and Norris (1995), Lane (1990), Farmer (1990), Rainsford (1990), Steeplees (1990) and Feld (1981). Often this leadership from the executive administration is in the form of support. Fantini (1981) describes four kinds of support for planning and implementing change: opportunistic support (which predicates main priorities and is usually superficial), top down support (which includes only specific staffers and not the entire institution), grassroots support (which is not matched at the administrative level), and broad-based support (which occurs when there is a concerted effort to include all the players at all levels).
133 Strauss (1996).
must move quickly to the next.¹³⁴ Fundraising and resource procurement takes charisma, as well as communication and interpersonal skills,¹³⁵ but leaders must be able “to listen first.”¹³⁶ The choosing of a leader should be based also on past successes and accomplishments, which can elucidate successful elements of his or her character.¹³⁷ To make change, leaders must be “decisive [and] visionary leaders [who] cut through seemingly intractable dilemmas.”¹³⁸ The leader of a change movement has a difficult job description to fill. Whitney Tilt, Project Director of the National Fish and Wildlife Foundation, comments on the difficulties of the environmental leader with the following tongue-in-cheek want-ad: “WANTED: Individual with strong scientific background to save the world. Demonstrated knowledge of politics, negotiation, finance, and people management a must. Experience in managing overworked and underpaid staff, working long hours, and ability to work miracles desirable. Salary negotiable, but less than you deserve.”¹³⁹

The potential tragic flaw of the model lies in the key element of leadership. The leader needs to be so great, how can one person fill such shoes? And the position may be dynamic, that is it will not be a tenured position: how can the institution hope to keep a position filled with qualified and capable people (assuming the change movement lasts for an extended period of time, as is almost always likely)?

First, while a single leader has been constantly the focus, additional leaders or assistants to the leader may also be needed, depending on the scope of the proposed changes.¹⁴⁰ Second, the leader must draw from a guiding or consulting committee, which would provide broader and administrative leadership, ideas, communication outlets, resources and many of the other necessary elements of change. Third, a key element to insuring success – i.e., not letting this tragic flaw collapse the change initiative – of the campus greening movement is to involve students in every aspect of the process but not to depend on them entirely, because as discussed above, they are unreliable. (I return to discuss the aspect of student involvement in Chapter Six, where it is a primary element of the “Blueprint for a Green Tulane.”) Finally, there is no shortage of advice and suggestions to leaders, both in this study and in the literature.¹⁴¹

In sum, for successful institutional change to occur, the movement must have an institutionalized leader who is the change agent, the communicator and facilitator, the advocate and lobbyist, who has power or access to power, and who is supported by the administration and campus.

¹³⁴ Orr (personal communication, 7/15/98).
¹³⁵ Foster (1993).
¹³⁶ Orr (1992b, pp. 78-9).
¹³⁷ Berry and Gordon (1993).
¹³⁸ Orr (1992b, p. 48) was referring to the former Soviet leader Gorbachev in the above quote. But Orr also discusses environmental leadership when he says that “courageous and visionary leadership [will be required to] rethink the substance and process of education, the purposes and use of research, the definition of knowledge, and the relationship of the institution of higher education to human survival.” (p. 152) He says that the “essence of leadership [is] to move [people] to purposeful action” and that local, transformative leaders are needed and not “bold, aggressive, militaristic heroic men” who have already wrecked the world environmentalists seek to restore (p. 78).

¹³⁹ Forward in Berry and Gordon (1993, pp. xi-xii).
¹⁴⁰ These are the “human resources” of Keniry (1995).
¹⁴¹ MacTaggart (1996) offers five lessons for leaders: (1) respond to the need for people to be engaged in the change process, (2) create and communicate a vision, (3) expect resistance, (4) champion good causes that do not focus on functional systems, and (5) allow for renewal of the leader because of the extraordinary demands on him / her during the change process. Crowfoot (1993) offers six insights for environmental leaders: (1) be a leader and a follower, (2) think about change (since “change is now clearly the rule, not the exception, in the perception and solution of environmental problems” (p. 271), (3) develop breadth and flexibility (the leader must be a generalist as well as a specialist), (4) learn to listen, (5) set an ethical example and (6) be a lifelong learner.
This leader must be charismatic in order to make change happen. I will return to discuss leadership role again in Chapter Six in regards to the “office of environmental affairs,” where the leader for environmental change at Tulane (the “environmental coordinator”) should reside.

**Means and Ends**

Well-defined means and agreed-upon ends are important elements for successful change. Social reformer Saul Alinsky’s essay “Of Means and Ends,” although it is primarily about ethics, is relevant to institutional change. Whenever the thought of change arises, so does the question of means and ends. The end is what is desired; the means is how to achieve it. Alinsky’s main point is this: “Means and ends are so qualitatively interrelated that the true question has never been the proverbial one, ‘Does this End justify the Means?’ but has always been ‘Does this particular end justify this particular means?’”

From Alinsky’s many ethics of means and ends, two points relate specifically to institutional change. First, he claims that humanity divides itself into three groups: the Haves, the Have-a-Littles / Want-Mores and the Have-Nots. The Haves are usually the ones who establish laws and judging systems to protect their own means, which are justified with their own morality standards. Their primary purpose is to maintain the status quo. Those in power do not want change for fear of relinquishing their control. Second, entirely new and unexpected ends are frequently among the major results of action. Since the world is not static, changes occur while implementing the means, and the ends may change—unknowingly or unpreventably.

To relate these to the environmental institutional change milieu, the Haves are the administrative bureaucracy. They “have” the power to make changes, and often do not because of the threat to their power structures (or so-called “personal agendas”). Environmental changes, however, are not so profound as to call for drastic changes in power structures. Small degrees of change are required broadly and large degrees of change are required narrowly. Then, as with the transition

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145 Ibid., p. 45.

146 Dr. Eamon Kelly (op. cit., 1/30/98) notes that change leaders need dynamic models (i.e., means) and not static ones.

147 This statement is reiterated by Gitell (1981) and the sources which she reviews. Of course, this claim does not address incompetency or dysfunctional systems that hinder change tasks.

148 Hamburg and Ask (1992, p. 56) maintain that environmental change does “not require extensive measures, yet if applied rigorously, they [comprehensive guidelines for change] lead to sound environmental and university policy.” (Also discussed below.)

149 Also known as goals and implementation plans, respectively.

150 Discussed below, and see Figure 2.
to a sustainable society, the changes become “second nature”\textsuperscript{151} and are no longer seen as changes. So, this unwillingness to use power to make changes is not an applicable excuse for the lack of implementation of environmental changes. It does, however, show that perhaps administrators perceive environmental changes to be more drastic than they really are – a form of misinformation.\textsuperscript{152}

To address Alinsky’s second point, throughout the process of greening Tulane means and ends will likely change. Once achieved, the ends – as they were originally conceived – may not be deemed successful if they differ from how they were originally perceived. The ends must be examined in new light, however, because, since time has passed and situations may be different, they could possibly be successful. The point is that expecting to achieve rigid well-defined goals is hopeless, and the means may need to be adjusted en route to the (original / new) ends.\textsuperscript{153} Additionally, incremental changes whereby large-scale means and ends may be adjusted are safer (avoiding the negative results of haste and premature actions) and more powerful (especially for addressing resistance).\textsuperscript{154}

A well-defined means is necessary to achieve an agreed upon ends. Those means and ends must not be immutable; altering them may be necessary and could be beneficial. Means and ends are similar to policies, demonstrating a dynamic link in the model. In the context of this study, the primary means (since means are likely to be many and specific) are education and the reengineering of processes (both physical and administrative); the ends (which are usually few and broad in scope) are a green campus and all the benefits associated with it – the most important of which is education for sustainability.

\textit{Education}

Education is the primary mean and end of the change model. Excluding classroom education,\textsuperscript{155} three forms of education are integral to the change process: educating decision makers, addressing resistance and communicating with the campus community. Although the education process is likely to begin after a leader has developed and implemented policy, procured resources and gathered information, these processes (of implementing policy – using consensus and including various parties – and procuring resources and gathering data) are all educational: the actors or

\textsuperscript{151} Second Nature (1997). Fantini (1981) also discusses this concept when he notes that mutual adaptation – when both the setting for change and the change project are altered, and the new change project is integrated into the existing structures – is the most successful way to implement change. The other two common processes of implementation are non-implementation, when nothing changes, and cooption, when no common behaviors or practices are changed but a need is met. (See also footnote 129.)

\textsuperscript{152} Or perhaps the complexity and relative newness of environmental concerns is daunting and thus avoided. Or they are incompetent or stuck in dysfunctional systems.

\textsuperscript{153} Dolence and Norris (1995) and Wood (1990) also make this point. For example, reengineering the heating and cooling processes could save hundreds of thousands of dollars (after a capital expenditure) while at the same time providing a better workplace / residence for employees and students, resulting in better health and increased performance, academically and economically. In that same vein, they also note that increasing efficiency, effectiveness and productivity are requisites for an “Information Age” university; they are also tantamount with a greener university: the use of fewer resources (time, money, materials) is economically and environmentally sound. Also, Hamburg and Ask (1992, p. 57) say that “environmental change must be without net costs” because fewer resources used means less cost which means less environmental impact.

\textsuperscript{154} Farmer (1990).

\textsuperscript{155} As in Second Nature (1997), which explains that education on sustainability in the classroom is one of the primary goals of environmental change in higher education. This study, however, is not focusing on classroom education (though it is discussed).
actresses in the change movement interact with people and affect (i.e., educate) them. In short, educating the entire campus community on change issues is necessary for success.

Educating the decision makers of the university is imperative. Reports of information gathered, data compiled and projections are one tool to educate administrators. In this way, decision makers can make educated judgements, especially about financial issues. For example, since change that is initially costly is likely to be resisted, future savings and benefits should be highlighted in reports that are meant to educate decision makers.) The Green Grade Card for the Green Wave was an important step to educating many decision makers at Tulane. However, active approaches such as training seminars or one-on-one meetings with an environmental change advocate are needed.

Universities resist change; this resistance is likely to come from a variety of sources: faculty, administrators, staff, students, alumni and the community. The more radical the change, the more likely it is to be resisted. For example, faculty will resist changes to core elements of the curriculum (such as an ecological literacy requirement) more so than operation or physical plant changes (such as new energy efficiency measures). If the campus community is educated on the issues in the change platform and actively involved in the process, then resistance is less likely.

It is imperative to communicate to the university community the issues and the proposed changes and why they are important. That communication/education process begins with roundtables and consensus building groups who articulate the issues and proposed policies. Communicating (educating) the community on the benefits of the changes is necessary to maintain support and insure that the changes are incorporated into the fabric of the institution. Educating, training and motivating the campus community on environmental issues (in larger contexts, such as environmental sustainability, and more specifically, such as recycling and efficiency) is the key to making such programs successful since change—and especially environmental change—is not spontaneous.

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162 Fantini (1981). Farmer (1990) says that resistance is usually because of a threat to the culture of the institution, not to the substance of the change.
167 After Brown and Duguid (1996) and Dr. Eamon Kelly (op.cit., 1/30/98).
169 De Young (1986) and Ackerman (1997) discusses motivations for recycling, which can be ethical, legal, economical or otherwise; all of them require education to motivate the person (or community) to recycle.
170 As argued above and in Chapter One.
Eventually, education spreads to society, and environmental sustainability is achieved. In sum, communicating to and educating the entire campus community will decrease resistance to and increase the possibility of change.

**Environmental Theory for the Institutional Change Model**

The expectations of institutional environmental change must be realistic. The higher the expectations of the reform process, the more likely the results will be judged a failure; the expectation for immediate results will also prove to be a disappointment. Leaders, supporters and skeptics of change cannot expect institutional environmental change to happen suddenly or completely; changes occur slowly – slower than the change proponents anticipate. Institutional environmental change must be moderate and gradual – but consistent. In changes that result in consistent environmental benefits, some members of the campus community will be greatly affected, while others will only be marginally affected. (See Figure 2.)

A three-dimensional framework illustrates degree of change: depth (the degree to which a change requires a departure from existing values and practices), functional breadth (the number of functional areas within the institution which change will affect), and level of change (which indicates the target of reform for multi-institutional systems). When change encompasses a wide functional breadth and extensive depth, there is much opposition, change is difficult, and failure is likely. When change has a narrow functional breadth and a shallow depth, it also is hard to implement change (because reforms do not galvanize sufficient support to overcome institutional inertia). When reforms call for a moderate scope of change in depth, functional breadth and level of change – as they do at

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173 MacTaggart (1996), Steeples (1990) and Cerych and Sabatier (1986). Steeples (p. 106) says that “No change, no matter how fundamental or broad or well conceived, will bring a campus to a final state of perfection or equilibrium with the environment.” (He was referring to the “environment” in general, not in terms of campus greening.)

174 Altbach (1974), Hofman (1990) and Wood (1990). Dr. Eamon Kelly (op. cit., 1/30/98) notes that though the “environment” (society, culture, economy, etc.) changes quickly, institutions change slowly. David Ehrenfeld (personal communication, 7/21/98) admonishes thus: be careful of fixing or redesigning the world too quickly; go slowly and deliberately. David Orr (personal communication, 7/17/98) notes that he started planning for the Oberlin Environmental Studies Building (see Chapter Four and above) in 1990, and it was not completed until 1998. The project took off only after a new College president came in 1994.

175 Altbach (1974) says that single changes seldom happen; reforms are interrelated throughout the university and a chain of changes will occur. As an example, he cites that changes in the curriculum may change staffing patterns, library holdings, bookstore orders and the stability of entire academic departments. Farmer (1990) emphasizes the positive aspect of incremental changes, especially in addressing resistance (it is less threatening) and avoiding mistakes.

176 Greening reforms and changes that are system wide at Tulane involve behavioral education (i.e., turning out the lights, recycling, reusing paper or envelopes), and people will respond on a more individualized basis (either changing ways or not). Other greening reforms come into the scope of operations and, though they may be “system wide” in scope, they are not dependant on system wide changes on the part of many participants (e.g., altering heating and cooling systems to be more energy efficient and not over-heat or over-cool buildings is dependent upon a few individuals). Most greening reforms are add-ons or redirections, and redistribution of power is not necessarily called for. (After Cerych and Sabatier, 1986.)

177 Although Tulane is “multi-institutional” in that it has 11 different component schools, it is still under the same executive leadership and administration (except for the Medical School). This theory (from Cerych and Sabatier, 1986) is derived from multi-institutional public universities (e.g., state school systems). Thus, level of change – while still relevant at Tulane – is not integral in the theory presented here.
The changes are sometimes narrow, sometimes wide, but for the most part they are moderate. Dysfunctional systems and incompetent individuals, however, can be problematic. (See Figure 3.)

At Tulane, transformation is needed, not revolution. Restructuring the entire University is unnecessary, reengineering processes and behaviors is. Some environmental progress has already been achieved; as such, the University is not starting at “ground zero.” Environmental change does not require extreme measures. Significant deviations from the values and procedures of the existing order – a.k.a. system-wide restructuring – are harder to implement than narrow or less encompassing modifications of the organization. In other words, environmental change is moderate change, and as outlined above, moderate change is the least difficult to do.

(I must note parenthetically, however, that while the actual apparatus of institutional environmental change is moderate, the implicit goals of it – the transition to a sustainable society, which is essentially an attempt to change the worldviews of modern industrial societies – is certainly not. The concrete changes are moderate; the psychological and cultural changes are not. So while institutional environmental change as I describe it and work with it in this study is moderate, it is actually very radical. Also, it is a matter of the language used: if told that the changes were drastic attempts to change culture, people would certainly resist. But if described – perfectly truthfully – in terms of practicality, human health, environmental health, economics and the “right thing to do,” then people would be more likely to change.)

Institutional environmental change at Tulane does not need to be extreme; it is not so drastic as to alter institutional power structures. The goals must be realistic and will not materialize overnight. The depth and functional breadth of the changes needed are moderate.

The Model for Institutional Change

Figure 1 is the model of institutional change; it is derived from and supported by the literature and case studies on institutional change in higher education. The key element is a leader who is an administrator or faculty member but not a student, because students lack power and connections and are temporary (students do play absolutely integral roles in the change process, as discussed in the “Blueprint” of Chapter Six). In addition to the leader, the administration must provide broad leadership and support for the change agenda.

The model is a conceptual framework for understanding and implementing change. It is dynamic: the dark arrows represent normal “flow,” whereas open arrows represent feedback. The model is dynamic not only in itself but also between applications; different circumstances result in

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178 The changes are sometimes narrow, sometimes wide, but for the most part they are moderate. Dysfunctional systems and incompetent individuals, however, can be problematic. (See Figure 3.)

179 Cerych and Sabatier (1986). Lane (1990, p. 66) summarizes this portion of theory as thus: “the higher the level of change, the broader the change, the more important the change that is attempted, the more difficult it is to succeed in the implementation. Conversely, it holds, somewhat paradoxically, that if the level of change is very low, the functional breadth is small and the nature of the change unimportant, then again implementation is difficult. There is a higher probability of successful implementation when the level of change is neither too small nor too large, when the functional breadth comprises a number of manageable programmes and when the intended change is interesting but not comprehensive.” (See also Teichler, 1988.)


181 Hamburg and Ask (1992). Altbach (1974) notes two stimuli of change: The first is the “big bang,” which is a massive, sudden and occasionally externally initiated (especially in public systems) change – this is not necessary for environmental change at Tulane. The second is the “local initiative,” which is much less drastic and akin – though not exactly the same – to the environmental change needed at Tulane.

182 Cerych and Sabatier (1986), Gitell (1981), Fantini (1981) and Lane (1990). This concept is illustrated in the resistance to the Tulane 2000 project.

183 I am indebted to Julian Keniry (personal communication, 8/22/98) for these insights.
different paths. For example, education (the “end”) may result in further advocacy for new changes (thus the dotted line, effectively making the model cyclical); also, procuring policy may return the advocates to the advocacy stage before getting resources. The model is not rigid; for example, policy may be skipped entirely (but the results of the change may not be permanent as a result). Dividing the change process into the segments of the model is artificial but necessary. Change is not spontaneous, and greater understanding of the process will increase the likelihood of success for advocates of institutional change.

Advocacy is the impetus to begin change. It is the product of diffuse, irregular efforts of (primarily) students and faculty found in the “shadow” of the university (the area outside of the “mainstream” of campus life). Advocacy is usually a grassroots or bottom-up effort, but top-down advocacy is just as important: the two must converge in the middle to create the integrated advocacy required for institutional change.

Advocacy results in policy. Development of specific and general policies should be consensual, with the input of all appropriate parties. Policies should be applicable, enforceable and non-rhetorical in order to support, justify and communicate the change goals. Additionally, policy development and having policies in place is a form of education about the change agenda.

Advocacy and policy procure resources. Roughly prioritized, the primary resources are personnel (a leader, support staff, an office), financial resources, information and data, power (or direct access to power), and the ability to offer opportunities and incentives for improvement and positive change. Resource allocations must be in line with the missions of the institution, and a continual supply of necessary resources will maintain the desired changes.

Leadership is the key and defining element of the model for institutional change. Advocacy procures the leader, who is supported with policy and resources. The leader is in an institutionalized position dedicated to the change agenda. He or she is the change agent: the communicator and facilitator of the change process, and the advocate and lobbyist for the change agenda. The leader must have power or direct access to power. The institution – especially the administration, who should also act as leaders for change – must support the leader. Finally, the leader must be charismatic: important character traits include communication, interpersonal and listening skills; visionary planning; and the capability to accomplish meaningful projects.

While the leader is the key element to the model, it is also the place for the potential tragic flaw: How can one person do so much and be so great? Some solutions to address this potential weakness include an additional leader or leaders, support staff, a guiding committee (one that provides broad administrative leadership, ideas, a modus for communication and potential resources) and, most importantly, involving students in the change process. A committee and students are discussed below in the “Blueprint for a Green Tulane.”

The leader develops well-defined means to achieve agreed-upon ends. Neither the means nor the ends can be rigid. Means are the implementation plans; they are many and specific, and they address education and process re-engineering (physical and administrative). Ends are goals; they are few and broad in scope. (Examples of ends might be ecological literacy of graduates and an environmentally sustainable campus.)

Education is the primary mean and end. Campus decision makers must be educated on the change agenda, on both the mechanics of its means and its desired ends. The same issues must be communicated to the entire campus, since education about the change agenda is not spontaneous. For example, in environmental change, the campus community will not automatically understand the mechanics of a recycling program or the larger goals of environmental sustainability; they must be educated. Eventually, the education reaches society, and such is the ultimate goal when attempting environmental change in higher education.

Some theory ties together the model: Changes pursued must be realistic. They will take time
to achieve and will never be 100% complete. Operational changes affect some people significantly, while most are only minimally affected; transformation, not revolution, is needed. A two-dimensional framework of change is appropriate for Tulane; depth is the degree to which a change requires a departure from existing values and practices, and breadth is the number of areas within the institution which a change is expected to introduce modifications. Wide / deep changes result in opposition, whereas narrow / shallow changes do not take hold. Changes are most likely to succeed when they are moderate in depth and breadth of change. Institutional environmental change with regard to campus operations is moderate change.

Non-Environmental Institutional Change at Tulane

Introduction

Tulane has been and is in the process of institutional change. The purpose of this section is to show that Tulane is capable of both profound and moderate institutional change. Despite the numerous barriers the University has changed when resources and policy support an institutionalized leader. Lessons from these past experiences will reiterate what is need for institutional environmental change. I discuss five issues in roughly chronological order: multicultural affairs; Tulane 2000; bisexual, gay and lesbian affairs; Tulane College’s Programming Office; and the University Transformation Program. People did not immediately embrace these issues; it took concerned leaders and advocates (or, possibly, federal laws) to convince the administration or the entire campus that they were meaningful changes to undertake. Just like environmental issues, they were not spontaneous. As argued in Chapter One, for example, Tulane’s recent management involvement with the Housing Authority of New Orleans (HANO) was not a spontaneous move – it took a leader within the institution with a conviction that involvement was appropriate and in the best interests of HANO and the University.

Multicultural Affairs

Under pressures from the federal government as well as students and employees to address the issue of multiculturalism at Tulane, the University established policy (in the form of a directive from the president) and provided resources and leadership (in the form of an Office of Multicultural Affairs and an Office of Equal Opportunity) to address multicultural issues.

Tulane has made a commitment to hiring a racially diverse faculty and staff. The University also strives to recruit a diverse student body. To achieve these goals, the University has an affirmative action hiring procedure and has established the above-mentioned offices. The Office of Student Programs sponsors twelve multicultural organizations and houses the Office of Multicultural Affairs, which assists in extracurricular programming for these organizations and provides education for the students on multicultural issues at Tulane (approximately 20% of Tulane students are multicultural).
students are non-Caucasian\textsuperscript{190}). The Office of Multicultural Affairs also sponsors student recruitment activities such as the Multicultural Preview Conference, which was “an opportunity for multicultural students to visit Tulane and . . . see Tulane from a multicultural perspective, talk to multicultural students, and attend multicultural activities.”\textsuperscript{191}

Tulane developed these services and offices to change from a largely undiverse institution to one which embraces and supports diversity (which is particularly appropriate since New Orleans is a diverse city). The same should be done for environmental issues, especially after the arguments for greening presented in Chapter One.

\textit{Tulane 2000} \textsuperscript{192}

Around 1992-4, Tulane recognized mounting budget shortfalls and began a restructuring effort, which began with an outside auditor developing a restructuring report.\textsuperscript{193} The shortfalls were the result of increasing costs in academia, increasing athletic department costs and decreased revenue from some divisions of the University. The Tulane 2000 Executive Committee proposed “a menu of expenditure reductions and new revenues, which are designed to uphold the university’s chief academic priorities and achieve the kind of budgetary stability that will position [Tulane] for further progress.”\textsuperscript{194}

Among the cost-cutting efforts, the Committee slated administrative overhead for cutting and tried to preserve priority academic areas (student quality, faculty excellence and research productivity) as much as possible. The Committee presented a savings of over $2 million by cutting approximately fifty positions in central and academic administrative units on the Uptown Campus. Other cost-cutting procedures included cutting stipends in “weaker” graduate programs;\textsuperscript{195} institution of zero-based budgeting, which included yearly budget justifications and moving certain positions from twelve- to nine-month appointments; instructional cuts (in lieu of substantial restructuring in the Architecture, Engineering, and Liberal Arts and Sciences); and a salary freeze in the 1997 fiscal year.

For increasing revenue, the Committee proposed cost recovery from grants, instituting a fee for the Junior Year Abroad Program (instead of cutting it entirely), lowering financial aid budgets and increasing tuition by four percent. The Committee also recommended continued support of the Athletics Department, though not at the requested amount. The University was to support that Department with revenue from expenditure reductions in the Schools of Business, Law and Medicine (which traditionally had surplus budgets that assisted other divisions of the University.)

In conclusion, the Committee recognized that “the proposed menu of expenditure reductions and new revenues . . . are painful, but they will allow Tulane to continue to advance the primary goals of faculty excellence, student quality, and research.”\textsuperscript{196} The recommendations were implemented, and

\begin{itemize}
\item \textsuperscript{190}Office of Admissions (1998).
\item \textsuperscript{191}Strauss (1998b).
\item \textsuperscript{192}Tulane 2000 Executive Committee (1995).
\item \textsuperscript{193}This report is known as the “Kearny Report.”
\item \textsuperscript{194}Tulane 2000 Executive Committee (1995), p. 3.
\item \textsuperscript{195}Also, the indirect results of the Tulane 2000 initiative were to limit new graduate programs, such as one the Environmental Studies Program proposed (see Chapter Three).
\item \textsuperscript{196}Ibid., p. 16.
\end{itemize}
the University community was angered.\textsuperscript{197} Professors were telling freshman advisees to leave while they still could, and many employees left the University. A main reason for the anger\textsuperscript{198} was that academic programs were cut and the Athletic Department\textsuperscript{199} received extra funds. In the end, however, the University is enjoying an improved financial system.\textsuperscript{200}

The Tulane 2000 project had some of the characteristics of a successful change initiative: a broad constituency of the University designed Tulane 2000, it had a leader (the president) and received executive institutional support, and it had dedicated resources (human and otherwise) to insure its success. Despite the turmoil and resistance from factions of the campus (which the administration may or may not have appropriately addressed), the project was successful. Given the right ingredients, Tulane is capable of painful and profound change. Institutional environmental change is not as drastic as the Tulane 2000 project; to be successful, it too must have the right ingredients.

\textit{Bisexual, Gay and Lesbian Affairs}

The University institutionalized the office of Lesbian, Gay and Bisexual Life at Tulane to address issues faced by Tulane’s bisexual, gay and lesbian community and to educate the campus on relevant issues. This initiative came as a result of student lobbying and a subsequent presidential directive. The office has a director and is under the auspices of the Senior Vice-President and General Council.\textsuperscript{201} A caveat from the case of the Office of Bisexual, Gay and Lesbian Affairs Office, however, is one of location: they are located in a basement away from the administrative life of the campus. Space is tight at Tulane, being an urban campus in an old city, but such a location is symbolic of the administrations’ minimal respect for the office.\textsuperscript{202} Bisexual, gay and lesbian affairs is parallel with Multicultural Affairs; a similar structure is appropriate also for environmental affairs – but it should certainly not end up in a basement in the back of campus.

\textit{The Tulane College Programming Office}\textsuperscript{203}

Tulane College is the undergraduate, liberal arts men’s division of Tulane University, and Newcomb College is the women’s. In the latter, the Dean’s Office has a staff of twenty-three, five of

\textsuperscript{197} Altbach (1974) states that “Many within the academic community, and particularly the senior faculty, hold that many of the reforms proposed in recent years [planned change in organizational structure, curriculum, administration and financing], and especially those which involve students and others in academic governance, are ill-conceived and do not serve the universities well in the long run.” While Altbach made these comments in 1973-4, they are relevant still today and for the Tulane 2000 “crisis.”

\textsuperscript{198} These are my own observations as a student during the implementation of Tulane 2000.

\textsuperscript{199} While some sports at Tulane had been doing well nationally (such as Rowing), the major sport – football – had not had a winning season in decades. Prior to the allocation of extra funding to the Athletics Department, the University community was not particularly fond of Athletics; afterwards, that animosity remained.

\textsuperscript{200} While it is hard to gauge this exactly, the furor of the cutbacks has died down to almost nothing. Although debt financed, much new construction is taking place on campus, which may mean the administration believes the University is in better a financial situation. (For example, one new dormitory has been built, one is under construction, and one is slated for construction in the near future; a new Environmental Sciences Building is under construction; the library is expanding; the Tulane College administrative building is being renovated; and a $10 million energy restructuring program is underway.)

\textsuperscript{201} Personal communication with Yvette Jones, 2/5/98.

\textsuperscript{202} Bowers (1997) would call this a token add-on to superficially address change with which the administration did not care to be concerned. Bowers harshly criticizes such add-ons and argues that real change must be integrated into the institution – institutionalized.

\textsuperscript{203} Personal communication with Randy Broz, 5/12/98.
whom are dedicated full-time program coordinators (two for alumnae and three for students). In Tulane College, the Dean’s Office has a staff of seven and no programmers or alumni office, even though enrollments in the two colleges are similar. In an effort to improve the services and programs of Tulane College, the Dean and the students on the Tulane College Senate prepared a proposal\textsuperscript{204} for a new Programming Office, which would have a staff person and a full budget. They made their proposal to the appropriate highest-ranking administrator, the Provost, who would make the final decision (along with input from the Dean of the Liberal Arts and Sciences). The process took most of an academic year (1997-98) to complete.

The proposal was first an initiative from the Tulane College Dean. A focus group from the Senate formed and provided input into the proposal. When Randy Broz (Tulane College Senate President) checked on its progress, he was repeatedly told that it was still being decided. After several months, Broz approached the Provost. The initial meeting with the Provost was positive; she agreed with the argument, but the question of funding arose. Her “final” reply (by e-mail, several months after the initial proposal was made) was that they should seek to co-program with Newcomb. This proposition was unacceptable to both Tulane and Newcomb College students.

The Tulane College students – and the Dean – were being given a bureaucratic run-around from the beginning of the initiative: administrators did not respond to their requests for information or meetings, they were repeatedly offered similarly unworkable proposals, and they were given mixed responses. They decided to push the issue to the broader campus community. First, Broz introduced a resolution in the Associated Student Body Senate in support of the proposal; it passed immediately. Then, he initiated a letter-writing campaign to alumni on the Dean’s Advisory Council and to President Eamon Kelly and President-Elect Scott Cowen, and he received much positive feedback. Additionally, he raised the issue in the University Senate Committee on Student Affairs, where he was provided with advice, suggestions and encouragement. After meeting with more administrators, Broz returned to the Dean of the Liberal Arts and Sciences, who – after being convinced of the idea, that coprogramming was not feasible and that alumni, staff, faculty and students were in agreement with the proposal – finally seemed to agreed to establish the Programming Office, with the only issue remaining being the funding, which would eventually be solved with an endowment.

The retention rates of Tulane College are the lowest of all the schools; a new Programming Office to administer programs (such as the “Big Brother” program that pairs freshmen with upperclassmen) could improve College life and retention rates, thus justifying the financial allocation. Dr. Anthony Cummings, Dean of Tulane College, said that having five – or even six or seven – Tulane College staff people each giving 25 percent of their time to programming was not even close to the progress that could be made with one person giving 100 percent of his or her time to the issues.\textsuperscript{205}

The establishment of the Tulane College Programs Office is analogous, though on a slightly smaller scale, to the needed “office of environmental affairs” proposed in this study. The steps that they took – and the difficulties they had – will assist in the planning to establish the “office.” Students provided the advocacy to procure policy (in the form of Student Government and College resolutions), acquire resources (in the form of a budget and salary) and hire a leader (the staff person) and to improve Tulane College.

\textsuperscript{204} Actually, the Dean made a proposal, and after no response from the administration, the students, lead by Tulane College Senate President Randy Broz and with the encouragement of Yvette Jones, made their own proposal separate from the Dean’s.

\textsuperscript{205} Personal communication, 5/8/98.
The University Transformation Program

Provost Dr. Martha Gilliland began the planning process for the Transformation Program upon arriving at Tulane during the summer of 1997. Input into the Program was from a broad constituency. Implementation began in the spring of 1998. It consists of five “breakthrough” projects, each focusing on a non-academic aspect of the University: improving staff development, renovating classrooms, establishing an international studies office, starting an extracurricular program for incoming freshmen, and creating increased technology support and a technology help desk.

The necessary elements of achieving change characterize the projects. The Provost’s Office sends out periodic updates to University employees, and the student newspaper has ran occasional articles about the programs. Staff development will be enhanced by surveying the campus about the services staff provide and holding staff development programs to better those services that need improving; this program demonstrates the implementation of effective communication and education. Classrooms will be physically improved to be better teaching environments; this project is providing resources to improve the campus learning and teaching environments. The international studies office will provide a single source of information for students; the office will provide leadership, education and communication, and have resources. The extracurricular program for incoming students (called “Lagniappe”) is focused on improving the freshman experience by introducing students to the urban and historical cultures of New Orleans; the program is being developed with varied input, is communicating its goals throughout the campus, and has resources and leadership.

Finally, the University will improve information technology by establishing a technology help desk for the University. It will “develop and maintain the technology infrastructure, resolve problems associated with that infrastructure, and resolve problems that arise in the desk-top computing environment so that learning, research and administrative service are advanced.” Provost Gilliland appointed a professor to serve as faculty associate to the provost for technology and academic services. The campus community is demanding a multitude of improvements in regards to information technology. The University has been providing the resources in the form of budgets

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207 See Designing for the Future (1998) and Garr (1998), respectively.

208 Designing (1998a) states that the program is geared toward providing “university staff with the opportunity to become service-focused and live and demonstrate Tulane’s core values.”

209 Designing (1998a) states that the office will strive to “make all students full aware of, and involved in, the international dimension of a Tulane education.” Such a program – with equally lofty goals – should be developed for environmental studies and ecological literacy.

210 Designing (1998a) states that the goal of the redesigned freshman experience “is to integrate freshmen into our learning community so that they are good citizens, intellectually passionate and capable of applying knowledge, skill and reason to new situations.” Environmental issues would be an excellent component of this new “experiential” program, but as of yet, none has been infused.

211 Designing (1998a). Additionally, all departments have been allocated funds to ensure that all professors and most staff have desktop computers.


213 For example, The Tulane Hullabaloo (1998c) suggests improved access to computing education, increased Internet use for daily University functions (such as class registration), providing more access for off-campus students to the Internet and communication with professors.
for computers and Internet sites for departments and fiber-optically wiring for the entire campus (including all dormitory rooms). With the Provost’s programs, the information technology focus of the University will have the leadership, policy, resources, and education needed to effectively institutionalize the program.

Environmental studies is the only theme relating to the strategic mission of the University which is absent from the University Transformation Projects. Environmental studies may have been left out of the University Transformation Project because of already established successes: the excellent research facilities and grants for those facilities, and the burgeoning Environmental Studies Program already in existence. (But Tulane’s international programs, urban programs and information technology initiatives have all had established successes also, so I see no plausible explanation as to why environmental studies was left out of the Program.) During these “breakthrough” projects, however, input from an environmental coordinator could help in greening the projects that relate to the physical operations of the University whenever appropriate. The best time to make such environmental improvements is while other improvements are being made. Perhaps they were not included in the “breakthrough” projects because of the lack of an institutionalized advocate.

Summary

The necessary elements of achieving change characterize these preceding examples, and most fit into the strategic goals of the University (urban studies, international studies, environmental studies and information technology). Missing, however, is a concerted effort to make Tulane more environmentally responsible. While environmental research, and to some extent education, have been improved in years past (thanks to the influx of grant money), the third and critical element of an environmentally responsible institution of higher education – operations – has not been greened.

Multicultural affairs and bisexual, gay and lesbian affairs have been institutionalized at Tulane by establishing offices responsible for oversight and implementation. Advocacy began their implementation; federal policy was also an impetus. Policy was established (for example, with multicultural affairs, an equal opportunity / affirmative action hiring policy) and resources were allocated (an office, a budget, a director). Then an institutionalized leader implemented programs (means) to achieve broad goals (ends); for both, the ends were to make Tulane a more diverse and accepting institution. A key element of the means was educational programming.

The story behind the development of the Tulane College Programming Office is similar to bisexual, gay and lesbian affairs and multicultural affairs. Advocacy for a new Office (that would house the leader to change the programming in the College) was the first step. Students and the College developed the necessary policy. The administration then provided the resources necessary to establish the Office. The Program Coordinator is the leader who will implement the programs necessary for change in the College.

Two recent reforms were much more ambitious in their scope. Tulane 2000 sought to stabilize the University’s budget (and subsequently focus the institution’s academic priorities) with broad cutbacks, increased revenues and reallocations of resources. The president of the University lead the initiative, and ample resources were provided into developing and implementing the policy and means. Many forums were held to facilitate communication, and although resistance was strong and wide-spread, the program was successfully implemented. The second major change is presently

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214 As a student – and one involved with the University in more ways than strict academics – I was never aware that such plans were being developed. Perhaps environmental faculty were all too busy or were not invited to the planning sessions. Regardless, an institutionalized “office of environmental affairs” – if it had the power or access to power, which is concomitant with information and communication – could have, with their resources and information on campus greening, been involved in and made a positive contributions to these beneficial campus programs.
underway. The University Transformation Program seeks to improve the quality of staff services and classrooms, along with starting an extracurricular program for first year students, instituting an information technology helpdesk and establishing an international studies office. Many leaders are involved (and new ones have been designated), many resources have been allocated, and policy has been developed in order to implement these programs. But no efforts are underway to address environmental issues.

These change initiatives at Tulane support the model for institutional change. They also illustrate a pivotal element of the theory for change: moderate changes (e.g., the Multicultural Affairs Office etc.) are easier to make than extreme changes (Tulane 2000). Institutional environmental change at Tulane does not require an extreme system-wide restructuring. At Tulane, however, such lofty goals of institutional environmental change – truly affecting society – are a long time coming, and even basic greening will take time. The difficult task of system-wide restructuring is not needed; broad reengineerings of processes and narrow – and more readily accepted – changes in behaviors are. (See Figure 2.) Environmental change at Tulane encompasses a moderate scope of depth, functional breadth and level of change. (See Figure 3.) The most important element of change is having a leader, supported with resources and policy, who develops well-defined means to achieve agreed-upon ends to educate the campus. (See Figure 1.)

In the next Chapter, I turn to a history of greening efforts at Tulane to assess the validity of the above model. I will chronicle the evolution of four environmental programs in two divisions of the University: education (the Environmental Studies Program and the Tulane Green Club) and operations (the Tulane Environmental Project and Tulane’s Recycling Program). In analyzing these programs I will cull the underlying reasons of success – and failure – for past greening programs and relate it to the literature review of this Chapter. Additionally, Chapters Four and Five will further reiterate, clarify, contradict or add to the model presented in this chapter.
Figure 1. Schematic of the model for institutional change.
**Figure 2.** The solid line shows that, in institutional environmental change, a few people are affected greatly and many people are minimally affected. Positive environmental benefit (the dashed line) remains sufficient throughout, though the positive impact may vary depending on the changes made.

**Supplement to Figure 2.** The figure on the left shows that, with minimal change, all people are affected minimally and environmental benefit is low. The figure on the right shows that, with drastic change, many people are affected; environmental benefit is chaotic (it may be high or low or variable).
**Scope of Environmental Change at Tulane.**

Figure 3. Adapted from Cerych and Sabatier (1986). The dark ring represents the scope (depth and breadth) of environmental change for Tulane. Note that the ring is mostly in the “moderate” range; it occasionally enters the “least difficult” and “most difficult” ranges, in representation of the occasional events that are easier to implement and more difficult to implement, respectively.
CHAPTER THREE
A HISTORY OF GREENING AT TULANE

I have a vision that Tulane will be the Environmental University in the South.
- Dr. John McLachlan,
  Director of the Tulane / Xavier
  Center for Bioenvironmental Research

Introduction.

The structure of Tulane University has three divisions and four tiers. The three divisions (or goals) are research, education and business (or operations: the maintainence and advancement of the institution). Some authors, however, make the case that an institution of higher education has three divisions: education, research and service; when analyzing an institution, such a view ignores important financial and operational aspects. Overall, the four areas (research, education, business and service) are artificial, but necessary, distinctions. While service is an aspect as important as the others, I argue for allowing it to remain implicit in the listing, although explicit where appropriate in the discussion.

The four tiers are students, staff, faculty and administration. Of course, a university has many connections with the community, the society, the world, and the environment; such connections extend a campus community beyond campus boundaries. While those elements are important connections to make, especially with environmental concerns, they will be largely implied in the following discussion, which will focus on the four core tiers of the campus community. Each division can be greened in many ways, and each tier of the University community can participate in the greening process.

The divisions and tiers are distinct but overlapping. Besides the obvious fact that staff may be students and faculty may be administrators, the four groups inherently depend upon each other to make the campus a functioning institution where research and education occur. Developing and implementing environmental initiatives in each division depends on the participation of each tier from the start of the change initiative. At Tulane, a multitude of environmental education and research

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1 Dr. McLachlan has recently revised the statement to the effect that “Tulane and Xavier Universities will be the Environmental Universities in the South.” He has been making such statements publicly since at least 1995, and Dr. Eamon Kelly (Tulane University President until 1998) has made similar statements.


3 See Mitchell and Calder (1998) for a case where the lines are blurred between these “boundaries.”

4 Much of the literature on institutional change discussed either financial issues or other aspects of education and research while leaving financial and operational issues implicit in the discussion. In other words, if the article was not about finances or operations per se, it did not mention them. Finances and operations – the business of the institution – are an integral, and explicit, part of this study, and while service is also, it must take a lower priority for the discussion at hand. Service should, ideally, be integrally incorporated into education, research and operations.

5 The four tiers can be ranked hierarchically in at least two different ways: from the bottom (“least important”) to the top (“most important”), students, staff, faculty, administration; or from the top to the bottom, students, faculty, administration, staff. The former places maintaining the institution and research above education (teaching and learning), while the latter places education above all else. The “student as customer” is another way of conceptualizing the latter view. *Neither view is more important nor more appropriate than the other.*

6 Undergraduate environmental education programs include the Liberal Arts and Sciences Environmental Studies Program; the Civil and Environmental Engineering program and, potentially, the School of Business; and graduate environmental (continued...
programs exist. Fewer environmental initiatives have been made in the business / operational aspect of the University.

Faculty are the tier usually carrying out the research goal, although students and staff play important roles by providing assistance, and administrators provide financial support. The Tulane / Xavier Center for Bioenvironmental Research is the premier example of environmental research at Tulane. In this chapter, I will briefly highlight the achievements of the Center. The research goal of the institution is the greenest initiative yet at Tulane, and this success can be directly attributed to institutional support in the form of resources (outside grants) and an individual providing strong leadership and direction. Since research is already so green and the process of greening research is relatively basic, I will not study the research component in detail.

The education goal, however, warrants more attention. In this chapter, I will examine Tulane’s undergraduate Environmental Studies Program and Tulane’s student service and educational organization, the Green Club. For the Environmental Studies Program, students and faculty are the primary constituents in the education goal, although staff and administrators play a role in maintaining the educational endeavor through various support services. For the Tulane Green Club, students and administrators are the primary constituents while education and advocacy, respectively, are the primary goals. The students rely mostly on staff for various services, though faculty and administrators also provide support. For the Green Club and the Environmental Studies Program, peaks and troughs in leadership and progress mark their history, and these fluctuations can be directly related to the presence (or lack thereof) of a designated and capable leader (or leaders), and the support (or lack thereof) of the institution.

The effort to green the business of the University has been the least successful. In this chapter I will discuss the Tulane Environmental Project (TEP) and the Recycling Program (which was a direct result of the TEP). The TEP mostly affected staff and administrators, though it was initiated and maintained by students and faculty along with staff and, to a lesser degree, administrators. Again, I will show that for these initiatives to succeed, they need a leader and institutional support. For the TEP, both were present at its inception, and goals were readily accomplished. Then, leadership waned, and institutional support subsequently diminished. For the Recycling Program, administrative support and leadership were absent at its inception. But Recycling rapidly matured after the TEP institutionalized leadership (a director) and support (in its most basic form: a budget from the University) for Recycling.

The last major greening initiative at Tulane that I will examine is the Green Gradecard for the Green Wave environmental audit. A discussion of the Gradecard, however, will come in Chapter Four, so that specific areas of the environmental performance of the University can be compared with

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4(...continued)
education programs include the newly formed Institute for Earth and Ecosystem Studies, Environmental Law, Environmental Health Sciences, and, potentially, the School of Business. Additionally, as a result of these varied programs, many other degrees at Tulane (especially graduate science degrees) can be greened.

5 The position of Dr. John McLachlan, Director of the Tulane / Xavier Center for Bioenvironmental Research, is such that he answers directly to the President of the University. By negotiating the Directorship to be a relatively high-ranking position, Dr. McLachlan has been able to accomplish more than had he been required to answer to multiple superiors before the President.

8 Although one must have willing researchers (either prior to a green research initiative or through hiring them), the only obstacle is to obtain funding for environmentally directed research, which itself is not a serious obstacle because of the many hundreds of thousands of environmentally related research grants available. In fact, the University has a distinct benefit to do environmental research to earn those resources: increased overhead earnings from the grants, increased name recognition and improved publicity for the University.
other greening phenomena in higher education.

The Tulane Environmental Studies Program. 9

History

In 1972, a Newcomb College student and a Tulane College student 10 encouraged the University to start an Environmental Studies Program (ENST). Initially, the ENST was a self-designed major which the Committee on Academic Standards approved. 11 With the help of Dr. Stuart Bamforth, a Professor of EEO Biology, 12 students chose classes from across the curriculum to create a major. Unfortunately, few specifically environmental classes were available. The University wanted to have a program of study that was professionally acceptable so that students would be accepted into graduate programs. After examining how other universities 13 structured their environmental programs, the Curriculum Committee, then chaired by Professor of Anthropology Dr. Victoria Bricker, suggested making the ENST into a coordinate major. In the Coordinate Program, students were required to major in an already-existing department and could then add Environmental Studies as an interdepartmental coordinate major. Such a program provided students with expertise in an established field of study and gave them a general understanding of the environment and its ecological, social and political processes. In 1978, after six years of defining what the program would be, the administration approved the Environmental Studies Coordinate Major Program and included it in the University Catalog. 14 The ENST had different requirements for physical, life and social science majors. 15 The core courses for the ENST were an amalgamation of already-existing classes, few – if any – of which were explicitly environmental. 16 Dr. Bamforth notes that between 1978 and 1994, approximately one-third of ENST coordinate majors were biology majors, one-third were political science, and one-third were other, mostly social science, but some science, majors. The Program graduated about three students per year. 17

9 Information on the history of the Tulane Environmental Studies Program is from the Green Gradecard for the Green Wave environmental audit, various University catalogs, annual grantee reports to the Department of Energy, and interviews with Dr. Stuart Bamforth, Dr. Michael Zimmerman, Dr. Joan Bennett and Christine Murphey.

10 Newcomb College is the women’s division of the University while Tulane College is the men’s division.

11 At the time, the two Colleges had separate Committees.

12 Ecology, Evolution, and Organismal Biology; in the early 1990s the Biology Department split into EEO Biology and into Cell and Molecular Biology, so at the time, Professor Bamforth was in the unified Biology Department.

13 Tulane researched institutions such as Northern Arizona University and Cornell University, which had hard science programs along with a few relevant social sciences as their environmental programs. Other universities had coordinate major programs, which Tulane believed was more appropriate.

14 The degree reads: B.A. or B.S. in “Major” and Environmental Studies. A student cannot receive a B.A. or B.S. solely in Environmental Studies.

15 For example, required classes for a chemistry major differed from those required for a biology major and those differed from the classes required for a sociology major.

16 These classes were in biology, chemistry, geology, physics, economics, politics, philosophy and sociology.

17 Although lack of interest in environmental studies may have been the reason for the low numbers of coordinate majors, I posit that it was more due to confusion about the requirements, lack of the environmental specificity of the courses and poor publicity. Student comments from the 1996 Environmental Faculty Enrichment Seminar substantiate that claim. Many of the students were upperclassmen or graduate students that were at Tulane before the revision (Reith and Allen, 1996).
In the early 1990s, Tulane redesigned the Liberal Arts and Sciences ENST as the University began to focus more on environmental research and, subsequently, environmental education. Environmental Studies was designated as one of the four pillars of excellence as a part of Tulane’s strategic mission.

Dr. Joan Bennett, Professor of Cell and Molecular Biology, and Dr. Michael Zimmerman, Professor of Philosophy, took the lead for restructuring the ENST, and their influence, leadership and hard work have been a key element in developing the Program. In 1993, they teamed up with Xavier University on a grant distributed to both of the Universities from the Department of Energy (DoE) through the Tulane / Xavier Center for Bioenvironmental Research (CBR). They held two workshops (at Xavier and Tulane) with outside presenters focusing on environmental science and engineering curricula. They also surveyed environmental programs at other universities and colleges, where they found that a strong science foundation, internship opportunities or public service, and a major thesis or capstone project were common components of well-developed environmental programs. With those findings and with the results of a survey of graduates of the Tulane program, Tulane then began work on a new “dream” curriculum for the ENST.

In 1994, the ENST developed a new and revised curriculum for the 1995-1996 Tulane University Undergraduate Catalog. Also in 1994, the first brochure (for present and prospective students) was developed; equipment (videos, books, teaching aids, office supplies, etc) was purchased; and numerous organization meetings were held internally and with outside participants to address course development, distance learning programs and internship possibilities for students. As of the spring of 1998, 52 students are enrolled in the Program, up from 35 in the spring of 1997. The ENST remained an undergraduate coordinate major degree, but significant changes occurred: they obtained grant funding; they provided more environmental research, education and job opportunities for.

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18 The Liberal Arts and Sciences is the umbrella organization for Tulane and Newcomb Colleges.

19 In 1992, the Tulane Environmental Project and Dr. Zimmerman (discussed below) began investigating the University’s environmental classes.

20 Xavier University is a historically black college in New Orleans that specializes in pre-medical sciences. Interestingly, in 1993 they established an Office of Environmental Programs to address campus-wide environmental literacy, which they have been largely successful at doing since all students must take a communication class that addresses environmental justice issues. Xavier also offers scholarships in environmental sciences (restoration and management).

21 The present degree no longer distinguishes between natural, biological, and social science coordinate majors. The ENST requires eight core courses in the natural sciences (three from chemistry, three from biology, and two from either physics or geology), six courses in the social sciences (two from economics, one from public policy and regulation, one from society and communication, and one from the humanities), plus one elective. The Program is heavily science based, and there are no “tracks” for those not as interested in science, a feature of the program about which students and faculty often complain, though the present program certainly has its proponents. Nickerson (1994) comments that most environmental programs in the early 1990s were revising their programs to have less hard science, in order to attract more students; Tulane did the opposite, although for reasons they felt were substantiated: after an informal survey of graduates from environmental studies programs, they found that most students wished they had taken more sciences classes; employers reiterated this desire for scientifically literate employees. Multiple tracks (see, for example, the discussion of Middlebury College in Chapter Four) would attract more students, but at the same time diminish the possibility of Tulane having a niche in the environmental education field. The theme of the Mississippi River, however, could greatly improve the ENST’s niche while still allowing for the diversification into tracks. Finally, one suggestion on the curriculum is to restructure so that the “elective” component is a “service” component. That service could be in the form of an internship for credit but not payment, a individualized environmental community service project or a campus greening project. The service component could be coordinated by the proposed “office of environmental affairs.”

22 And these numbers are a substantial increase from the approximately three graduates per year (a maximum total of 12 coordinate majors at anytime) from the years 1978-1994.
students; they built a core of environmental faculty; they designed specifically environmental classes; they worked with students in the Green Club; and they worked on having a centralized location on campus for the ENST and other environmental resources. Each of these subjects are discussed below.

**Funding Environmental Studies**

Despite Environmental Studies being a pillar of excellence for Tulane, the University has never allocated funding to the ENST. Dr. Bamforth (who has done an valiant job of developing and maintaining the ENST) ran the small program and had no support staff. In 1993 Drs. Zimmerman and Bennett obtained funding from a five-year $25 million grant from the DoE for environmental research and education. The CBR distributed the funding to Xavier University and a variety of Tulane departments and researchers through the Liberal Arts and Sciences, and the ENST was only one of many entities receiving grant funding.

In 1993, the ENST hired one part-time support staff member, John Drweiga, to help coordinate the program; Christine Murphey replaced Drweiga in 1994. The ENST used some of the funding as course development grants to develop environmental courses or infuse existing classes with environmental content. The grant funding also provided the means to hold two summer Environmental Faculty Enrichment Seminars. Other uses of the grant money have been programming (speakers, Green Club initiatives, and student and faculty receptions), operating expenses (communication costs, office supplies), and equipment costs (computers, environmental books for the University library, and books on environmental careers and environmental education programs).

To date, the University has provided no hard money for the ENST (Christine Murphey has said that “university funding comes in the form of a roof over our geads and utilities.”)23) Ironically, Tulane has profited from the existence of the ENST through overhead from grants (49% of grant monies in 1997-97 went to overhead) and by students attracted to the Program.24 In February of 1998, the DoE discontinued grant funding. The faculty and students active in the ENST were worried that funding would expire, but such was the price for relying on solely substantial grant monies, especially from just one source. Now, the University is faced with funding a Program that has grown significantly in recent years25 and is included in Tulane’s strategic mission for the coming century. Faculty who have previously helped coordinate the ENST – Drs. Bamforth, Bennett, and Zimmerman – are able to dedicate only a limited percentage of their time to the Program.26 Christine Murphey, the sole part-time staff member, has taken on a larger role as Program Coordinator and as academic advisor to student. Support and funding for Murphey’s position and the many other activities the ENST has developed (or plans to develop, such as a full-time director) is necessary to keep the Program part of Tulane’s strategic mission. Drs. Bennett and Zimmerman approached the administration with a request for a budget in the spring of 1998, but they were denied. The CBR will continue to provide what grant assistance it can until the University funds the Program.

The primary difficulty in getting a budget for the ENST may be because it is interdisciplinary

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23 Personal communication, 1/12/98.

24 For example, I came to Tulane because of the Coordinate Major option, which I preferred to other schools’ “environmental studies major.” I have heard similar sentiments from friends and acquaintances in the Program.

25 For example, the ENST has more majors than some full-fledged departments (such as the Music Department, which has approximately 40 students, most of whom are minors) and more than most other coordinate programs.

26 Bowers (1997) notes that environmental faculty are usually dedicated to their under-funded programs and have to fight to preserve them, ending up as marginalized and without due credit for their hard work. At Tulane, much of that statement holds true, except for the fact that Tulane faculty have not been explicitly or socially marginalized, although the repeated denials for University funding could be seen as a form of marginalization.
and not an independent academic department. The Program should consider becoming an endowed institution or other entity to secure funding. Also, the ENST could devise a program whereby undergraduate students are effectively “funneled” into specialized environmental graduate programs (such as Environmental Health Sciences in the Tulane School of Public Health and Tropical Medicine or an Environmental Management Program in the Business School). The ENST could assist in the development of those programs, recruit the students as undergraduates, educate them and then provide them with the necessary prerequisites to enter the graduate programs. The ENST would then receive a portion of the tuition dollars from the graduate (and, ideally, undergraduate) students. Of course, another option is for Tulane to simply fund the Program as it is. Creative alternatives and progress opportunities abound, but persistence, hard work, leadership and administrative support are necessary to achieve them.

Providing Resources and Opportunities

Tulane has a wide variety of environmental education opportunities for graduate and undergraduate students. The ENST provides resources (with the help of the Green Club) for students researching environmental graduate programs, internships, laboratory experience, summer programs and post-graduate jobs. The resources and extent to which the Program is able to provide those resources, however, are hindered because of limited staff and money. The CBR has provided many resources for student and faculty development. The CBR, housed on the Downtown Campus at the Medical Center away from the undergraduate Uptown Campus, is a world-renowned, well-funded and well-staffed environmental research center. The CBR, which has worked extensively with local communities and business, and has provided funding for and worked closely with the ENST, provides many environmental opportunities for students interested in scientific research.

The first serious discussions on environmental internship opportunities for ENST students began in 1994, when meetings were held with numerous outside agencies. In 1995, the Curriculum Committee approved internships for credit as a part of the ENST. Cooperating agencies varied from local grassroots environmental organizations to national research laboratories, and internship opportunities are constantly changing. The opportunities are communicated to the students (via email, a web site, occasional mailings, and Green Club publications), and a course number is provided in the

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27 The Environmental Studies Coordinate Major, however, is only for undergraduates. The Institute for Earth and Ecosystem Studies (IEES) is a new, interdisciplinary PhD program for environmental science. A similar program was proposed in 1995, but the Graduate Council denied the request because of the financial uncertainties of Tulane 2000 (see Chapter Two). (Dr. McLachlan suggested focusing on undergraduate studies in 1995, and that has been the focus since then.) A group of junior faculty in Geology and EEO Biology worked to develop the IEES.

28 The CBR just recently established a more formal office on the Uptown Campus. Presently, however, few on the Uptown Campus who do not work directly with the Center (especially students) are aware of its presence and its prestige.

29 The CBR, as a part of the Campus Affiliates Program (developed with Xavier University, the U.S. Department of Housing and Urban Development, and the Housing Authority of New Orleans) helped the residents of the C.J. Pete Housing Development create their own monetary unit for use within the development.

30 An in-depth discussion of the CBR is not directly relevant to this study. The CBR, however, has a formidable presence within the administration because of the Center’s many outside funding sources and the variety of programs the CBR develops. A sample of the CBR’s programs includes work as a National Institute of Environmental Health Sciences, a program in the Environment and Women’s Health, a Center for Environmental Astrobiology, a program in Aquatic Ecosystem Assessment, research on the Mississippi River basin and the Chernobyl region of Russia, an Environmental Policy Program, work with research institutions throughout the world, extensive education and outreach program, Internet sites, working with local communities, providing funding for undergraduates and graduates, and providing funding for Tulane Green Club projects (including summer internships for the Green Club and Environmental Studies Student Center). Funding comes from local and national foundations, corporations, and much is from the government.
In addition to working each of the three years, I developed and formalized the program. In the first year (1996), one student assisted in organizing the Environmental Faculty Enrichment Seminar (EFES) and coordinating the new program for first year students (discussed below). In the second year, three students assisted in the second EFES, revised the Enviro Counter Culture Catalog (and developed its web page), organized fall programs (including the first “environmental orientation” program for first year students), and did research on campus recycling as a follow-up on a campus environmental audit. In the third year, three students revised the Catalog again, did research on improving campus dining facilities and worked on numerous other campus environmental issues, such as recycling, the environmental orientation and Green Club fall programs. These internships have been pivotal in sustaining momentum and making progress in numerous issues, both educational and operational, and were possible because of funding from the CBR and ENST.\footnote{In addition to working each of the three years, I developed and formalized the program.}

Travel funding has been a major resource from the ENST, and numerous active individuals have benefited from the professional development funding.\footnote{In the first year, 1996, I was the only intern; in year two, 1997, Alicia Lyttle (Newcomb ’99), Todd D’Amore and I were the interns; in year three, 1998, Kristin Traicoff (Newcomb ‘01), Melissa Vernon (Newcomb ‘00) and I were the interns.} The monies have allowed us to attend major national environmental conferences and visit other universities to examine their environmental programs. The funding opportunities for the students have been instrumental in catalyzing them for future involvement and contribution to the improvement of the ENST and Green Club.

The ENST used grant funds to purchase numerous books for the University library and for a small in-house library. In 1995, the ENST spent $5,000 on numerous books for the Tulane library, and in 1996 they purchased forty-five more.\footnote{These people include Dr. Joan Bennett, Dr. Michael Zimmerman, Christine Murphey, Dr. Charles Reith, Professor Eean McNaughton, Alicia Lyttle, Dan Au, Elizabeth Franke, Rachel Moss and me.} The ENST has a collection of books, videos and teaching resources for all faculty and students to use. Additionally, as the need arose, ENST purchased books on environmental careers or environmental graduate programs for the Green Club and Environmental Studies Student Center. With the loss of the grant, however, the financial means to provide these resources are no longer available. The students (and all library patrons) suffer as a result.

The ENST is the environmental division of the Liberal Arts and Sciences (LAS), and it has been the leader in opening and maintaining lines of communication throughout the various schools of the University. The ENST has established coordinate programs with the Civil and Environmental Engineering Department in the Tulane School of Engineering, and the Environmental Health Sciences Department in the Tulane School of Public Health and Tropical Medicine; the ENST is establishing a coordinate program with the Tulane A.B. Freeman School of Business, which, in addition to the efforts to establish a program for business undergraduates to major coordinate in LAS Environmental Studies, is developing an environmental M.B.A. program. Additionally, the Tulane Environmental Law Program in the Tulane School of Law is a nationally recognized program. Although there are no discussions of a coordinate program with the graduate-only School of Law, there are attempts to coordinate programming and provide undergraduate opportunities for experience in legal matters (such as an internship program in the Law School’s highly acclaimed Environmental Law Clinic). These attempts are slow to materialize, however, because of the largely diffuse faculty (\textit{i.e.}, unorganized and spatially distant) and the lack of a full-time director for the ENST to facilitate such improvements. The loss of funding will end hopes to obtain a full-time director who could

\footnote{Exact figures, other than those provided above, were not archived.}
continue to improve the Program.

Building an Environmental Faculty

The ENST has helped build an environmental faculty by communicating with various environmental divisions of the University, offering programs for faculty interactions, developing Environmental Faculty Enrichment Seminars and providing course development grants.

Despite many institutional barriers between various Schools of the University, the ENST and the diverse environmental programs at Tulane (as discussed above) have managed to collaborate on environmental projects, events and education programs. Additionally, Tulane and Xavier Universities have worked on numerous environmental projects since 1993, especially due to their common source of funding through the CBR. Communication between the various parties, however, has been sporadic and inconsistent. Because of a lack of a full-time director of University-wide environmental initiatives, collaboration has been slow and many possibilities have been left unexplored.

Environmental programs include Green Club / Environmental Studies receptions, speakers and Environmental Brown Bag luncheons. The receptions, which began in August of 1995, and luncheons are opportunities for students, staff and faculty to interact. Local and outside speakers come to Tulane sporadically; many of them have been distinguished faculty researchers, officials and civic leaders / activists. The luncheons, which are co-sponsored with the Tulane Environmental Law Institute and the CBR, are held throughout the year and are an informal forum for faculty to present environmental research.

The first comprehensive survey of environmental faculty was done in 1995. Questionnaires were mailed to thirty-six faculty (with twenty-seven responding) to determine faculty research areas their interest in working with the ENST. The list of research areas has been made available to students to facilitate independent studies or special projects (both for credit).

The ENST’s most successful method for building an environmental faculty has been the two Tulane Environmental Faculty Enrichment Seminars (EFES). Dr. Charles Reith has been instrumental in organizing the two Seminars and helping the ENST progress. Dr. Reith – who was officially the Environmental Studies Fellow, though grant funding expired for his fellowship in 1998 – is the closest to a director that the Program has ever had. Reith started working for Tulane in the fall of 1995, funded by a grant which Drs. Bennett and Zimmerman coordinated for the development of a environmental distance-learning educational program. In the spring of 1996, with funding from the DoE grant, Dr. Reith began coordinating the EFES and acting as a Coordinator of Environmental Education for the ENST. In addition to working on the two Seminars, his duties were largely communicational: working with the School of Business and the School of Public Health and Tropical Medicine (SPHTM) to develop coordinate environmental programs. He also taught environmental courses (in LAS, the Business School and the SPHTM), for which he was paid separately as an adjunct instructor. He has, independently, developed some independent study projects for students and has applied for grants to fund research projects and the ENST. Finally, he has also established a student chapter of the Air and Waste Management Association, a professional organization for environmental technicians and professionals in government and industry. Dr. Reith’s presence has helped the ENST develop, grow and progress.

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35 These barriers are both perceived (assuming that cooperation is impossible) and real (such as separate education requirements and differing financial and accounting procedures).

36 For example, no environmental programs have been developed with or within the School of Social Work or the School of Architecture.

The first EFES, held for two weeks during the summer of 1996, dealt with restructuring the undergraduate ENST, developing new classes, training faculty members as environmental educators, and building a core environmental faculty. The second EFES, held for one week during the summer of 1997, addressed the design of a new collaboratively-taught class concerning the Mississippi River Basin. The ENST provided a stipend for all the faculty who attended; they are listed in Appendix C.

Thirteen faculty members, three faculty coordinators and four student coordinators were the major participants of the first EFES. Additionally, nine Tulane faculty, eight Tulane staff, a panel of ten Tulane students and eleven outside presenters participated in several events during the two-week-long seminar. Faculty shared information on environmental issues and teaching strategies (including new information technology teaching tools such as multi-media presentations, the Internet and e-mail) and participated in field trips to explore and learn about the local urban environment.

A wide variety of topics were addressed, and the faculty agreed on seventeen “Joint Resolutions of the Tulane Environmental Faculty,” outlined in Appendix C.

The goals of the second EFES were to design a class concerning the Mississippi River Basin (MRB) and to bring more environmental faculty together to increase their teaching potential and inspire them to include environmental issues in their classes. Participants in the second EFES included several faculty members from the first EFES as well as new faculty participants, which was an effort to increase the breadth of the environmental faculty throughout the University. Guest speakers and faculty from Tulane and Xavier with research experience on all aspects of the MRB (from political science and history to geology and engineering) participated. After a series of presentations on the different aspects of the MRB over a period of three days, the participants brainstormed ideas for the new class and volunteered their expertise for specific sections of the new course, which Dr. Hank Bart of Tulane’s EEO Biology Department coordinated.

A core of mostly junior (tenured) faculty organized an environmental graduate program as a part of the Departments of EEO Biology and Geology. Unfortunately, their efforts were diffuse and the faculty had to balance the development of this program with their normal professional duties. They received support from the CBR (and the Provost) in the form of funding for lecturers to give seminars on new environmental topics and advice on developing the program. These faculty have had to resort to such efforts due to the lack of a full-time director of the program – even when environmental studies is a cornerstone of the University’s strategic mission. Their efforts paid off, however, and they established the Institute for Earth and Ecosystem Studies in 1998-99.

Independent from the recent environmental faculty hirings in the University, the ENST has developed an environmental faculty at Tulane with the incentives of course development grants and environmental faculty seminars. The Tulane administration has incorporated environmental specialties into criteria for hiring in various departments, and faculty positions are designated to be filled by researchers and educators who provide environmental expertise in appropriate disciplines. Missing from the Environmental Studies faculty is a sense of unity or identity, such as that provided

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38 Follow up on the first EFES has been minimal, despite the scheduling of meetings every semester for the environmental community being one of the “Joint Resolutions of the Tulane Environmental Faculty” (see Appendix C). The ENST has held public programs (e.g., Green Club receptions, lectures and Environmental Brown Bag Lunches), but EFES participant attendance has been sparse. One of the first EFES faculty members even requested to be removed from the faculty electronic mailing list because he felt there was nothing relevant to him. This lack of follow up is unfortunate, especially considering the energy and commitment demonstrated in that first seminar.

39 These facets of the EFES demonstrate the connection between environmental studies, urban issues and information technology.

40 Greening the facilities of the University (“an integrated, campus-wide approach”) was earmarked as one of the five priority resolutions.
by a regular department or similar to that of the Latin American Studies Program (the faculty of which designate themselves as a member of the Latin American Studies Faculty on their professional correspondence etc.). Before the new faculty provided new environmental courses for students, the ENST provided course development grants to increase environmental course offerings.

Designing Environmental Classes

In 1992, Dr. Zimmerman (later joined by Dr. Bennett) established a committee to address improvement of the ENST. By 1994, they procured funding from the DoE with Xavier and established the Environmental Education Committee. They used the DoE funding to distribute grants to faculty throughout the University to incorporate environmental issues into their existing classes or to design new environmental classes. This effort to establish environmental classes throughout the curriculum worked to build the offerings of the ENST and to incorporate environmental classes into each appropriate department. Numerous classes in many departments were developed, and the two EFES’s produced three innovative and unique environmental classes for Tulane students.

The first EFES resulted in two new classes. One was a seminar-style class (with a variety of local guest lecturers) dealing with a local environmental issue: the Lake Pontchartrain Basin. It was open to all interested students. The second class was an invitation-only course in environmental sciences and freshman writing. The “class” was actually two classes coordinated with each other, but not taught by the same person, for incoming first-year students, who were invited into the classes during the summer before they came to Tulane. The two faculty members who taught the course (Drs. Molly Rothenberg, English, and Tom Bianchi, EEO Biology) chose thirty students from a pool of approximately fifty, based on their expressed interest in environmental issues or environmental studies on admission questionnaires and the date of their reply to a formal letter of invitation. (In other words, no academic criteria were taken into account, neither test scores nor specific interest in majoring in the Environmental Studies Coordinate Major Program.) The ENST hired me to establish contact with interested students and assist with logistics. The primary logistical duties were to assist in planning a weekend leadership retreat during the first weekend of classes at a local national park. At the retreat, the students participated in a variety of study, interpersonal and leadership skills workshops with an experienced trainer. The goal of the class was to involve students in the ENST, improve freshmen retention rates and to incorporate students of all academic backgrounds into a specialized course.

The second EFES designed a course concerning the Mississippi River Basin (MRB), which included a variety of field trips, guest lecturers and group projects (the “final exam” was to be a poster session done by groups on different aspects of the MRB). The class was taught in the fall of 1997.

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41 Classes developed included Environmental Chemistry (the first), Environmental Biology, Global Environmental Politics, Environmental Communication, Environmental Sociology, Environmental Economics, Biogeochemical Cycling in Ecosystems, Mississippi Environmental History, The Chernobyl Catastrophe, Conservation Biology, and Science, Technology and Public Policy, in addition to others which the ENST directly and indirectly funded. In 1993, Professor of Anthropology William Balée taught a “Freshman Seminar on Tropical Forests” (Collett and Karakashian, 1996), although such a course was not offered again.

42 Feedback on the first offering of the coordinated class was mixed. The class will no longer be offered in the fall for incoming freshmen; instead it will be offered in the spring for honors students (not just first-year students) by instructor approval, but little interest resulted and the class was canceled. The writing component was changed from Freshman Writing (English 101) to Expository Writing (English 263). I personally know students in the class (as a result of being in contact with them before their arrival). Some laud the class still; others regret ever taking it. A few of the students transferred or withdrew; some are performing well. Only one student, Melissa Vernon, has been involved in the Green Club, the student environmental organization, and she was an officer.
and the faculty plan to teach it annually.\textsuperscript{43} All of the classes developed from the EFES’s demonstrate urban and environmental connections, revolving around the local geography.

As environmental course offerings increased, however, so did confusion with the Environmental Studies Coordinate Major Program. Students were not sure which classes fulfilled which requirements, and faculty advising was limited. To address this issue, the ENST, with advice and funding from CBR Director Dr. John McLachlan, sponsored a publication to compile all the relevant information on environmental classes at Tulane. Subsequently, the Tulane Green Club (with no editorial constraints from the ENST) developed the Enviro Counter Culture Catalog: A guide to environmental classes at Tulane, first published in the spring of 1997. The Catalog outlines the requirements for the Environmental Studies Coordinate Degree, lists resources at the University (such as various graduate environmental programs), provides biographies and contact information for faculty, and provides student reviews of all courses and ratings for most courses. The publication compiles all the environmental courses and programs at Tulane into an easy-to-use document produced by students for students.\textsuperscript{44}

Working with Students

The ENST maintains excellent ties with students through the Tulane Green Club and, to some extent, the student organization Women in Science.\textsuperscript{45} The ENST supplied the Green Club with a new computer and any necessary office supplies to produce the Catalog, published once per year, and the Club’s newsletter, the Environmental Forum, published twice per semester. The ENST provides funding for the printing of both publications and provided the funding for graphic design for the Catalog, which, for both editions, was contracted out to a local artist;\textsuperscript{46} the third edition was done entirely in-house. The ENST hired officers of the Green Club to work on the Enviro Counter Culture Catalog and to staff the new Green Club and Environmental Studies Student Center, established in the fall of 1997. (Hiring the students provided a much needed incentive for activism and accomplishing goals, such as establishing the Center.) The Center provides much-needed space for meetings;\textsuperscript{47} for preparing the Catalog and Environmental Forum; for storage; and for students to browse environmental catalogs and books on environmental jobs, graduate education and internship opportunities. The ENST and the Green Club also hold a series of socials and events for students and faculty throughout the year. Refreshments are always served (complements of the ENST) and occasionally outside speakers are invited.

\textsuperscript{43} Preliminary feedback on the MRB class has been overwhelmingly positive, both from the class participants and outside observers (administrators). The poster session was attended by many of the Tulane environmental community. The session was re-hung at a spring 1998 conference sponsored by the Tulane Alumni Association entitled “A River Runs Through It,” about the history of Tulane, New Orleans and the Mississippi River.

\textsuperscript{44} I have seen environmental studies program publications from other universities and colleges, and none of them can compare to the Catalog. They are usually “official,” not by students, not user friendly and boring, even though they may be helpful. Additionally, many people have praised the Catalog in its printed and web-based versions. The popularity of the Catalog underscores the importance of working with students and providing them with the resources and support to make their programs successful.

\textsuperscript{45} Incidentally, a majority of the students in the ENST are female.

\textsuperscript{46} The CBR and Yvette Jones, then Vice-President for Finance and Operations, also provided significant funding for the Catalog.

\textsuperscript{47} The Environmental Education Committee, the Women in Science and the Green Club officers (it is not large enough for the entire Club) used the Center for meetings.
A Location for Environmental Studies

In the fall of 1995, Dr. John McLachlan of the CBR was a guest speaker at a Green Club / Environmental Studies reception. In addition to discussing his research on environmental estrogens, he talked of plans to build a new Environmental Science Building to centralize campus environmental programs and a provided a place for the ENST and the Green Club. McLachlan believes that the centralization of some environmental faculty and the diverse environmental programs at Tulane (both their administration and their research facilities) would increase the presence of environmental studies at Tulane, aid in information dissemination to the University community and propel Tulane’s environmental programs forward.

The space issue was also addressed during the summer of 1996 at the EFES. The faculty jointly resolved that establishing “a physical office for environmental education on the uptown campus” was the number one priority for the ENST. Such an office, which the ENST and the Green Club would share, would serve as the focal point for course enhancements, undergraduate advising, research collaboration, record keeping, social activities and other environmental initiatives. Also, “the office is essential to implement the recommendations [from the 1996 EFES] . . . and to maintain the momentum established in the Seminar.”

The ENST tried unsuccessfully for years to get space on campus. (This space, of course, is apart from the faculty offices of Drs. Bennett, Zimmerman, Bamforth et al. involved in the Program.) When Christine Murphey was hired in April of 1994 she was provided with half an office (which John Drweiga had before her), and in September of 1996 a full office next door to Murphey was provided for Dr. Reith. This arrangement allowed some centralization, because Drs. Bennett and Bamforth were on the same building floor. The ENST erected a bulletin board for notices and student opportunities, and students visited Ms. Murphey for course advising. But since the building was the Percival Stern science center (mostly laboratories) and the location was somewhat out of the way, few students knew of it and even fewer were exposed to it in passing. Additionally, Environmental Studies was not listed in the University telephone directory until 1996; prior to that, students and other interested parties could not call or go to a place for ENST information without having to first go through many other channels.

The space situation improved in the fall of 1996, when, in addition to the procurement of Dr. Reith’s office, space was allocated to the ENST in the EEO Biology / Geology building, Dinwiddie Hall. The spacious three-room office (two small and one large) was renovated (with grant funding) and turned into the “Green Club and Environmental Studies Student Center.” The Center, however, was not in use until the fall of 1997, due to renovation delays. The Center was run by the Green Club President and staffed by Green Club officers who were paid office workers. It served as a meeting place; a recycling depot (for items the University Recycling Program does not recycle, such as plastics and batteries); an office to publish (and store) the Enviro Counter Culture Catalog and the

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49 She shared it with another staff person from a different University department.
50 Prior to that (1995) he had a basement office but was for a short time “officeless” before moving next door to Murphey. The ENST acquired his office because of a retirement in a different department.
51 Dana Thomas, a former Green Club president and undergraduate and graduate student in EEO Biology at Tulane (personal communication, 8/25/98), said that the location was not the problem, advertising was. Although, as Thomas correctly noted, Murphey’s office was right near the elevators in a building centrally located on campus and as such should have been easy to find, the building itself is extraordinarily complicated, and advertising for a department or program office should, in any case, not be necessary.
Environmental education and research, via the ENST and the CBR, are the highlights of the greening history at Tulane. It has taken many years to develop the Program because of the diffuse efforts on the part of many people, and its future is presently in limbo because of the lack of hard money funding. While these two factors may be the cause for future worries, they have, ironically, been the reasons for past success.

Past success, however, is really success in “recent history,” i.e., the past four years. Although the ENST was “officially” established in 1978, Tulane is not mentioned in a listing of the founding of American environmental studies programs in an Appendix of The Class of 2000 Report, and Tulane’s ENST has only recently (within the past two years) been listed in major Internet databases of environmental programs. Additionally, Tulane’s Program is not listed in the Making a Difference

Summary

Environmental Forum newsletter; a place for students to study between classes, and a place for students to peruse or browse literature (purchased by the ENST with grant funds) on environmental graduate programs, jobs, internships and research opportunities. When new offices in Alcee Fortier Hall came available in the spring of 1999, the Center vacated Dinwiddie Hall, where it was “borrowing” space from the Geology Department. Now, the Green Club’s Vice-President for Operations is responsible for supervising the Center.

The Environmental Science Building (ESB) is scheduled for completion by the fall of 1999. A neighboring building, Alcee Fortier Hall, formerly the School of Education, was remodeled and opened in the spring of 1999 (it was originally scheduled for the fall of 1998). The ESB will house teaching and research “wet-labs” for chemistry and biological sciences; Alcee Fortier Hall will house “dry-labs” for computer modeling, faculty offices for both environmental science and policy researchers, administrative offices for the ENST and the CBR, and an office for the Green Club (the Green Club and Environmental Studies Student Center is located in the Green Club office and the outer common area near the offices). When construction is complete and the various parties move into the buildings, environmental research and education will then have a formidable presence on campus.

Cerych and Sabatier (1986) warned against this (see Chapter Two).

The ENST summer internships has remedied this problem so that at least one student is around most of the year.

The ENST has assisted in the past with the Tulane Environmental Law Institute’s Louisiana Environment conference series, which has been a major success in years past and is sure to continue in the future.

For example, the Latin American Studies Program, with approximately 40 undergraduate majors and 80 graduate students, has a director, associate director, assistant director, and eight full-time support staff, in addition to the faculty throughout the University who teach in the Program (they are hired coordinately through a home department and the Program). The Program receives a University budget to supplement many outside grants (including federal funding, which they have received for 30 years) and a $10 million endowment. Latin American Studies is officially a “center”; they are listed as an independent organizational unit in the University’s X-500 internet directory.

In sum, the history of the Environmental Studies Program reiterates many elements of the model for change from Chapter Two. Advocacy and information gathering started the Program. Until fresh leadership, resources (funding) and an institutional initiative to focus on environmental studies (support and policy) came, the ENST stagnated. However, with leadership, resources, support and policy, in addition to information gathering, cooperation and consensus, the Program blossomed. The ENST is a model for the strategic mission of the University, successfully able to incorporate international, urban and information technology issues into its agenda (for example, at the first EFES the faculty were educated on urban and technology issues, and Dr. Zimmerman has ideas to develop an international environmental program with China). The ENST served as a communication facilitator and a provider of resources (funding), information, incentives, resources, opportunities and advocacy to further environmental education improvements. With each infusion of leadership (such as the most

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recent one from Dr. Reith), the program progressed. Lack of focus in both physical location and in leadership (which have caused gaps in communication), in addition to the loss of funding, are the reasons that the ENST is again stagnating – but at a time when outside forces (students) are telling it to grow.\textsuperscript{60} Since quasi-policy is already in place, the ENST can grow and continue to educate only with new leadership and dedicated resources from the University.

The Tulane Green Club.\textsuperscript{61}

History

The Green Club, established in 1988, is an Associated Student Body (ASB) funded service and educational organization. An undated flyer succinctly captures the Club’s purpose: the “Tulane Green Club is an environmental organization that strives to inform the public of environmental issues and improve the Tulane and New Orleans community through volunteering and education efforts.” The initial reason for starting the Club was to provide a non-partisan forum for discussing and learning about environmental issues. Also, campus recycling was an impetus that formulated the mission of the Green Club; in the late 1980s and early 1990s, Tulane saw increased recycling efforts on campus as an outgrowth of the Recycle Tulane project of CACTUS (Community Action Corps of Tulane University Students, which began in 1969 and is the oldest service organization in the United States). Today, the Club’s primary goal is to green the campus through service and educational programs.

A surge of environmental activism on campus came with the founding of the Green Club. Tulane senior Paul Speck and Matt Silvers (both Tulane College ’89) were the official founders of the Club, though they contribute its initial success to a diverse group of students, faculty, staff and administrators who supported them.\textsuperscript{62} On naming the Club, Speck said his “reason for choosing ‘Green Club’ was simple. Green is the color of environmental issues. It is [also] the color of Tulane. And I wanted our group to be proudly and distinctly a Tulane environmental organization.”\textsuperscript{63} The volunteer recycling program that had been disbanded years earlier (approximately 1984-5) had been reestablished, and the Club became involved with recycling efforts, helping to build a new Recycling Center for the campus in the early 1990s. Student leaders in the Club recruited students and organized projects revolving around general environmental awareness and recycling. The early years of the Club were blessed with particularly organized and effective leadership.

The Club’s first official activity was “Green Week” from Friday, February 24 to Thursday, March 1, 1989. Since the campus newspaper, The Hullabaloo, would not run an advance story about the week of activities, the Club published 1000 copies of their first newsletter, Eco, to spread the word about it and begin a forum for environmental views. The week included a series of lectures on global and local environmental issues, litter awareness, and a petition drive to ban styrofoam on campus, which was ultimately successful. Also, the Club sponsored the planting of a dawn redwood tree near Dinwiddie Hall. The only other major activity of the Green Club in the spring of 1989 was a protest.
about the Exxon Valdez oil spill. The Club received significant attention in their first year, as noted by a fake piece on the “crazy” environmental group on campus in the April Fools Day edition of the Hullabaloo.

In the early 1990s, the group began to diversify and orient towards educating the campus on environmental issues. The primary modus for this was via the Tulane Environmental Project (TEP), a joint committee of faculty, staff and students dedicated to campus greening issues. Student activists from the Green Club were the catalysts that established the TEP, and with the TEP, students from the Club helped in all stages of the implementation of a Recycling Program and an environmental procurement initiative, and they made attempts at a variety of other campus environmental issues. (TEP is discussed in a later section.)

By 1994, the Club was suffering from the inevitable trough in leadership and involvement. In 1995, however, two efforts were made at assessing the greenness of the campus. First was a random survey of fifty students assessing environmental views. The survey concluded that students supported environmental goals, but action on campus was low. It was not an extensive or scientific survey, and the results were not well publicized to the University community. (The details are provided in Appendix C.) A second effort was an environmental audit. The “preliminary” results were published in the May-April, 1995, issue of the EF, but no further data were ever disclosed. The sections reported in the EF were “Solid Waste,” “Recycling,” “Waste Reduction” and “Pesticides.” A draft of the original (blank) audit form also listed “Water,” “Medical Waste” and “Hazardous Waste.” The Club contacted the President’s office before beginning the audit, and President Kelly suggested that the Club meet with Oliver Houck (then chair of the TEP) and Tulane’s Office of Environmental Health and Safety before proceeding. The Club did so and then dispatched students to investigate specific areas. The results of the audit were published in the EF, but no suggestions or recommendations were made as a result of them, and they were not distributed to key University administrators. For the most part, the campus did not notice the audit, and in 1997 when an Environmental Sociology class performed a full-scale environmental audit, the class was unable to compare their results with the Green Club audit because the Green Club results were lost (no archived copy of the EF was available to the Environmental Sociology audit team). If in fact the Green Club audit had been found, the results would have been of little use because of different methodologies used and data collected. (The Green Club audit results are compiled in Appendix C.)

The structure of the Club was originally as follows: president, vice-president, secretary, treasurer and public relations, with various committees being established as needed. By 1998 that structure had become too centralized for the burgeoning activities of the Club, and so the officers and committee chairs for the 1998-99 year reorganized the Club such that the president supervised four vice-presidents (finance, operations, campus concerns, and local and national concerns), who in turn supervised a variety of committees. At the end of the spring of 1999, the past and newly-elected officers made a few minor adjustments in the structure of the Club. The following discussion, which includes information from events before those restructurings, is organized around the most recent organizational structure.

The Green Club President is responsible for supervising the efforts of the vice-presidents, leading meetings, and general leadership of the Club. Most importantly, however, is that the president represents the Club to the University administration, student government, physical plant, Environmental Studies Program, the Center for Bioenvironmental Research, and any other campus and community entities with which the Club cooperates.

The Vice-President for Operations (VP Ops) acts as the Club’s secretary, historian and public relations liaison, and is responsible for maintaining the Club’s office, website, email listserves, and publications; additionally, the VP Ops is second-in-command after the President. The VP Ops can delegate any of his / her activities and responsibilities to a committee chair or office worker (e.g., one
Although I was not involved with the Green Club initially (they were disorganized at the beginning of my freshman year), I wrote for the Environmental Forum (EF) my second semester, and I took over as editor for the 1995-6 year. I was elected President for the 1996-7 year, again for 1997-8, and again for 1998-9.

The problems with this situation are that few people read the web-based versions and large emails are an annoyance. The Club will continue to address these issues until an optimal forum is reached.

In 1992, the Club established a newsletter, the Environmental Forum (EF), that is still published today. (The first newsletter, Eco, may have been printed more than once, but no copies are extant.) The EF was established as a forum for environmental views, events, news and resources; it was not specific to campus issues, and until 1995-6 only occasionally focused on them. In fact, the Club started the EF to try and recapture the original mission of the Club: a non-partisan forum for discussing environmental issues. The newsletter was originally 700 four-page copies produced twice per semester and distributed on Tulane’s uptown campus; the publication of the EF used the bulk of the approximately $800 per year budget of the Club. In 1995-96, the Club received grants for paper (from a local company that produces banana paper made from recycled paper and agricultural waste) and printing (from the ENST through the CBR). Circulation tripled and it was expanded to eight-pages distributed three times per semester on Tulane’s Uptown and Downtown Campuses. In 1996-97, the Green Club formed a coalition with the Xavier University Student Environmental Club, and the two published the EF jointly with distribution covering all three campuses. By the fall of 1997, however, the relationship was too difficult to maintain (primarily due to the distance between the coordinating editors on different campuses, but also due to a loss of leadership at Xavier), and production returned solely to the Green Club. Circulation dropped to more appropriate levels: 500 to 1000 copies per eight-page issue (depending on time of year) published twice per semester. Future plans are to have a web-based version (email and internet) so that even fewer hard copies will be needed (reducing cost and paper use); additionally, fewer hard copies will be needed because of improved distribution methods (labeling and mailing them through on-campus mail). For unknown reasons, throughout the existence of the EF the Green Club has never been invited to be a part of the Office of Student Program’s Media Group.

In the summer of 1996, the Environmental Studies Program (ENST) and the Center for Bioenvironmental Research (CBR) held an Environmental Faculty Enrichment Seminar. One of the ideas that resulted from the workshop was to develop a student catalog on environmental classes and resources at Tulane: the Enviro Counter Culture Catalog: A guide to environmental classes at Tulane.

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65 The problems with this situation are that few people read the web-based versions and large emails are an annoyance. The Club will continue to address these issues until an optimal forum is reached.
The ENST and CBR funded the project, which the Green Club officers with the help of Dr. Charles Reith and a hired outside consultant put together. The Catalog is an annual publication by students for students that provides a concise guide to all the environmental programs at Tulane; additionally, all of the classes with environmental content and which count towards the ENST Coordinate Major degree are listed, described, and rated. The Club developed a webpage for the Catalog after the second edition. Funding for the second year came from the ENST, CBR and Tulane’s Vice-President for Finance and Operations, Yvette Jones; the layout and design of the second edition was again contracted out, although the students provided all the input. In the third year, the CBR funded the entire publication (including computer software and upgrades so that publication, except printing, could be done entirely in-house). Plans are in store for the Green Club to receive a student government allocated budget to pay for the majority of the printing costs of the fourth and all subsequent editions of the Catalog. The Catalog is the most visible project of the Club.66

The Vice-President for Finance is responsible for managing the budgets of the Club and for coordinating fund raisers, which include selling reusable mugs to diminish disposable cup use and selling alternative fiber paper products. While the VP Finance mostly deals with paperwork and coordinates the visit of semesterly vendors (who pay the Green Club a nominal fee for sponsoring them to sell their products, always environmentally related, on campus), the officer is in an excellent position to participate in many of the various activities of the Club and to contribute their leadership abilities to any number of Club projects.

The final two vice-presidents are responsible for overseeing the established and ad hoc committees of the Club. The vice-presidents ordinarily are involved in many other activities and committees themselves, but their leadership and organizational skills are useful for creating new programs, representing the Club when necessary, and keeping the committee chairs organized.

The Vice-President for Campus Concerns oversees committees that focus on projects on Tulane’s campus: recycling, dining, feral cats and the lyceum. Recycle Tulane! is an established committee that was once a part of Tulane’s community service club, CACTUS. The committee works closely with the Recycling Department to collect recyclables, maintain bins, educate the campus on recycling, and track recycling data; the committee chair is usually hired by the Department as a student worker. The Recycle Tulane! committee established dormitory recycling on campus, with pilot programs in 1994-5 and campus-wide programs by 1996-7. In 1997-98, the committee established recycling on campus grounds. (Previous recycling had been limited to a drop-off center and in the academic office buildings.) The Green Club and TEP started the “Green Dining” program in 1996, and with the demise of the TEP, the Green Club has preserved it. The program focuses on educating customers in the University food service centers, discouraging disposable use,67 promoting reusable mugs, conducting food-waste studies,68 and starting a campus composting program with the Recycling and Grounds Departments of Physical Plant. The Club has developed an excellent relationship with Marriott Food Services as a result of Green Dining. The Campus Cat Program originated as a

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66 Many in and out of Tulane have hailed the Catalog as the best project of the Green Club. The first edition of the Catalog was so labor-intensive that two underclass officers quit (on good, but overworked, terms) at the end of the year and never returned. Future editions were not as intensive, but since the publication is done entirely in-house, having resources such as summer money to do most of the work on the Catalog is important. C. A. Bowers (1997, pp. 237-8) suggests that students publicly organize and not take classes that reinforce ecologically destructive practices, just as institutions have tried to purge classes that were racist or sexist. The Catalog would be a perfect medium for such advocacy.

67 In 1996, the Club and the Recycling Program convinced Marriott not to switch to styrofoam cups. The Club had, supposedly (senior members recalled), made a contract with them years earlier, but no one had the actual contract to prove it. Regardless, styrofoam use is an issue that the Club plans on addressing in the 1998-9 school year.

68 Traicoff (1998) found that students in the University cafeteria waste 33 pounds of uneaten, non-waste food per hour.
Newcomb College project; the Green Club’s animal rights committee has assisted with education, feeding, trapping, spaying / neutering and fund raising. The Program aims to humanely reduce the feral cat population on campus via reducing the number of abandoned pets and spaying / neutering trapped cats, which are then released. The animal rights committee has also held awareness-raising campaigns about the unethical treatment of non-human animals. Finally, through its lyceum committee, the Club sponsors guest speakers and events throughout the year. Local environmentalists, faculty members or other interested parties visit the Club meetings to give presentations and interact with students. Notable speakers have included David Orr, Lois Gibbs, and Sierra Club presidents Dr. Robbie Cox and Adam Werbach. The ability to provide lecturers has increased since the ASB increased funding for the Club for the 1997-8 academic year. Prior to then, the Club was forced to solicit donations from a variety of sources or limit their presentations to local or free lecturers and presenters (which are certainly beneficial and serve their purpose but do not attract a larger non-Green Club audience). The lyceum committee has also helped organize environmental conferences with the Environmental Law Program (1996, 1997, 1998 and 1999), the Sierra Club (1996) and the National Recycling Coalition (1998). The VP Campus Concerns also addresses other campus related issues, such as parking or heating / cooling, as needed.

The Vice-President for Local and National Affairs supervises the outings, grassroots activism and volunteer committees. To reward the hard work of the Club and to promote camaraderie, the outing committee sponsors parties and outdoor trips, including day hikes, canoe trips, bike treks, and weekend and spring break camping trips. Additionally, the outings chairperson organizes grocery shuttles to a local health food market and to the Crescent City Farmers’ Market. The grassroots committee sponsors activist projects, such as letter-writing, petition-signing or telephone campaigns, and members occasionally attend local and state environmental hearings. The committee has worked with the Tulane Environmental Law Clinic, the Concerned Citizens of NORCO, the Concerned Citizens of Agriculture Street Landfill, and numerous other local and state-wide grassroots environmental organizations. The committee also attends and organizes environmental events to educate people on greenwashing. Although officers and committee chairs usually share responsibility for organizing T.G.I.EarthFest, an earth day festival held in the spring, and Eco-Action Week held in the fall, the grassroots committee and the VP for Local and National Affairs is usually the central organizing unit. The chair of the volunteer committee organizes community service outings, which other groups usually organize and to which the Green Club sends volunteers; those other groups include the Louisiana Children’s Museum, the Mid City Greens, Audubon Zoo, the Aquarium of the Americas, the CBR, CACTUS, PJ’s Coffee and Tea, and other local businesses and organizations. Through the committee, Club members have participated in levee / beach clean ups, tree planting activities, Christmas tree recycling (for wetland restoration), environmental art for kids, community

69 The Sierra Club conference was only partially held at Tulane. The rest was at Fountainbleau State Park in Covington. Thirteen Green Club students attended the two-day conference.

70 Every year the Green Club puts on an Earth Day celebration called T.G.I.EarthFest in conjunction with Tulane University Campus Programming (TUCP). Usually, this consists of live music and local environmental groups educating the public. Recycling drives are also held. The main impetus for having the Fest is protest of the Earth Day Celebration sponsored by Shell Oil and Freeport McMoRan, which is held in Audubon Park right across St. Charles Avenue from Tulane. The Green Club strongly disagrees with the greenwashing, using environmental events to put forth an environmentally conscious image while business practices are environmentally degrading. (TUCP has no part in the protest factor, only in the entertainment aspect of the event.)

71 While the T.G.I.EarthFest has been around since 1994 (ironically, in 1993, the Green Club attended the Shell Earth Fest; see footnote above), Eco-Action Week (a week long series of events revolving around a specific issue held at the beginning of the semester; it is designed to involve students early in the year) began in the fall of 1997.

One of the most successful community service projects of the Club has been the Earth Day Grocery Bag Project, which is coordinated with the New Orleans Mayor’s Office of Environmental Affairs, the CBR, the Xavier Center for Environmental Programs and local public schools. College students from Tulane and Xavier attend elementary school classes, present a brief program on Earth Day and have the children draw environmental pictures on grocery bags, which are then returned to local grocery stores where they are distributed on Earth Day. The bags are judged, and winners are awarded and recognized at the Mayor’s Earth Day Celebration every year. This program, which 1996-97 vice-president of the Green Club Larry Levine started in 1997, is the primary focus of the volunteer committee chairperson.

A variety of other programs may come up throughout the year, and the president will usually take responsibility for delegating them or a new committee may be established to address them. One of the main projects of the president over the past three years has been fundraising (i.e., grants and donations), but with the increase in funding from the ASB, such future fundraising endeavors on that order should not be necessary. Additionally, the president has organized and participated in a summer internship program, which began in 1996 and which the ENST and CBR fund. Between one and six students are hired each summer in order to continue and encourage Club leadership and advocacy. The students work on a variety of projects, from campus recycling, to organizing fall orientation events, to working on the Catalog. The financial resources of the CBR and ENST have provided the means to efficiently produce the Catalog and the EF to further campus environmental education, and these funds have provided an incentive (i.e., a paycheck) for maintaining student involvement as advocates for campus environmental issues.

In the years from 1997 to 1999, the Club has been recognized as one of the most active and involved organizations on campus. In fact, many people thought that it was only recently established, perhaps because of the lull in Club leadership (and subsequent campus activity) in the around the years 1994-6. The Club plans to continue this broad level of campus service, education and activism around environmental awareness. If an “environmental coordinator” position is established, the Club would be able to work with such an office to coordinate campus environmental initiatives.

Summary

The Green Club began as an active student environmental group. Leadership peaked in the early 1990s (until 1993) and again in 1996. Low membership (and minimal leadership) between 1993 and 1996 caused the club to stagnate. The Club continued, but did not grow or progress, and although new initiatives were attempted (e.g., the environmental audit), they were largely unsuccessful. With the recent (1996) resurgence of leadership and with the increased institutional support (financially from the ASB and ENST, and administratively from the ENST), the Club has become more active, has developed successful projects (most notably, the Catalog) and has established a much stronger presence on campus. Unfortunately, the future always holds questions for maintaining continued leadership, since most leaders are upperclass students who are near graduation or who participate in one of Tulane’s many international programs.

In sum, leadership, institutional support (financial and administrative), advocacy, education and cooperation are underscored in the history of the Green Club, and those elements reiterate the model from Chapter Two. Continuous leadership has been an issue; gaps caused stagnant periods, but new programs (summer internships) should provide the needed consistency.

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The Tulane Environmental Project (TEP)\textsuperscript{73}

History

In September of 1990, Blaine Paxton and Taylor Root\textsuperscript{74} walked boldly into President Eamon Kelly’s office to inform him of the need to “green up” the University through energy conservation, recycling and other environmental measures. At Kelly’s request, Oliver Houck (Professor of Environmental Law) formed a committee to address environmental issues. The committee, headed by Houck with Paxton and Root, included students, faculty (one designated from each department), staff and administrators; eventually, it included alumni and community members. Their thesis was not to act as a “supreme court,” but instead to try to achieve consensus on various environmental actions.\textsuperscript{75} They were to study University environmental problems and make recommendations for policies to address them.

The committee became known as the Tulane Environmental Project (TEP).\textsuperscript{76} Beginning on October 12, 1990, they met approximately every two weeks (and at least monthly) during the academic year until 1992, when meetings became more sporadic.\textsuperscript{77} From a variety of potential issues, the TEP chose recycling as its first priority. Sub-committees formed, and they consulted University staff and students, independent recyclers and recycling programs at other schools.\textsuperscript{78}

TEP established a two-phase operation involving different players.\textsuperscript{79} Phase one was to institutionalize a recycling program with dedicated staff, a location and equipment. Phase two was a procurement plan to “close the loop,” which demonstrated the cost-effectiveness of purchasing goods made from recycled materials. Two reports were compiled and presented to President Kelly and the administration.\textsuperscript{80} TEP members from the Business School prepared cost analyses and “number crunching.” The administration was impressed with the data, and the proposals were largely successful in achieving their goals. Houck said that one of the most successful elements about the TEP was that he could always say he was doing something in President Kelly’s name.\textsuperscript{81}

\textsuperscript{73}Sources include interviews with Professor Oliver Houck, the memos in his files on the TEP, memos from the Green Club files on TEP, personal involvement, and other sources as cited (e.g., Inside Tulane articles, Environmental Forum articles).

\textsuperscript{74}Engineering, ‘93 and Arts and Sciences, ‘93, respectively.

\textsuperscript{75}Personal communication with Oliver Houck (1/23/98).

\textsuperscript{76}The establishment of the name did not happen at any specific time; by 1992, the name TEP appeared to be firmly accepted. The name of the committee in memos, both from the chairperson Oliver Houck and from others in and outside of the University, varied from “Environmental Concerns Committee” to “Tulane Environmental Committee” to “Tulane Environmental Project.” In the committee’s first report (“The Tulane Recycling Project, Phase 1: A Proposal,” April 1991), they were the “Tulane Environmental Project.”

\textsuperscript{77}Houck said (in Navaratnarajah, 1996) that after 1992, “for two and [a] half years TEP sat on its laurels.”

\textsuperscript{78}Tulane Environmental Project (1991).

\textsuperscript{79}For a listing of participants in the TEP, see Appendix C.

\textsuperscript{80}For a summary of the reports on both phases, see Appendix C.

\textsuperscript{81}The TEP drafted at least three memos for President Kelly to sign and distribute to the University: one on cooperation with the new recycling program, one on the recycled purchasing initiative, and one mandating double-sided copying. Ironically, President Kelly’s office never printed copies on two sides for mailings to students and parents, at least during my tenure at Tulane.
Losing Ground

Administrators and staff – not faculty – were the most stable part of the TEP.\textsuperscript{82} Students are transitory by nature,\textsuperscript{83} but faculty and staff also came and went throughout the history of the TEP. Faculty involvement was waning by September of 1991, only one year after the committee began.\textsuperscript{84} Students were consistently and actively involved for the first two or three years of the TEP.

When co-founders Paxton and Root graduated (1993), Houck “ran out of steam” because no one was there to push the TEP forward. The TEP as a whole lost its impetus to make change. Their efforts were grassroots ones, and the institution made incremental responses to them. There was no follow-up, monitoring, upkeep or oversight of any of the TEP initiatives. Houck said, “the institution wasn’t evil, just busy”; many other problems and projects were pending for University staff and administrators, and environmental issues needed to be “pushed onto” administrators so they would address the problems. The TEP was successful at – and polite and professional about – pushing these issues. But since environmental initiatives were not incorporated into the job descriptions of more than a few people (the recycling coordinator and the purchasing director), and because there was no permanent source of advocacy, the environmental initiative was not successfully institutionalized by the time TEP began to fall apart. Additionally, janitorial job descriptions did not include recycling duties until 1996, although even now janitors are not trained to empty recycling bins and trash cans separately. A major impediment to successful recycling was the lack of cooperation from janitorial staff.

I arrived at Tulane in the fall of 1994 and became involved with TEP in the fall of 1995. By then, TEP had lost momentum. In 1996, I, along with Professor Timmons Roberts, Oliver Houck and Audrey Evans (of the Tulane Environmental Law Clinic), tried to reinvigorate the committee. We had a few successful meetings, and we slated numerous projects for attention: revamping of recycling (primary), improving energy efficiency, providing community service projects and improving the bicycle-friendliness of the campus in order to reduce the need for parking spaces.\textsuperscript{85} Progress, however, was limited. The consensus factor and the wide breadth of involvement (and distribution of labor) was not there. The Green Club took on much responsibility for recycling initiatives, often saying that the Club and TEP were working together on the initiative, even if TEP only consisted of an occasional word from Professor Houck and the input of Dr. Roberts. We (the Green Club and the name TEP\textsuperscript{86}) started an initiative with Marriott Dining Services.\textsuperscript{87} Due to the work which students did with no research or financial data prepared, the program was only mildly successful, and recently it has

\textsuperscript{82} Especially Tom Armitage of the Physical Plant Grounds division for recycling, and Steven Regan of the Purchasing Department for procurement.

\textsuperscript{83} Professor Houck also notes that he has seen a decrease in the number of environmentally concerned students in the past 5-6 years. He posits that priorities are more related to jobs (and the desire for material success), some social issues and, in New Orleans, partying. Thus, some of the lack of student involvement may have stemmed from “apathy.” (This “cultural” element returns in the interviews, especially Question One, described in Chapter Five.)

\textsuperscript{84} In the memorandum from the September 27 meeting, Houck made a request to try and improve faculty participation.


\textsuperscript{86} I say the “name TEP” because the division of labor, consensus and organization that had characterized earlier years of TEP was not present. Dr. Roberts and Professor Houck provided much needed advice and made important contributions at meetings.

\textsuperscript{87} The program,“Green Dining,” set out to reduce waste by promoting reusable mugs, establish recycling facilities in the food court, and educate customers to not use styrofoam and plastics. The TEP first tried to work with Marriott in the fall of 1993 when they first established operations at Tulane. They wanted to create a committee to research what other schools have done and formulate ways to reduce disposable use. No steps were ever taken.
In the summer of 1998, however, a Green Club study proposed the development of a yard-waste composting program that would use some materials from Marriott. In the 1998-99 school year, the proposal was slow to develop, but it should be in place for the 1999-2000 school year. Additionaly, Houck sent President Kelly a list of large local law firms that could join in the procurement and recycling initiative to strengthen local markets, but little else was done.

Throughout their existence, the TEP brainstormed ideas for future initiatives, and made attempts at some, but most never came to fruition. Although the TEP never wrote the third-year report they scheduled, the 1992 Phase 2 report made a “Statement of Future Goals”:

- Designing waste reducing initiatives, such as curbing the use of disposable products.
- Reducing the use of toxic chemicals on campus.
- Conducting an energy-use analysis and recommending energy-saving measures.
- Encouraging alternative transportation such as bicycling and car-pooling.
- Consideration of the environmental curriculum.

The consideration of the environmental curriculum (and the possibility of an environmental literacy component) was discussed in late 1991, but was not prioritized until late 1992. The decreasing involvement of faculty hampered the investigation. The TEP compiled lists of “current capabilities,” courses offered at Tulane in all the Schools and divisions of the University that could be environmentally related. (From this juncture in TEP’s history, Dr. Michael Zimmerman, a TEP member, took the environmental curriculum thread and developed the Environmental Education Committee, which Dr. Joan Bennett later joined; together they procured the DoE funding and redesigned Tulane’s Environmental Studies Program, as discussed above.)

The TEP repeatedly tried to incorporate the Medical Center (on the Downtown Campus) and the Greek system (sororities and fraternities) into the Recycling Program, but neither was ever successfully involved. Composting was a common theme at the beginning of the TEP recycling initiative and again in 1995, but no progress was ever made. In the fall of 1993 as a part of the Phase 2 proposal, the TEP began, but did not follow through with, negotiations with Barnes and Noble, the campus bookstore, to print course materials on double-sided recycled paper and to stock products made with recycled materials.

Initiatives mentioned in memos, but never followed through, include: obtaining grant assistance for conference travel and expenses; asking the community for contributions to help maintain the Recycling Center; outreach to the community (a few copies of the proposals were sent out, but relations and continued communication never developed); increasing the bicycle-accessibility of the campus and examining other transportation issues; assessing campus energy use; and including recycling education and other environmental initiatives in freshmen orientation. Houck said that...

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88 In the summer of 1998, however, a Green Club study proposed the development of a yard-waste composting program that would use some materials from Marriott. In the 1998-99 school year, the proposal was slow to develop, but it should be in place for the 1999-2000 school year.

89 Additionally, Houck sent President Kelly a list of large local law firms that could join in the procurement and recycling initiative to strengthen local markets, but little else was done.

90 The TEP mentioned wanting to examine the Kearny Report, a report that outlined measures for the University to reduce energy costs to help financial constraints. Today, some of the suggestions from that report have been implemented, as discussed in the “Tulane 2000” section of Chapter Two.

91 This last proposed initiative is from a memo of June 10, 1991. In the fall of 1992, the theme for freshmen orientation was “Tulane and the Environment.” Two opinion pieces from that fall’s Hullabaloo have been preserved in a Green Club file (Metzinger, 1992, and Hoffman, 1992); both attack the program because, as Metzinger stated, “Someone clearly failed to inform the head of orientation that not every incoming freshman is a card-carrying member of Greenpeace.” The two reports are grossly biased in their writing. I am not aware of any counter articles or any other environmental orientations. Perhaps this was a lesson learned the hard way: Tulane took the program to the extremes and turned people away from it. No such theme has returned to orientation.
Tulane never bragged early in the greening process, despite the possibility of doing so. He noted that Tulane is highly respected in the New Orleans community and should be a business leader and prosyletizer of recycling and green business, especially since so many polluting industries make New Orleans their home. Even years later, Houck is still coming up with ideas to make environmental change: in 1998, he suggested developing a Tulane / New Orleans Green Wave Seal program to “certify” local businesses as green and give them preference in University contracts.

Summary

Oliver Houck and the Tulane Environmental Project were successful in institutionalizing a Recycling Program and a recycled product procurement initiative. Moreover, they involved students, staff, faculty and administrators in consensus building for all crucial parts of the design and implementation of these projects. The positive impact of the successes of the TEP will remain at Tulane for years to come.

But all the impetus of the early years is gone because the leadership was not institutionalized. In fact, many Green Club or Recycling Program initiatives (masked occasionally with the name of the TEP to add some legitimacy) are the same ones that the TEP started years ago. Such redundancy often goes unknown to new activists because of gaps in leadership (also known as lapses in “institutional memory”). President Kelly thinks that the TEP was an excellent medium for accomplishing institutional environmental change, and he wonders why it no longer reports to him (he was unaware of the fact that the group no longer meets). The administration must promote a new initiative – with new leadership – developed by all tiers and within all divisions (goals) of the University, and institutionalized to insure that successes continue and past successes are maintained.

In sum, the initiation, successes and collapse of the TEP illustrate key elements of the model from Chapter Two. The committee formed as a result of advocacy and institutional support. With leadership, information and data, including many constituents in consensus building and by developing policies, the TEP institutionalized a recycling and procurement program. When leadership waned (due to student turnover, lack of incentives and overworking of a voluntary leader), the program began to decline. Since the University made only incremental responses by setting up an overwhelmed recycling program and changing only some paper product purchasing, and since advocacy stopped, the operations of the institution were not fully greened. It is imperative that a structure similar to the TEP be reestablished and provided with all the components resources (especially financial and power), policy and leadership; an “environmental coordinator” could organize and lead such an entity.

Recycling at Tulane.

History

The TEP Phase 1 proposal called for a comprehensive, University-run recycling program for the uptown Tulane campus that would focus on the major components of the University’s waste stream: white paper, newspaper, aluminum and compostables. Physical Plant was to control logistics with volunteer assistance from Recycle Tulane volunteers, who were previously the sole

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92 Instead, such “bragging rights” went to other schools (e.g., Benoit, 1998), and Tulane’s “recognition” was limited to campus press and one mention in the resources section of one chapter of Ecodemia (Keniry 1995).

93 Personal communication, 8/19/98.

Recycle Tulane was a committee of the Community Action Corps of Tulane University Students (CACTUS). The drop-off recycling center was originally located across from the University Center where the A.B. Freeman School of Business now stands. When that school was built, Recycle Tulane was disbanded. Students (the soon-to-be founders/members of the Green Club) revived Recycle Tulane in 1987 and built a recycling center on Ben Weiner Drive. In 1991, Recycle Tulane was CACTUS’s largest project, with over 100 volunteers. They diverted approximately 12,000 pounds of glass, 1,000 pounds of aluminum, and 30,000 pounds of newspaper each month, and they earned approximately $1000 per month in revenue, despite the fact that they had no budget, used volunteer hours and relied on personal vehicles. Recycle Tulane volunteers were overwhelmed, and in such a capacity they could not provide continuous service to increasing recycling demand at the University. Additionally, since New Orleans did not have curbside recycling at the time, community members were recycling their materials at the Tulane facility, adding to the work-load of the student volunteers.

In 1990, Campus-wide recycling was scarce. Recycle Tulane collected aluminum cans (and some newspapers and glass) in selected dormitories, although their pick-ups were undependable because they had minimal equipment and relied on volunteer hours. Custodial crews often collected (read: stole) them from the dormitories, and they removed the cans from other campus buildings on an ad hoc basis with no organized system; such activities were supplements to their paychecks. About ten offices and the computer center ran independent, uncoordinated white paper recycling programs. The Tulane Law School had the largest concerted effort, recycling 2,200 pounds of white ledger paper per month.

Recycle Tulane appointed a student coordinator each year to oversee operations. Groups of volunteers maintained the Recycling Center, cleaning it each Saturday. (Reports of a dirty or messy center from this time are common. Student volunteers were – and still are – overwhelmed by the demand for recycling and were also unreliable, especially during certain times of the year, such as

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95 Recycle Tulane was a committee of the Community Action Corps of Tulane University Students (CACTUS). Recycle Tulane is now incorporated into the Green Club.

96 Beverly Walker, a local community member, says that she remembers recycling cans and newspapers at Tulane as early as 1971.

97 The Tulane Undergraduate Catalog lists Goldring / Woldenberg Hall, which houses the A.B. Freeman School of Business, as being built in 1986. Construction likely started one-two years prior, thus putting the date of Recycle Tulane’s disbanding at 1984-85.

98 Penny Wyatt, then advisor to CACTUS, reported that CACTUS bought their first computers with revenue from recycling.

99 CACTUS was not integrally involved in the discussions with TEP about the recycling proposal. In a memo from February 25, 1991, the Board of CACTUS expressed their concerns about campus recycling. A primary concern they addressed was not having students as involved as they had been in the past; they wanted to insure that Recycle Tulane was not disbanded and that it was instead incorporated into the new recycling program. They encouraged education initiatives using Recycle Tulane volunteers, and they believed that using CACTUS volunteers for operation of the recycling center, instead of using paid students or staff, was better for education and community awareness. They saw the role of University recycling staff as being supervision of the recycling center and coordination of work and pick up. They wanted to keep unpaid student volunteers at the core of the recycling effort.

The Green Club began jointly operating the recycling center around 1989. By 1994, Recycle Tulane was no longer a part of CACTUS and was solely a Green Club project. By this time, however, the Physical Plant Recycling Department had grown enough that a regular supply of volunteers was not necessary. In 1996, the Green Club discussed the possibility of dissolving Recycle Tulane. The Club decided not to, but the committee was largely inactive until the fall of 1997, when student involvement and activism in campus recycling issues increased dramatically under strong new leadership.
final exam periods and the summer.) Individual volunteers were responsible for can bins in specific buildings. The center was a 24-hour drop-off site accepting aluminum, tin, newspaper, and green, brown and clear glass. Newspapers and aluminum cans were picked up by buyers, a different company for each, and volunteers used personal vehicles, and later a Physical Plant truck, to take glass and white paper each to different recycling centers in New Orleans.

TEP submitted the Phase 1 proposal to the administration in April of 1991, and they accepted it a few weeks later. Physical Plant began recycling preparations on July 1, 1991, and the Grounds Department hired a recycling coordinator, Dan Weiner, later that month. In the fall of 1991, the recycling program was officially launched with the pick-ups beginning in August. The TEP, including students from the Green Club and the Environmental Law Society, prepared a budget for the Recycling Program, and the University allocated $25,000 for the new Program. Additional expenses were covered with income from recyclables sold. For the nine-month period between August and May, the Program collected over 85,000 pounds of paper, 200,000 pounds of glass, and 10,000 pounds of aluminum. The Ben Weiner Drive recycling center was upgraded into a community collection area, and the Program made many capital improvements, such as the purchase of a materials compactor and barrels, which Coca-Cola Company subsidized and donated, respectively.

The Recycling Coordinator was responsible for collecting recyclables, maintaining the recycling center, organizing volunteers, taking recyclables to market and keeping records. Additionally, the Phase 2 report claimed that “Tulane has become one of the Gulf South Region’s leaders in recycling. Our recycling coordinator spends much of his time consulting with other universities in the region on implementing their own recycling programs.” Each department had recycling liaisons responsible for “education, monitoring and cheerleading.” Staff were encouraged to design their own bins and collection systems because of differences between offices. Bins were placed around campus, and volunteers continued to help at the Recycling Center. Weiner stayed with Tulane for one year, making many improvements in the program, before he joined a local architecture firm. He remained active in the TEP after leaving.

John Brashear replaced Weiner in September of 1992. Brashear was active with the TEP and continued trying to improve the Program, making marginal successes. All recycling rates were up in fiscal year 1992-3 from fiscal year 1991-2, and revenues also increased. Brashear reported that the Recycling Department was not in deficit because of the revenues of approximately $1,500 per month. In a report he prepared in 1993, Brashear outlined three major problems (with solutions and costs) for the Recycling Program. First was that Brashear spent much of his time on the paper route picking up

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100 Tulane School of Architecture, ’90.

101 An article ran in the faculty and staff newsletter, Inside Tulane, to help promote the new program. (Yeoman, 1991.)

102 The recording keeping aspect was severely lacking throughout the history of the Program (until only recently), perhaps because of lack of initiative or lack of time. Had proper records been kept and had the data been used to prove the benefits of Recycling, the Program would not have had so many close calls with being cut. (See Appendix A for a compilation of data that proved the benefits of the Program.) An internal audit report from 1997 showed that because adequate records were not kept, the “University was being underpaid for recyclables.” Additionally, cost-avoidance from saved tipping-fees (paid to dispose of waste at the landfill) were not used in the Program’s budget calculations.

103 The introduction to the second TEP report, “The Tulane Recycling Project, Phase 2: Closing the Loop,” provided this follow-up information from the first report. Only one record exists of the claimed outreach efforts, and that is from the Army Corps of Engineers.


105 Weiner even participated in a panel on “Starting a Recycling Program” at the National Recycling Coalition’s Campus Recycling Series conference held at Tulane in February of 1998.
bins in offices. He suggested having custodial services empty bins into intermediate bins (which had to be purchased), having students, faculty and / or staff empty the bins into the intermediate bins, or hiring another full time recycling employee. Second, the truck used by the Department was inefficient, dangerous, and often broke down; it needed to be replaced. Third, Brashear was spending so much of his time on the route collecting recyclables and maintaining the recycling center that he had little time to attend meetings, return phone calls, or educate students, staff or faculty on recycling issues. He said that solving problems one and two would solve problem three. (Ironically, problems one and two have been solved in all of the ways suggested, but problem three still exists.)

Other issues that needed to be addressed appeared in memos from the TEP meetings in 1993. These included new material bailors, fencing for the recycling center, another staffer for more collections, and recycling in the dorms. Recurrent throughout the TEP memos from the beginning of the recycling initiative was incorporating the Downtown Campus and the fraternities and sororities.

The Downtown Medical Center Complex proved to be a logistical and bureaucratic challenge that was only sporadically and marginally overcome. Downtown still has no comprehensive recycling program. In the fall of 1993, attempts were successful to include sorority and fraternity houses into the Recycling Program. The Panhellenic Council appointed an environmental concerns chairwoman, and bins were supplied to sororities. This initiative never fully materialized, and with the introduction of New Orleans curbside recycling in 1995 it was not pursued again. Recent suggestions by the Recycling Program, however, have indicated a desire to include them. In March of 1993, Blaine Paxton (one of the students who established the TEP) wrote to Tom Armitage in the Grounds Department praising the success of the recycling program and offering recommendations for improvements. First was the need for more accessible recycling bins on campus grounds and in academic buildings. Second was the need for dormitory recycling. And third was the need for more visibility and campus-wide education on recycling issues.

Paxton recognized two hurdles to making the changes. First, Brashear spent too much time on the route collecting recyclables because custodians did not comply with the provisions (which called for custodial staff to empty recycling bins into intermediate toters in the halls for Recycling to collect) in the “Recycling Proposal” which the Administration passed in April of 1991. The custodial staff objected because collecting recyclables in any way was not in their contract. The second hurdle was the lack of a student assistant for the Department to initiate or carry out both student and non-student oriented projects. The first obstacle was overcome when recycling duties were incorporated into the contract for a new janitorial services company in 1996. The second obstacle was not overcome until the fall of 1997 – over six years later – when Physical plant authorized the hiring of Alicia Lyttle, chair of the Green Club Recycle Tulane committee. The third problem (lack of visibility and education) has yet to be completely addressed, though as of this report many improvements are taking place (see the “Recent Improvements” section below).

Keith Hook joined the Recycling Program in 1992 as a full-time Physical Plant employee and part-time student. He was promoted to Recycling Coordinator in the fall of 1993 while Brashear stayed on as a part-time recycling assistant, but Brashear left the Program in May of 1994. Hook has hired two recycling couriers, increasing the staff of the Program to three full-time workers and one work-study position from the Green Club (established in the fall of 1997).

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106 The Recycling Program was limited to paper in offices and a few aluminum collection bins. The Recycling Center was the location for all other recyclables (drop-off only).

107 Paxton is referring to the “Phase 1” proposal from TEP which President Kelly and the administration accepted.

108 The two effectively “swapped roles” because of a variety of workplace issues, including unsubstantiated accusations of stealing recycling revenue.
In an October 28 memo from the October 22, 1993, TEP meeting, Houck noted that student participation was low. He asked each TEP member to “identify one Tulane undergrad/grad student who has the energy for our enterprise and bring him/her next time.”

As a resident and later Resident Advisor (on the “environmental issues” floor, where recycling was just as difficult to organize) in a freshman dorm from 1994 to 1996, I personally observed these and other trends. The core consisted of me, Oliver Houck, Timmons Roberts and Audrey Evans (then “co-chairs” of TEP). A few others occasionally attended TEP meetings. But the impetus, resources, consensus making, and division of labor that characterized earlier TEP initiatives was not present.

Mary Harner (Newcomb, ’97), an Environmental Studies Coordinate Major, a Resident Advisor and a Green Club member, was at the lead of this initiative and was largely responsible for its success.

TEP was largely inactive (compared with their initial three years) after the fall of 1993 due to student turnover. In the spring of 1996, however, some activity returned when dormitory recycling was slated as an area for improvement. Until then, students could bring their recyclables to the center on Ben Weiner Drive, but no organized collection system existed.

Recycle Tulane involvement began to wane around 1993-94. By the academic year 1994, there was no organized Recycle Tulane collection system and each dorm floor was told to organize their own. Each floor had to find boxes (neither the boxes nor plastic bins were provided) and organize a volunteer system to take the recyclables to the recycling center, a method that was unsanitary (spillage from cans and bottles), unsafe (fire hazards) and unreliable (students did not want to carry heavy boxes of recyclables across campus, a result of their infrequent servicing of the collection boxes). The process was made easier in the fall of 1995 by the installation of large six-bin recycling containers near most of the campus dormitories (procured with financial assistance from the Associated Student Body). Then, students had only to bring the recyclables to outside their residence hall instead of bringing them across campus. This made recycling much more accessible and participation increased, though it still depended on each floor having its own recycling program. The Physical Plant Recycling Program was not involved in dorm recycling, only in installing and serving the large recycling containers outside the dorms.

Some students upon arriving at Tulane were alarmed that no comprehensive or accessible recycling system was in place; the University made it easy to throw away trash (by providing trash cans in every hall and emptying them regularly), but the process of recycling was too inconvenient even for dedicated recyclers. I observed students organizing recyclables in their hallway to prevent clutter, yet no one would bring the recyclables to the bin outside the dorm or to the Recycling Center.

In 1994, the Green Club began advocating the institutionalization of dormitory recycling. In the fall, they established Butler Hall (the honors dormitory, which was close to the Recycling Center) as a pilot program, using volunteer resident advisors and students to service the recycling bins. Problems with comprehensive bin procurement, Recycling Program pick-ups, janitorial service cooperation and fire codes hampered its development. In late 1995, the TEP was marginally reinvigorated by the movement for comprehensive dormitory recycling. Discussions were held with Physical Plant, Housing and Residence Life (HRL, in charge of the dorms), the Residence Hall Association (RHA, a student organization), the Green Club, and some core TEP members. The students – members of the Green Club, the TEP and the RHA – were the driving force behind the dormitory recycling initiative. Dr. Roberts and Keith Hook provided valuable support, experience, and a sense of authority to the cause; Professor Houck did not formally participate in many of the discussions. The TEP name was often used to bring a sense of legitimacy and experience to the meeting table. Overall, the efforts were unorganized and progress was a long struggle. But

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109 In an October 28 memo from the October 22, 1993, TEP meeting, Houck noted that student participation was low. He asked each TEP member to “identify one Tulane undergrad/grad student who has the energy for our enterprise and bring him/her next time.”

110 As a resident and later Resident Advisor (on the “environmental issues” floor, where recycling was just as difficult to organize) in a freshman dorm from 1994 to 1996, I personally observed these and other trends.

111 The core consisted of me, Oliver Houck, Timmons Roberts and Audrey Evans (then “co-chairs” of TEP). A few others occasionally attended TEP meetings. But the impetus, resources, consensus making, and division of labor that characterized earlier TEP initiatives was not present.

112 Mary Harner (Newcomb, ’97), an Environmental Studies Coordinate Major, a Resident Advisor and a Green Club member, was at the lead of this initiative and was largely responsible for its success.
eventually, comprehensive dormitory recycling was implemented for the 1996-97 academic year. The first year was largely unsuccessful: janitors were unwilling to service bins, bins were damaged and stolen, participation was low, bins were contaminated, and education (signs and information) was lacking.

Recent Developments (1997-1998)

Thanks in large part to the student position in the Recycling Program, the second year of dormitory recycling (1997-1998) has been more successful: the custodial staff is more cooperative, bins are cleaner and educational efforts have increased. Problems still exist, but they are diminishing: clear bags are not used (to distinguish recyclables from one another and trash), not enough bins are available for all necessary locations, lids are needed to reduce contamination, and a lack of education (despite past improvements) plagues the process and results in bin contamination.

During the summer of 1997, Alicia Lyttle and I lobbied for the student position in the Recycling Program. That summer, we conducted a detailed analysis of the Recycling Program as a follow-up to the Green Gradecard for the Green Wave environmental audit; it was an effort to improve the Program, which had been threatened with the possibilities of severe budget cuts, outsourcing and completely ending the Program.

The recycling markets in New Orleans are still recovering from the shock of the implementation of curb-side recycling in September of 1995. The price paid for many materials dropped severely around 1996 (see Appendix A), and, combined with increasingly inefficient operations by the Recycling Program, the financial data did not look good. Operations in Recycling were changed in 1997 so that the Recycling and Refuse Departments were combined in an effort to streamline Physical Plant. Keith Hook, the Recycling Coordinator, spent increasingly more time working for Refuse, and subsequently the Recycling Program suffered. The Program stopped growing, but the demand for growth continued to come from students. Physical Plant made proposals for outsourcing recycling operations, but Hook made sound economic and operations arguments against it. Then, because of poor economic performance (i.e., the Program was not making enough from the sale of recyclables due to inefficiency and poor markets), the Program was in jeopardy of being cut entirely. Arguments from many sides (students and administrators) helped keep the Program in place.

By the time our analysis of the performance of the Recycling Program was complete, Physical Plant realized that it was impolitic to cut the popular Program. They turned their attention away from viewing recycling as a source of income and towards its value by saving money and political correctness. Record keeping in the Recycling Program was poor to nonexistent. We sifted through various receipts and check stubs to calculate approximately how many tons of recycled materials the Program managed each year. Additionally, as we showed and previous advocates (the TEP) claimed, if cost avoidance (money saved by not having to pay to dispose of waste at the landfill) was included in the calculations, the Recycling Program was actually saving the University money – even after all expenses (labor and materials) were paid. (See Appendix A.) Had such measurements been done

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113 It is worth noting that the Recycle Tulane committee of the Green Club has taken initiative to do education, but the RHA, which originally agreed to help, has not.

114 Appendix A is from a memo sent to key players (administrators) in Physical Plant with regards to having a meeting (8/4/97) about the future of Recycling at Tulane. At that meeting, all of the key administrators and staff in Recycling – with the notable exception of Keith Hook, the Recycling Coordinator – were present. It was at that meeting that the decision was made to collect recyclables commingled (though it was later postponed until the Spring semester of 1998); that the student recycling coordinator position was established; that the idea of combining Purchasing, Property Management, and
Throughout the existence of the Program (such measurements were done initially, but they were not comprehensive), the opposition to the Program would have been severely curtailed or eliminated entirely.

The student position in the Recycling Program, which Alicia Lyttle held the past year, was to insure better record keeping and basic financial analyses that students had a larger role in campus recycling and that the campus community was better educated about recycling. In these respects and more, the position has been successful. In addition to the hundreds of small desk-side recycling bins the Physical Plant purchased for faculty and staff, the Green Club has purchased $500 worth of new recycling bins so that paper and aluminum receptacles were available for students in academic buildings. Additionally, the Green Club was awarded $1251 (from an Associated Student Body trust fund for campus improvements) for more recycling bins in academic buildings, reallocated $350 from its yearly budget towards lids for campus recycling containers to be provided by Physical Plant and was awarded $1000 from the Dean of the Liberal Arts and Sciences, Dr. Teresa Soufas, for improvements to a new Recycling Center (discussed below). The new Recycle Tulane committee has undertaken dorm recycling monitoring programs, educational initiatives, and has organized a successful America Recycles Day event. These projects and others have helped to solidify administrative support for the Recycling Program. Additionally, in 1998 Alicia organized and coordinated a National Recycling Coalition Campus Conference at Tulane, the first of its kind in the Southeast. The one-day conference was a success, drawing presenters and attendees from across the country. It helped continue the solidification of support in Physical Plant for the Recycling Program and for student involvement.

Some recent setbacks to Recycling, however, overshadow these successes: communication within Physical Plant and throughout the campus has constrained recycling efforts; the removal of the Recycling Center for parking hindered the efficiency of the Program; and Keith Hook has left the Program, leaving it without an experienced director.

Poor communication within Physical Plant has hindered recycling efforts. During the renovation of a building in the Engineering Complex in the summer of 1997, all the old furniture was thrown out onto the ground in a large pile, breaking and damaging some of it. The furniture – still

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114(...continued)
Recycling (to effectively “close the loop” on resource issues) was canceled; and that a waste management mission statement was prioritized. The statement, despite attempts at developing one, was never completed.

115 The spring 1997 Internal Audit reported that Tulane was being underpaid for recyclables as a result of not doing financial analyses. Additionally, it noted that Tulane does not charge its auxiliary services (such as the food services and the book store) enough for waste disposal and charges them not at all for recycling.

116 In their report, Tulane’s Internal Audit Department suggested improving campus education about recycling as a means of improving the efficiency of the Program. To that end, Alicia started a one-page publication called “Waste Not” in the Fall of 1997. (It reported that Tulane recycled 37.86 tons of materials in August and 50.83 tons in September of 1997, saving the University a total of $2,917 in tipping fees and making $2,570 in revenue.) That publication, however, is now included in the Green Club’s Environmental Forum.

117 Two supervisors in Physical Plant who oversee Recycling secretly observed the America Recycles Day activities from a distance. They were so impressed by the turnout and the volume of materials recycled that they agreed Recycling was a popular and necessary activity to support. This support has paved the way for many future improvements. The supervisors’ two superiors, the Associate Vice-President for Facilities and the Vice-President for Finance and Operations, have also been very supportive of efforts to restructure Recycling. These staff and administrators compose the key Physical Plant administration for recycling issues. Their newly positive approach to recycling ensures a better and safer future for Recycling.
Some passersby were picking items out of the pile to take for themselves. And he did not get along well with the Recycling Coordinator. This supervisor (Mike Stringer) was the one of the ones mentioned above who secretly observed the successful America Recycles Day activity. Formerly a barrier to recycling initiatives, he works hard to improve Recycling as its part-time coordinator, even though is the coordinator with all of his previous duties.

Another example of communication barriers in Physical Plant occurred that same summer. The Grounds Department of Physical Plant decided to cut down all the bamboo on campus (there were at least three extensive – and beautiful – stands of it). The denudation of the areas was not at issue; bamboo regenerates quickly. Waste, however, was the issue. The Department simply cut it all down and threw it away, with no attempt to donate it to a nursery or to compost it. After Alicia and I made repeated complaints, the Department contracted a tree service to cut and haul most of the bamboo; they, we were told, were likely to chip it and use it as mulch, a much better alternative to costly landfill disposal. Had we not been there to complain, the Department would have never altered its plans. If the Recycling Department had more of a structure with Physical Plant such that communication was improved, perhaps even better alternatives could have been developed. (After an email posting to a national listserv of recycling coordinators, I received dozens of replies offering suggestions on what could be done with the trimmed bamboo; the Recycling Department should, but does not, use such national support networks to improve inter-university communication that would promote better campus communication.) While the lifecycle of bamboo may have been the reason for the removal, the disposal of the organic matter was irresponsible and unnecessarily expensive.


Yvette Jones noted (in a 1/9/98 meeting) that “this campus doesn’t think in terms of conservation,” and, when confronted with parking alternatives, such as off campus parking lots and shuttles, the employees (and students) resisted and wanted only more campus parking spots. (This “cultural” element returns in the interviews as reported in Chapter Five, especially in Question One.) In a recent meeting with the Staff Advisory Council, Directory of Public Safety Ken Dupauier said “We have parking on campus. What we don’t have is convenient parking.” He also noted that “everything that can be done on
permits) refused and removed the Center. Physical Plant offered two alternatives: small collection sites throughout campus by dumpsters (an unsanitary and impossible proposition) or an off-campus site at a University property (which would be inconvenient for the campus and local communities and inefficient for the Recycling Program).

The Center served many purposes. First, it served Aron Residences at Stadium Place which, as an apartment complex, was not designed for communal trash or recycling bins, like the ones in all residence halls. Second, the Center was a storage and sorting location for the Recycling Program. Third, many in the campus community and the surrounding New Orleans community used the center as a drop-off location.

To address the loss of recycling for Aron Residences, a large, multiple-item collection bin was provided in an accessible location. Physical Plant provided no alternative for the Center, and the volume of recyclables decreased sharply. The local community has been excluded from recycling at Tulane, however this is both positive (the Program can better track campus waste) and negative (it is bad for community relations). To address the issue of recycling availability for the campus community, the Green Club purchased new bins and requested student government funds for more. The Club’s initiatives have helped spur the administration to address the fundamental issues of the problem, which is that the Recycling Program is not efficient enough to adjust. Thus, the administration in Physical Plant has, at this point, agreed to restructure – and improve – the Recycling Program. Although the removal of Center was a major set-back, it has resulted in an improving Recycling Program.126

The third hindrance to the Recycling Program was the recent loss of Keith Hook, who had been the Recycling Coordinator for over four years. Hook had been frustrated by the loss of the Center, and he was demoted because his performance and attitude were not what his superiors expected. He later quit. The positive aspect of losing him is that the Program can be reinvigorated with a new source of leadership and energy – two characteristics that had expired in Hook. Turnover, however, has been a common problem with the Program since its beginning. Although Hook was only the third Coordinator in seven years, many couriers came and went since 1993. New staff means more

122 (...continued)
a short-term basis has been done.” Long term solutions (which, along with the short-term solutions, were provided by a consultant) include building a new parking garage. Employees are concerned about convenient parking close to their offices so they are not late for work (and docked for pay); local residents do not want more parking garages; students do not want to give up green space. Robin Stead, a Council representative, believes that some “creative solutions” are needed. But there is no talk at all of ridesharing, carpooling, increased bicycle accessibility or other alternatives. (Discussions of parking issues return in Chapter Four.) (Marinello 1998d.)

124 In an April 15, 1998, meeting with Physical Plant administrators, the Recycling Program was finally allocated a space on campus. This result was because of repeated memos to Yvette Jones (from me), an opportune relocation of some temporary offices (housed in old trailers) and demonstrated improvements in the Recycling Program thanks to the leadership of Alicia Lyttle and Mike Stringer. The space was to be developed into a new – and better – Recycling Center for the fall 1998 semester, but as of the spring of 1999, it is still not in place. The development was to be funded with monies that I procured from the Dean of the Liberal Arts and Sciences; but Recycling instead used those funds to improve the quality and number of bins for campus recycling.

125 For the month of January (1998), the Program earned $20 for approximately 20 tons of materials recycled, all of it was paper (mostly mixed paper, a grade that does not earn revenue). This is compared to approximately 145 tons which generated $4,668 in revenue in January of 1997.

126 It should be noted that these ongoing setbacks, improvements, changes, etc. were taking place as this report was being compiled in the spring of 1998; as of the spring of 1999, no real progress has been made.

127 Hook was spending much of his time either not working or working with refuse, which is a considerably easier job (and that, although it did not affect Hook, also pays much better.)
hiring and training, which is expensive and time-consuming. The minimal salaries for Recycling employees perpetuate the cycle of turnover; many couriers, after they receive their commercial drivers licence to operate Physical Plant vehicles, leave for jobs that pay twice as much, if not more.

In 1997-98, Alicia was the interim Recycling Coordinator, and under her leadership improvements have taken place. (Alicia, however, moved on and left a gap in Recycling leadership, which Heather Emery Myers filled for 1998-99.) Most notable among recent improvements is the initiation of complete campus grounds recycling, with labeled recycling bins (actually converted trash cans) by every trash can. Lack of initiative was the only major obstacle to implementing such a program, one that had been requested for years. The history of recycling at Tulane reaffirms the importance of leadership.

Summary

Recycling at Tulane has improved from a small, overwhelmed volunteer effort to a campus-wide institutionalized program, for which students advocated. The events that resulted in this outcome, which reiterate the model for change from Chapter Two, were as follows: an institutionally supported leader lead a consensus-building committee composed of broad constituency of the University community; they gathered information and proposed solutions; the administration adopted the policies and allocated resources (a budget) for the hiring of a Recycling Coordinator; with campus education, communication and outreach (especially the recruiting of recycling liaisons in each department), the institutionalized – and successful – version of Tulane’s Recycling Program began. Later, the leadership used financial resources (in the form of recycling revenue) to improve and justify the program. This textbook example of how to implement institutional change, however, has not been without flaws: lack of continual administrative support, exemplified by the constant threat of budget cutting or program cutting and the removal of the Recycling Center, put the Program in a defensive mode; and exclusion of significant student involvement until recently ostracized the Program from its main constituency and support-base. When leadership became overextended and unfocused, policy enforcement, community education, communication and progress lapsed.

Recycling is the most popular campus greening project, one which reaches a large portion of the campus community; it is imperative that it be strong, visible and functional. The case of Recycling at Tulane illustrates that strong leadership and support (financial and administrative) is needed for the Program to succeed and progress; with each new influx of leadership and resources,

128 Physical Plant wanted to wait to hire someone until after the restructuring; additionally, because of an error by Recycling from approximately 1996 – recycling documents that were valuable and should not have been recycled and then having to recover them from the recycling facility – and an associated fine for remediation, not having to pay a full-time coordinator will remove that debt from the Program. (Recycling mistakenly took priceless documents from the Amistad Center’s storage files to the recycling facility; temporary labor has been hired to sort through the documents which were barely recovered from the recycling facility, and Recycling has been charged – and is still being charged – more than $3,000 per month since the mistake.) Mike Stringer will be the Recycling Coordinator, though he has other obligations in Physical Plant. A new student coordinator will be included in the Fall, and she will assist Mike in the day-to-day coordination (not actual physical operation) of the Program.

129 This Summer work will continue on improving recycling facilities on campus, including the implementation of campus-wide grounds recycling bins (the converted trash cans, appropriated lidded and labeled), procurement of recycling bins for all academic buildings and offices, construction of the new Recycling Center and outreach and education programs regarding recycling.

130 Recycling “policy” is outdated (it is the original “Phase 1” recycling proposal that the TEP submitted). It must be updated and improved, and other waste management issues (such as waste minimization) should be included in it. A waste management policy initiative was attempted in August of 1997, but nothing ever resulted.

131 See Chapter Four; also Ackerman (1997), Strauss (1996) and Mansfield (1998).
progress follows. As a result of recent advocacy, resources, information and leadership, the present state of affairs appears to be heading towards even more future progresses.

Summary and Conclusions.

Summary

Across the United States, environmental studies programs (and activism) enjoyed two significant periods of growth: the early 1970s and the early 1990s, periods which followed the first and 20th anniversary of Earth Day. In conjunction with these national trends, Tulane’s environmental programs (most notably, education and activism) grew at these times also, with the beginnings of the ENST in the early 1970s and the rise of campus environmental activism in the early 1990s.

The history of the ENST supports the model for change from Chapter Two: advocacy and information started it; leadership, resources, institutional support and policy spurred development of the Program; the availability of incentives proved important; and lack of focus in physical location and in leadership and the loss of funding resulted in an uncertain future for the Program. Since the environmental studies strategic initiative is already in place (as quasi-policy), the ENST can progress and continue to educate only with new leadership and dedicated resources from the University; the ENST should become established as a center or institute. Without resources and leadership, it will stagnate and ultimately fall behind the rest of the University and the competition in academia.

The elements which have enabled the Green Club to prosper also support the model from Chapter Two: it needs strong and continuous leadership, and financial and administrative support from the institution. When it has those elements, the Club performs well its functions of cooperation, education and advocacy.

The initiation, successes and collapse of the TEP illustrate key elements of the model as outlined in Chapter Two: advocacy and institutional support formed the committee; with leadership, information and data, including many constituents in consensus building and developing policies, the TEP institutionalized its programs; when leadership waned the program began to decline. The TEP was not successfully institutionalized at Tulane (only two of its suggestions were); thus when the advocacy stopped, the operations of the institution stopped greening. The University needs a structure similar to the TEP which is provided with the resources, policy and leadership needed to successfully institutionalize campus greening; an “environmental coordinator” could organize and lead such an entity.

The events that resulted in the peaks and troughs in the history of Recycling reiterate the model from Chapter Two: as a result of advocacy, an institutionally supported leader lead a consensus-building committee composed of a broad constituency of the University community to gather information and propose solutions; the administration adopted the policies and allocated resources; with campus education, communication and outreach, the institutionalized program was successful; and using procured financial resources, the leader improved and justified the program. When the administration did not provide substantive support and when student involvement was excluded, recycling leadership became overextended and unfocused, and policy enforcement, community education, communication and progress lapsed. The case of Recycling at Tulane illustrates that with leadership and institutional support, the Program can prosper.

Finally, environmental research at Tulane, while only cursorily highlighted in this history, demonstrates key elements of the model from Chapter Two: with policy, resources and a powerful leader, the program provides education, information, resources and opportunities to further the mission.

of the University. The history of greening at Tulane has confirmed the need for an institutionalized environmental leader, one who could direct the ENST, support and advise the Green Club, assist the Recycling Program (especially in education efforts), formalize a new and reinvigorated TEP and work with the substantial environmental research community. This leader, while the focus of environmental initiatives at the University, cannot work alone but must be supported with leadership from throughout the administration and advice from previous campus environmental leaders.

**Conclusions**

What are the historical barriers to and impetuses for greening? Why is it that environmental research at Tulane is superb and environmental education is moderately good but business and operations, with the notable exception of the improving recycling program, are so poor? If I were to grade each division of the University in the manner of the Green Gradecard for the Green Wave environmental audit (which, as discussed in the next Chapter, will show how poor the operations are), I would give an “A-” for academic research (always room for some improvement), a “B-” for academic education, and a “D-”/“D” for business and operations (since operations has shown some improvement).

The reasons are simple: environmental research adheres to the model, as has environmental education although in an inconsistent manner; operations, meanwhile, has not adhered to the model since the one initiative in the early 1990s that started the Recycling Program and the few moments of advocacy and leadership that have forced it to improve. The University is supportive of environmental research and education, but nothing more. This response is also evident in the administration’s tacit – yet never active – support of the Environmental Law Clinic / Shintech fiasco. To truly green the campus, the University must commit to providing the policy and resources to a leader who can develop means and ends to make change and educate the campus. I turn now to a further examination of the environmental state of Tulane’s campus with a discussion of the Green Gradecard environmental audit. I also provide cases of what other institutions of higher education are doing to address campus greening issues. Eventually (in Chapter Six), I will offer ideas and solutions for addressing these issues and outlining what an institutionalized “environmental coordinator” could do to address them.

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133 The Tulane Environmental Law Clinic represented local community groups for free (as is its charter, which is state law) against the multinational petrochemical giant Shin-Etsu (the local plant, slated for development near Convent in St. James Parish is called Shintech). The Governor and state industry wanted the multi-million dollar plant to open because of the economic boon it represents; local residents did not, citing the excessive pollution in the area already and the lack of economic stimulation the plant would provide compared with that pollution. (A majority of residents closest to the proposed site were in opposition to it, while a majority of Parish residents were in favor of it.) The US Environmental Protection Agency became involved because of problems with state permitting procedures and because of complaints under the “environmental justice” Executive Order of President Clinton. The Governor threatened to take away Tulane’s tax breaks and encouraged donors to stop private financial support of Tulane because of the involvement of the Law Clinic, which some industry trade groups claimed was trying to scare away business from the state. Also at “risk” were the endowment funds the state provides: the Louisiana Board of Regents administers those funds and has already given $9.6 million to Tulane, and $2.5 million could be withheld as a result of the Law Clinic’s involvement. They were seeking meetings with President-elect Cowen to discuss the future of the state providing matching endowment funds. The Governor met with Tulane President Dr. Eamon Kelly but did not convince him to “call off” the Clinic. While Dr. Kelly defended the Clinic, academic freedom and the law, he never came out in explicit support of the Clinic until he left office. Thus, the University was providing only tacit support, despite the relatively strong support of alumni and local donors for the involvement of the Clinic in the case. (Hopefully, Dr. Cowen will take a stronger stance on the issue.) (Associated Press 1998, Cushman 1998, and Roberts 1998.) Eventually, Shintech relocated. But before that happened, the Supreme Court passed the most restrictive laws in the country regarding student law clinics, causing an international furor. The Clinic is still involved in the fight.
CHAPTER FOUR
THE GREENING PHENOMENON IN HIGHER EDUCATION

Oh no! They’ve incorporated me!
- A Tufts University Professor of Music

Introduction.
In the fall of 1997, I was with a group of fellow music majors meeting a candidate for a faculty position. He was a young African-American musicologist teaching at Tufts University near Boston. Near the end of the meeting, there was a lull in the conversation. I took the opportunity to ask him an off-the-subject question: “Are you an environmentalist?”

He laughed at me, profusely denying any such thing. Surely he thought that I - with my long hair - was one of those “crazy tree-hugging environmentalists.” But I jovially prodded him a little more: “Well, don’t you recycle or carpool or . . . ?” “Of course I do!” he cut me off. What kind of guy did I think he was? He continued, matter-of-factly: “I reuse all my envelopes for sending non-professional letters; I recycle everything; I work in my office with the lights out and the blinds up; I print on both sides of the paper, even when using my computer printer . . . .” I replied, “So you are an enviro?” He thought for a moment. Then he exclaimed, “Oh no! They’ve incorporated me! I don’t believe it!”

This professor was “incorporated” from the continual barrage of education by students and staff at Tufts. Environmental responsibility became part of the institutional culture; everyone else was doing it, and despite not being an environmentalist, he just went along with the way things were and never thought about it - until I prodded him.

In this chapter I explore what other institutions of higher education have done to address campus environmental issues. I show that Tulane does not have to reinvent the wheel and in fact has much to offer and learn from other institutions. Also, greening the campus saves money, and economic information (savings, cost avoidance) is provided when available. Unlike Chapters Three and Five, this Chapter was not originally meant to support, contradict or elucidate the model from Chapter Two. This Chapter was instead meant to procure ideas and examples of successful greening initiatives. I will, however, provide some clarification of the model where appropriate.

More information or examples are provided in some sections than in others. This factor is primarily a result of what is relevant and available in the literature. It is not a measure of the importance of the subject. Each section does not explore the entire gamut of possibilities but is limited to a few programs (or initiatives implemented by multiple institutions) that were representative of innovative approaches to the issues. Also, due to research constraints and the paucity of information on certain schools in the environmental literature, Tulane’s competitor schools are under-represented. An examination of those schools could constitute another study and would add valuable information to the movement for environmental change at Tulane, and any institution could find such a study

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1 The Professor will remain anonymous; he was a candidate for a position in the Newcomb Department of Music at Tulane University in the Fall of 1997, but he was not chosen for the job.

2 My reasoning for this question was not unfounded; as I will show in this chapter, Tufts is a rather green university.


4 These institutions are Emory, Vanderbilt, Duke, Boston University, Rice, Georgetown, George Washington University, Washington University, Northwestern, Boston College, University of Pennsylvania, Cornell and Stanford. (From Tulane 2000 Executive Committee, 1995.) Cornell, Georgetown and George Washington Universities are the only ones discussed in this Chapter.
valuable, if tailored to their interests.

Nearly all of the examples are successful, and many are from well-known institutions. The literature has more successes than failures from which we can learn. This is positive and negative: positive because many successful programs have been developed, and we can learn from their experiences; negative because we are not able to learn from “fatal errors” that have hindered success. Finally, overlap is inherent between sections. For example, the section on “Food” addresses waste minimization, food waste, recycling in dining facilities, and composting; the section on “Recycling” also addresses waste minimization, recycling, and composting.5

For comparison with the Tulane audit, this Chapter is organized in manner similar to the Green Gradecard for the Green Wave environmental audit. A brief introduction of each section is a summary of the findings of the audit, and footnotes provide some updated information. Examples of programs and initiatives at other institutions show how academia has dealt with campus environmental issues; these case studies offer ideas for Tulane to begin or continue to address similar issues. Additionally, financial data are provided where available, and a table from a study of savings and avoided costs from greening projects is provided in Appendix D.

I begin with a discussion of environmental audits, which are one of two primary ways to gather information about the environmental responsibility of a campus; the second is to have an institutionalized mechanism – an “office of environmental affairs” – to research, track, record and communicate campus greening initiatives. A campus environmental audit, however, is usually the precursor to such institutionalized initiatives. I then discuss each of the areas of the Tulane audit: University effort and education, consciousness; building, land use and transportation; energy use; water; food; recycling; procurement; hazardous waste; medical waste; research; and investment.

Environmental Auditing at College and Universities.

Institutions of higher education are no longer “ivory towers” isolated from the rest of society. They are “an integral part of the larger community’s physical, social, and economic landscape.”6 Campus environmental audits help clarify the connections between the campus and society. Audits provide baseline information for subsequent environmental action. Performing the audit itself is a form of action because it raises the consciousness of those performing and those providing information for the audit. Additionally, audits are a modus for community outreach.

Institutions of higher education provide resources for and have influence upon society through their research, by providing various services and by educating the citizenry. Faced with environmental and social dilemmas throughout modern civilization, higher education is poised to educate and graduate problem-solvers. David Orr supports using campus environmental audits as pedagogical tools for three primary reasons: they reduce the large and unsolvable problems (such as global warming) to a manageable scale; they teach analytical and problem solving skills to students, who can use those skills to address the ecological challenges that they may face later in life; and they are an antidote for the “despair in the face of seemingly overwhelming problems.”7 Students who participate in a campus environmental audit use the campus as a laboratory for the study of environmental

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5 While this overlap is natural, it is also representative of the organization of the audit, which is not as clearly outlined as it could have been. I continue the critique of the audit later in this Chapter.

6 Smith (1993), p. xii. The campus is connected to the community via libraries, hospitals, offices, food services, recreational and sport facilities, and through many other facilities and services.

problems;8 additionally, the lessons learned in an audit – and in a good ecological education – will carry over into life after graduation, thus reducing the environmental impact of the graduate wherever s/he may live and furthering the goal of achieving an environmental sustainable society. The implementation of environmentally sound alternatives teaches students how to implement change and that change is possible. Recommendations and goals from many audits are aimed at formalizing the greening process, effectively institutionalizing environmental change.

The fourth recommendation from the Blueprint for a Green Campus is to “conduct a campus environmental audit”; such a review of campus environmental impacts should cover all relevant areas.9 After the investigation, a report should be issued with recommendations, prioritization and goals. Auditors should distribute the report to all members of the campus community and the public at large. David Orr notes that study of institutional resource flows results in (1) governing policies (for regulating areas measured and for campus planning), (2) a reinvigoration of the curriculum to focus on “the issues of human survival,” and (3) a true showing of leadership, so long as the (1) and (2) are implemented.10 Audits identify problem areas that need action. They may result in economic savings for the university by reengineering processes or infrastructure.

The Blueprint offers recommendations for high-level administrators, faculty, staff and students for conducting a campus audit. Key in the recommendations for administrators are providing support (financial, administrative and communication); creating policy; and appointing an environmental officer to coordinate regular audits, communicate results and implement recommendations. Faculty can provide expertise in specific areas for research and can offer classes or independent study for students taking part in an audit. Staff can help compile data (both from the campus and from other campus), provide insight into areas that need to be investigated, train auditors, manage the report creation and distribution, and maintain education and outreach regarding the audit. Finally, students can be educated on how the university is structured, build support for the audit initiative, lobby the institution for carrying out an audit or continuing regular audits and perform or help perform the audit.11

In sum, campus environmental audits are education tools and are usually the starting point for institutional environmental change. The report from the audit is an informational resource used for education of the campus community. Additionally, the roles of administrators, faculty, staff and students (as outlined by the Blueprint) reiterate elements of the model from Chapter Two: support, resources, communication, policy, leadership, means (implementation strategies), education, outreach and advocacy.

Tulane’s Environmental Audit: The Green Gradecard for the Green Wave

As a way of comparing Tulane with many of the schools reviewed below, results from the Spring 1997 environmental audit of Tulane will be provided in each section. Environmental Sociology 260, led by Dr. Timmons Roberts, conducted the audit as the class project. The approximately 60 students in the class took part in the design and implementation of the audit.

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8 Staff, administrators, and faculty provide valuable assistance, information, and leadership for campus environmental audits, but students are at the core initiative for the audits in most cases.

9 The Blueprint (1995) lists solid waste, hazardous substances, radioactive waste, medical waste, wastewater and storm runoff, pest control, air quality, the workplace environment, water, energy, food, purchasing policies, transportation, campus design and growth, research activities, investment policies, business ties, environmental education and literacy, job placement and environmental careers.


Performing the audit as a class project had mixed results: on the one hand, students were required to participate in the audit, so the work was done; on the other hand, the quality of the sections varied drastically because not all students were equally concerned about the issues. Groups may have even falsified or exaggerated information; and certainly, each question within the sections was not equally or always properly addressed. Overall, however, the results were unprecedented and comprise a unique source of largely accurate information about the level of environmental responsibility of Tulane.

The class modeled the overall form of the audit on the book *Campus Ecology* by April Smith. Small groups formed to address specific staff issues, and students did investigative work by requesting documents, interviewing appropriate staff and compiling data. The project was only one portion of the class; regular course work continued while the audit was carried out “in the background.” Occasional class time was dedicated to problem solving, group meetings and class reports. After collecting and examining the data, the class subjectively assigned grades to each of the sections, formulating the *Green Gradecard for the Green Wave*. (See Appendix D for the original Gradecard.)

The class prepared an Executive Summary which was distributed throughout the University after its release on Earth Day (April 22, 1997); the class held a mini-press conference with the reporter from the faculty and staff newsletter, *Inside Tulane*, present. The Summary concluded that “Tulane is making some effort to minimize negative effects on the environment, but in other areas it continues to cause serious damage.” Based on twenty-two grades in thirteen research areas, Tulane earned an environmental GPA of 1.9. The report made suggestions for improvement in many individual areas along with some general recommendations:

For Tulane to become the ‘Environmental University in the South’ an institutional commitment to incorporate environmental decision making into all facets of operation must be made. . . . [Second,] a standing *University Committee for Environmental Affairs should be established*. . . . This committee should be made up of students, staff, and faculty and should report to the University Senate and the President of the University. Third, administrative procedures at the University should incorporate environmental decision making. . . . [Whereby] *Decision makers at Tulane must include environmental concerns in all of their actions*. Finally, all institutional changes and improvements should be tracked, recorded, and made public.

In sum, the *Green Gradecard* environmental audit supports five facets of the model: the need for information gathering, institutional support, consensus building, communication and non-rhetorical policies.

**Examples of Successful Campus Environmental Audits**

A successful campus environmental audit is one whereby some or all of the goals and recommendations are instituted. Tulane’s *Gradecard*, therefore, is largely unsuccessful because none of the three major goals have been implemented and only a few of the minor suggestions from

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12 The audit would have been more coherent and more conducive to cross-examination with other campus audits had *Ecodemia* been used either instead or in addition to *Campus Ecology*, to which the audit did not strictly adhere. Future auditors should aspire to use *Ecodemia* and/or *It’s Not Easy Being Green* (see Appendix D), which is modeled directly on *Ecodemia*.

13 That is, no formal ranking or grading scale was used; students from each group suggested a grade and then the class collectively approved or adjusted it. The ranking methodology in *It’s Not Easy Being Green* is a better - and less subjective - way of ranking; at the same time, however, it is only appropriate for inter-university comparison not intra-university information compilation.
throughout the audit have been instituted (most notably some recycling suggestions). Commonly, the goals call for the establishment of a permanent committee, position or program to address specific environmental issues. For example, at Oklahoma Baptist University students used their environmental audit to establish an environmental commissioner position in the student government, to formalize an environmental committee and to assist the University in securing grants for an energy-efficiency program.\(^{14}\)

The University of California, Los Angeles (UCLA) set the standard for environmental audits of institutions of higher education. In the late 1980s, a group of graduate students in UCLA’s Urban Planning Program investigated the environmental performance of their University. They analyzed documents, evaluated campus practices and decision making, reviewed regulatory politics, interviewed campus officials, and researched alternatives. Their study was the first to comprehensively examine the campus-environment relationship. Their report attracted much local and national attention, and eventually the Campus Environmental Audit was developed for Earth Day 1990.\(^{15}\) Many environmental improvements resulted from the audit and the subsequent recommendations. One student from the group, April Smith, wrote one of the best known books on campus environmental auditing, \textit{Campus Ecology}.\(^{16}\)

In the Spring of 1997, five seniors and five juniors in Dartmouth College’s Environmental Studies 50 class audited five New England schools for their semester project.\(^{16}\) The students state that their report is for undergraduate students “in the hopes of opening new channels of communication to begin discussing environmental issues on college and university campuses.”\(^{17}\) They examined a sample of private and reportedly green New England schools: Bowdoin College, Brown University, Dartmouth College, Middlebury College, and Tufts University, all of which range in size from 1,400 to 6,000 students and are in both rural and urban areas. Each institution was ranked in ten different categories prioritized into high, intermediate and low priority tiers.\(^{17}\) All the areas were chosen for their potential for action and change. The scores were then combined to tally an overall ranking.

The Dartmouth study defined green schools as those that are environmentally aware and environmentally active. Awareness incorporates environmental concerns in the decision making process of the university; it also includes environmentally related research and student involvement in environmental issues. Action involves taking measures to reduce the environmental impact of the institution both by examining present structures and undertaking future projects to address environmental impact. The results of each investigation are compiled, and the audit team highlights positive and negative areas and makes recommendations for improvement. The greenest school was Middlebury, with Dartmouth in second, then Tufts, Brown, and finally Bowdoin. The results and categories audited are tabulated in Appendix D.\(^{18}\)

David Orr has proposed an environmental ranking system for institutions of higher education much like the national statistics that rank colleges and universities academically.\(^{20}\) He suggests using the following criteria: materials used / discarded per student, policies for environmental operations,
ecological literacy in the curriculum, responsible use of the institutions finances, and the environmental impact of graduates (since institutions track their wealth to determine whether or not they would make good donors, Orr suggests also following their ecological “footprints”). Campus environmental audits would be the tool to determine most of the data needed for such a national ranking. The Dartmouth study was a start in the direction Orr suggests.

During the 1993-94 academic year, students at Rutgers conducted an in depth waste audit. They analyzed what entered the waste stream, how it was used, and what happened to it when it left the University. Students communicated the results to the campus community, worked on initiatives for improved procurement, and proposed a closed-loop cooperative system whereby Rutgers would purchase paper made from the paper it recycled. Rutgers also has one of the most environmentally progressive university purchasing programs; it has been in place since the late 1980's. A similar effort took place at the University of Minnesota also in 1993-94, when a one year program where students collected and broadcasted data and information on waste minimization throughout the University led to establishment of the standing university committee.

Environmental audits have also been successful at smaller institutions, including community colleges. At Lansing Community College students conducted a waste analysis and concluded that composting could divert one quarter of the campus waste stream. When the students presented the information to the administration, the College established a composting program. At Napa Valley Community College a professor offered students extra credit for doing a 1990 Earth Day Campus Environmental Audit. The students presented their recommendations to the administration, and a committee was established to implement the goals of the audit, of which recycling was priority. A student recycling manager position was developed, and four students who conducted the audit were elected to student government. The audit sparked an activism that spread to community environmental issues, and students successfully protected a tract of local wetlands from development.

Three recent (1998) audits at Yale University, Middlebury College and Oberlin College are timely examples of the burgeoning campus environmental audit concept. Additionally, the University of Oklahoma at Norman did a campus environmental audit that equaled the others in design but lacked the follow-up (reports and programs) necessary to make change. Each one is organized uniquely, although the former three are similar in their areas examined, such as energy, water, food, waste, education, etc. The Oklahoma audit, however, deserves mention in that it grouped its research areas into inputs, the “Black Box” (or processes) and outputs, examining numerous research areas (such as energy, water, etc.) under each heading.

In sum, campus environmental audits serve to provide the information and data (as resources) to move to institutionalizing environmental concerns, especially in the form of institutionalized positions or standing committees.

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24 Ibid.
Getting Involved in the Community with Environmental Audits

In 1989, students and minority community groups formed an alliance to fight the University of Chicago’s proposal to build a garbage incinerator three times larger than the University needed, which would adversely affect minority groups in the area. The students performed a waste audit and made twelve recommendations to address the solid waste problem on campus. All the recommendations were accepted, and within one year the students began a recycling program and defeated the incinerator proposal. A similar effort involved campus and community activists emanated from New York University for Earth Day 1990. Students conducted an energy audit and advocated energy efficiency on campus, in the city and throughout the state. They were involved in the fight against the construction of $16 billion hydroelectric plant in Quebec that threatened to destroy and pollute the native lands of the Cree Indians. The students, Native American activists and community activists were successful in raising awareness and preventing the construction.

One of the most innovative efforts using environmental audits to increase learning potential and bridge the community / campus gap was at Dickinson College in Pennsylvania. Students and professors in an introductory environmental science class at Dickinson have moved from auditing the campus to auditing industries. Approximately 75 students each year participate in the program. They use toxic release inventory (TRI) data, which they are required by law to report to the government, to examine local and regional industries. Companies occasionally grant students interviews and allow them onto their facility sites. Pressure from the students as a result of the audits has provided the impetus for some companies to improve pollution prevention.

In an advanced environmental science class, students monitor environmental quality themselves through the Alliance for Acid Rain Monitoring (ALLARM), a program which a Dickinson professor established and runs. Students and community activists monitor water quality at over 450 sites throughout Pennsylvania. The students also teach community activists how to use the TRI databases. The Environmental Protection Agency (EPA) awarded ALLARM a grant to conduct the workshops for low-income and minority neighborhoods, where toxic emissions are often greatest. After graduation, Dickinson students who took part in the ALLARM program are hired by industry, consultants and the government because of their experience with auditing, use of the TRI database, and interviewing and interacting with industry and the community.

Environmental audits are powerful tools to encourage and provide education, community service and job skills. Skills from doing a general or specific environmental audit in a class or in an independent study are useful job-skills and life-skills that will further the elements of a sustainable

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25 These projects, especially the Dickinson College example, are ways of extending the opportunities for learning to beyond the campus boundaries. The outreach and connection the efforts made with the local and distal urban communities is a model for combining the “urban” and “environmental” areas of strategic focus at Tulane.

Additionally, Robbins (1997) reports that the National Wildlife Federation is working with Habitat for Humanity to incorporate environmentally sustainable design, energy efficiency and native landscaping into Habitat for Humanity homes. (While such a program is not explicitly in the realm of environmental audits, the skills needed for one are readily transferable to the other.) The new homes make environmental as well as economic sense. Such a program would be yet another way to combine Tulane’s “urban” and “environmental” goals.


27 Ibid., p. 116-117.

28 Another innovative program is at Brown University. Students there are using community indicators to assess environmental quality in Providence, Rhode Island.

From my own personal experience conducting the Green Gradecard for the Green Wave environmental audit, from researching this study and from my other classes in environmental studies, I am better able to live, understand and subsequently teach and propagate tenets of sustainability.

"University Effort and Education" is listed as "Curriculum" in the Gradecard. More detail on the Program is provided in Chapter 3; the following is a summary of what the Gradecard reported.

Tulane has many opportunities to use environmental audits. They should continue to be done as a part of a class as a pedagogical tool. Comprehensive audits should be performed every few years to track success in greening; small focused audits should be performed as needed (as a part of a class, independent research project or extracurricular activity). A community-oriented audit project could examine aspects of Mardi Gras or the Mississippi River, while an audit project could also be included in the work with the Sociology Department / Housing Authority of New Orleans (HANO) project. Administrators and decision makers should be included in the audits from the beginning, and results should be disseminated beyond the campus.

I now turn to examining categories of environmental initiatives at Tulane and at other institutions. Each section is comprised of a summary of the section from the Gradecard followed by greening initiatives from other schools; I conclude each section with suggestions for Tulane based on the efforts of the other institutions. In each case, an institutionalized mechanism (an “office of environmental affairs”) is necessary to spearhead and support the proposals.

University Effort and Education / Consciousness.
At Tulane

In the Green Gradecard for the Green Wave environmental audit, the section “University Effort and Education" received a grade of “A-”. It discussed Tulane’s effort to provide environmental education at the University and environmental community outreach. The section on “Consciousness” was divided into two sections: “Student Environmental Consciousness - Knowledge” which received a “B,” and “Student Environmental Consciousness-Action” which received a “D.”

The Environmental Studies Program at Tulane was, at the time of the Gradecard, well structured, growing and well funded. The Program started in the early 1970s as a result of student demand. The degree in Environmental Studies is a coordinate degree, requiring a separate but complementary major. Tulane listed environmental studies as one of the four pillars of excellence as a part of the University’s strategic plan. The Program was involved in a variety of extracurricular projects with the Green Club, the campus environmental organization. Environmental departments across campus and among the various schools within Tulane kept relatively open lines of

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30 From my own personal experience conducting the Green Gradecard for the Green Wave environmental audit, from researching this study and from my other classes in environmental studies, I am better able to live, understand and subsequently teach and propagate tenets of sustainability.

31 “University Effort and Education” is listed as “Curriculum” in the Gradecard.

32 More detail on the Program is provided in Chapter 3; the following is a summary of what the Gradecard reported.
communication, but not always. Faculty support was strengthened through a summer Environmental Faculty Enrichment Seminar. There were some research and community outreach programs with environmental content, but they have not been well publicized.

The Program, however, had no full-time director. The funding, although excellent, was entirely through grants, which may or may not be renewed year to year. The faculty are decentralized, and there was no place on campus that is the “Environmental Studies Department” per se. Thus, information is hard to obtain. The Program has made attempts at addressing campus environmental issues, but students (the Green Club) are the primary impetus. Additionally, few job or career opportunities are supported. These weak points are due to the lack of a full-time director. The audit team concluded that environmental education and operations goals needed “to be institutionalized into all facets of the University.”

The “Consciousness” section of the Gradecard is the result of an environmental attitudes survey which the environmental audit team conducted. A random survey of 233 Tulane students found that most students are concerned and familiar with environmental issues, but do little to address them in their personal lives. One significant issue that the authors of the section found was lack of communication between the University and the students on environmental issues. The section concluded that “Environmental consciousness must become part of Tulane’s institutional culture and consistent daily actions. Through a visible and accessible environmental infrastructure (e.g., recycling, community involvement, and information sources) participation, and classroom education, the campus community can become not only more aware but also more active in environmental practices.”

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33 A recent cooperative initiative with the Business School may result in the development of a coordinate undergraduate degree for business and environmental studies and a greening of the M.B.A. program to offer specialty tracks in environmental management and to expose all M.B.A. students to environmental issues. Also, the School of Public Health and Tropical Medicine and the School of Engineering have developed similar inter-school environmental programs with the Environmental Studies Program of the Liberal Arts and Sciences.

34 The faculty coordinating the program are extremely dedicated to maintaining and improving the Program. They have other professional duties, however, and their involvement (besides environmental teaching and / or research) is primarily as if the Program were a University Senate Committee.

35 Recently, some changes have taken place in the Environmental Studies Program. Most significantly, as of February 1998, the entire funding base was lost due to the withdrawal of a government grant, of which the Program was a small portion. (The Program had intended to hire a full-time director with renewed grant funds.) Thus, the University will be challenged with securing funding for the Program and its more than 50 coordinate majors. Second, a new Environmental Sciences Building is being built, and the Environmental Studies Program (the single part-time staff person working for the program, along with the Green Club) will be housed directly next door to it in an already existing building which is presently being remodeled; that building will also house the Center for Bioenvironmental Research and other environmentally oriented programs. In the interim, however, the Program was granted space in another building on campus where the Green Club has established the “Tulane Green Club and Environmental Studies Student Center.” Thus, a “place” has been created and will be provided for the Program. Third, the Green Club produced a publication (the Enviro Counter Culture Catalog, funded by the Program, the Center for Bioenvironmental Research, and the Vice-President for Finance and Operations) to address the lack of coherent information on the Program and the campuses environmental resources. Thus, the lack of information has been addressed. Finally, through the existing Environmental Student Center and an email listserv run by the Green Club, the Program is offering information on jobs, educational opportunities and internships. Also, the Career Services Center is improving its holdings on environmental resources. Thus, the lack of environmental job resources has been addressed. The loss of funding and the lack of institutionalized leadership, however, is the major obstacle still facing the program.

36 “Consciousness” can be interpreted as “environmental” or “ecological” literacy.

37 For example, few (43%) knew there was an Environmental Studies Program, and even fewer (18%) took advantage of the discount for using a refillable mug.
Innovative Programs that Address Education, Effort and Consciousness

Tufts University in Boston address all three issues of environmental education, effort, and consciousness. In 1990, as a result of initiatives from the University President and faculty members via an interschool council, which compiled information to show the administration about the potential for greening, Tufts developed the Tufts Environmental Literacy Institute (TELI), which seeks to promote environmental literacy among all the students at Tufts. Tufts used TELI to educate all the faculty on environmental concerns. Then, the faculty developed new courses and revised existing courses to incorporate environmental issues. Additionally, TELI has reached out to other institutions to help them incorporate environmental sustainability into their curriculums. Another goal of the TELI initiative was to improve the state of Tufts campus environment: the Tufts Cooperation, Learning and Environmental Awareness Now! (Tufts CLEAN!) was developed to analyze energy and material flow through the University and develop cost-effective pollution prevention strategies. (Tufts CLEAN! was funded by grants, and the TELI was seeded with grants.)

Tufts CLEAN! involved many levels of support throughout the University. One of the first priorities was to establish a University environmental policy. The TELI and CLEAN! programs are both institutionalized, though funded through grants, and housed with dedicated staff members and a Dean of Environmental Programs in the Tufts Center for Environmental Management. (The centralization was eventually dispersed but Tufts plans to recentralize it.) Other positive elements at Tufts include the promotion of public service across the curriculum and their multiple niches in environmental engineering, environmental health and environmental programs in the School of Law and Diplomacy. The Tufts programs are recognized as some of the leading environmental literacy programs in higher education.

The University of Wisconsin, Madison, takes a more active and integrated, though less comprehensive, approach to greening the campus and curriculum. The University has two institutionalized programs that combine environmental education with campus greening. First is the Campus Environmental Stewardship initiative, created in 1991, which is a forum for individual students (who work with staff and faculty) to perform focused campus audits. The second program is the Campus Ecology Research Project; undergraduates form a research team with a faculty member and a staff person, and at the end of the year, the team must submit a report that includes research findings and recommendations for improving campus policies and practices. David Einstein, the University’s Environmental Management Coordinator, developed the Campus Ecology Research Project to channel “the energies of undergraduate and graduate students into finding practical ways to make the campus more ecologically sustainable.” David Eagan says that “The stewardship initiative at UW engages students, as part of their course work and with close guidance of faculty, in a critical inquiry of their immediate surroundings. No longer just a setting where education happens, the campus becomes a field station for applied scientific study, a place where academic lessons can

39 See Appendix B for a copy of the Tufts University Environmental Policy.
41 Personal communication, William Moomaw (8/11/97).
45 Eagan was a doctoral candidate writing his thesis for the Department of Educational Administration at the University of Wisconsin, Madison, on whether college is providing students with the teaching and learning skills they will need in the workplace. He established the Campus Environmental Stewardship Initiative. (Lerner, 1997.)
be grounded in reality." Graduates of the programs gain valuable experience and increase their chances of getting good jobs.

In 1978, Brown University opened the Center for Environmental Studies (CES), and students began examining the campus for environmental projects. By 1990, the University and the CES developed an environmental coordinator position to lead initiatives to green the campus through energy efficiency, waste reduction and recycling, and water efficiency programs. The concerted effort by the University over the years resulted in the Brown Is Green (BIG) program, which the University president established in 1991. The BIG program developed a committee which the Provost chairs. The program led the investigation into projects to minimize resource consumption and the associated economic and environmental impacts. The CES and the BIG program have gone beyond examining the campus and students have moved on to the community to do related environmental investigations (such as community environmental indicator projects); Brown has effectively combined urban and environmental initiatives with its Urban Environmental Laboratory. Additionally, the Center for Public Service, working with students and employees, coordinates activities throughout the academic departments of the University, especially with public policy, urban studies, environmental studies, and health and society.

At Middlebury College and the University of Vermont (UV), environmental studies is one of the most popular majors. The College has tracks in conservation biology, environmental geology, environmental economics, geography, U.S. environmental policy, environmental perspectives in literature and writing, philosophical and comparative perspectives, and human ecology; UV’s program is coordinated with several different colleges and professional schools. Campus greening initiatives have been popular and well-supported at both schools. Middlebury focuses on international programs and language by encouraging exchange programs for students; it also has a partnership with a Bronx high school, and many cooperative programs (including college students teaching at the high school) are held on both campuses. Finally, service programs and volunteerism are popular at Middlebury and UV, where activities include education, research and community service, the latter of which is also coordinated with the University’s Center for Service-Learning, Community Service Program and the Living / Learning Community Service Leadership Suite.

At Oberlin College, classes are being infused with environmental topics, as well as topics on minorities and women. A seminar called “Oberlin and the Biosphere” examines the food, energy, water and material flows, and waste management on campus, with attention given to mining, forestry, farming, technology and alternatives; students participate in a research project on the campus in coordination with the class. (A similar seminar, the “Green Campus Seminar,” is offered at the New College of the University of South Florida; that college has the goal of having all its graduates be environmentally literate.) A student co-operative provides books and room and board plans that are less expensive than the College’s, and the co-ops include ecological considerations in their operation (such as vegetarian meals and organic locally-purchased produce). Additionally, international and study-abroad programs are popular at Oberlin.
In 1994, through a partnership with the U.S. Environmental Protection Agency (EPA), the George Washington University established the Green University Initiative. By 1996-97, the Initiative established the Institute for the Environment with a full-time coordinator to run the Initiative, developing and implementing yearly goals. The Institute and the Initiative also have an external advisory board and an internal executive committee. The Initiative is a movement to implement sustainable practices into all aspects of life at the University. Additionally, through the partnership with the EPA, the Initiative works on broader environmental initiatives through research, education, outreach and communication.

The University of Kansas, Lawrence, established an Environmental Ombudsman’s Office in 1990. The Office is responsible for researching campus environmental impacts and implementing programs that improve environmental quality and reduce costs. Programs of the Ombudsman’s Office include waste reduction, expanding campus recycling, pesticide reduction, recycled product procurement, and water and energy conservation. All the measures reduce the University’s costs and thus justify the program.

The University of Michigan’s School of Natural Resources in Ann Arbor provides three venues for assisting students with finding jobs in environmental fields. These services are an active method of providing the University’s over 600 graduate and undergraduate students with environmental jobs instead of passively waiting for on-campus recruiters. The University’s Career Planning and Placement Office has a library of environmental career publications. Project Serve, the second venue, provides students with volunteer work experience with community groups and non-profit organizations. The third venue, within the School of Natural Resources, is Placement Services which provides weekly job bulletins and an Employer Outreach Publication which lists majors and student projects and experience and is sent to over 700 prospective employers. Finally, the University held the first Interdisciplinary Environmental Career Conference in 1991, and has offered similar programs since then.

Summary

Results from the “Curriculum” and “Consciousness” sections of Gradecard underscore the need for an institutionalized mechanism to provide communication, education and an accessible “green infrastructure.” Programs that play essential leadership roles (be it from the greening program or the administration or both) at the institutions highlighted here illustrate that such institutionalized and university supported programs work. For example, Tufts, Brown and George Washington

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52 Recently, funding expired for the program, and the project was temporarily in trouble of being abandoned because the University had not fully bought into the Green University Initiative. The Institute for the Environment secured other funding, however, and the program remains. (Personal communication, Ivan Urlab, 7/20/97.) The GW experiences teaches us two things: first, to include the entire University community in the campus environmental initiative, and second, to not rely completely on outside funding.


54 Smith (1993), p. 33. See also the discussion in Chapter Two. This program is no longer as originally structured because the professor who started it moved to another campus, and as a result, the program lost its funding. The Ombudsman failed to institutionalize many of the programs through the proper channels, so they declined after he left. Also, he failed to develop clear goals and policies. Finally, the general campus atmosphere was not receptive to the program, and the Ombudsman failed to educate the campus. A few years after the Ombudsman left, the program was rejuvenated with a focus and in a different guise, the Office of Resource Conservation and Recycling. (Personal communication, Victoria Silva, 8/12/98). This example of a program that was not wholly successful provides support for the model for change of chapter two; the Kansas program was missing critical elements (e.g., institutionalized leadership, policies, education, funding, etc.) of the model and without them did not prosper.

University (GWU) emphasize consensus and committees, while GWU demonstrates the need to properly involve the university community in the greening process and to secure dedicated or matching funding from the institution if outside grants fund the greening program. The University of Michigan programs illustrate the concepts of opportunities and incentives for students. These universities provide examples of successful programs from which Tulane can extrapolate lessons-learned, ideas and caveats. Some suggestions include expanding the Tulane Environmental Faculty Enrichment Seminars to include students, surveying and tracking campus environmental knowledge, infusing the freshman year with environmental components (in addition to service, information technology, and international and urban studies programs), and providing the opportunity for incoming students to use the campus as a laboratory for learning and a forum for getting involved with environmental concerns. An institutionalized program (such as the proposed “office of environmental affairs”) could coordinate such activities with the Environmental Studies Program.

**Building, Land Use and Transportation.**

*At Tulane*

In the **Gradecard** this section was under “Building and Parking.” Only “Building” was graded (it received a “C”), and although the team addressed parking, it was not graded. Land use was also not addressed.\(^{56}\) The section concluded that, with the exception of the new Environmental Sciences Building, environmental considerations\(^ {57}\) are not taken into account for building design.\(^ {58}\) Parking at Tulane does not address alternative transportation measures such as car pooling, shuttle buses and incentives for non-drivers.\(^ {59}\)

**Innovative Approaches to Buildings, Campus Land Use, and Parking**

David Orr, the director of the environmental studies program at Oberlin College and a leader in the field of environmental education, organized a class to examine the building in which he taught. He determined that the occupants have no insight as to how it is heated, cooled and lighted, and no clue about the origins (or eventual destination) of the materials used to build it. The building does not represent the place in which it is located, northeast Ohio. Because the building uses energy wastefully, the users believe that “energy is cheap and abundant and can be squandered with no thought for the morrow.” Orr concludes that “The lesson learned is mindlessness. . . .There is no apparent connection in this or any other building on campus to the larger set of issues having to do with climate change, biotic impoverishment, and the unraveling of the fabric of life on Earth. Students begin to suspect that those issues are unreal, or that they are unsolvable in any practical way, or that they occur somewhere far away.”

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\(^{56}\) Presently on campus, much land is being used for construction. At least two areas of green space have been replaced with construction for new buildings. The administration says they are trying to maximize green space while allowing for campus growth in the crowded urban area in which Tulane is located. (Personal communication with Yvette Jones.)

\(^{57}\) For example, natural lighting, increased stair use through visibility/accessability, energy and water efficient devices, and a localized system of measuring resource consumption (i.e. water and electricity meters).

\(^{58}\) Energy and water efficiency are taken into account. Regulations require certain conservation efforts, such as low-flow shower heads and toilets, and energy efficient heating and cooling systems. In one recently completed construction project on campus, a new residence hall, low-flow showers and toilets have caused an uproar because they are “too low-flow.”

\(^{59}\) Parking on campus has recently become severely strained due to multiple construction sites. Pressures from the University community forced the administration to remove the University Recycling Center. The Green Club, Environmental Studies Program, and various members of the environmental community fought to keep the Center from becoming a parking lot, but ultimately lost. The removal of the Center provided 20 parking spaces, but activists and the Recycling Program staff said they could consolidate the Center and allow 14 parking spaces to be created while leaving the Center in place of 6. The administration refused, claiming every spot was imperative. (See Allen 1998, Kirkpatrick 1998 and Zwolak 1998.)
In 1992, Orr and his students decided to plan a new environmental studies center for Oberlin. They worked with architects, visited other buildings, read the literature, considered retrofitting an old building and finally decided on design criteria for a new one. The criteria, in addition to “no ugliness . . . human or ecological, somewhere else or at some future time,” are that the building must:

- discharge wastewater at least as pure as the water it takes in;
- generate more electricity than it uses;
- incorporate no material known to cause cancer, birth defects, hormone disruption or other hazards;
- use energy and materials with great efficiency;
- use products and materials grown or manufactured sustainably;
- be surrounded with landscape that promotes biological diversity;
- meet rigorous requirements for full-cost accounting.

Orr organized 13 brainstorming sessions, held with 250 students, faculty and townspeople. They worked with the nation’s best environmental architects and designers to bring the project to fruition. Within two years, Orr and his students had to complete the design and permitting, and had to raise the funds from donors with no previous connection to Oberlin. They succeeded and broke ground in the Spring of 1998.

Sustainable building design programs have been a topic at meetings of the Society for College and University Planners (SCUP) along with the National Wildlife Federation’s Campus Ecology Program. Highlights include the new dormitory built at Northland College (an environmental liberal arts college in Wisconsin), which is using active and passive solar features, wind turbines and a greenhouse. At Humboldt State University in California, a grey-water marsh has been designed to treat shower and faucet water; the water then is recirculated into use for landscaping.

An example of innovative campus land use is the 194-acre campus of World College West in Petaluma, California, where building and roads cover only 10% of campus. The remaining 175-acres are covered with native landscaping where deer, fox and other wildlife roam. The campus is entirely pedestrian; drivers must park in a remote lot and take a shuttle bus to campus. All academic buildings and residence halls employ passive solar heating and natural lighting; neither air-conditioning nor overhead lighting is used except when absolutely necessary. Toilets use one-half gallon of water per flush, and energy efficient halogen lamps are used.

The University of Wisconsin, Madison (UW-Madison), University of North Carolina, Chapel Hill (UNC), the University of Illinois, Urbana-Champaign (UIUC), and the University of

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60 Meadows (1997).

61 To meet these requirements, the roof will be covered with a non-toxic photovoltaic panel which will power the building and feed electricity into the grid. Sewage and wastewater will flow through an artificial wetland in a nearby greenhouse to purify all the water. Super efficient windows will be used to retain energy. There will be a restored wetland and forest, and gardens and orchards around the building. And in the entrance hall there will be data panels displaying the building’s energy use, water use and emissions of greenhouse gases. (Meadows, 1997).


64 At the UW-Madison in April of 1992, there were 11,000 parking spots for 60,000 people on campus.


Colorado, Boulder (UC-Boulder). all large urban campuses, have innovative parking / transportation programs. Conventional supply-side solutions to on-campus parking shortages are simply to build more parking spaces, a solution that can cost up to $25,000 per space. Instead, more innovative solutions to addressing transportation issues are available, such as decreasing demand with carpooling, bicycle riding or using public transportation, all of which can be encouraged if made easy or if incentives are provided.

All four institutions have a dedicated coordinator for parking / transportation issues. UW-Madison has a committee to address transportation issues, and the University involves students in researching alternatives; at UC-Boulder, students were the driving force for establishing a student bus pass program that soon spread to include faculty and staff. All four campuses subsidize public transit for university affiliates and provide shuttles to and from parking lots. At UC-Boulder the annual cost of the bus program is $1 million (subsidized by student fees); with the program, the University avoided having to build 750 parking spaces, which would have cost $6-9 million. Additionally, all universities encourage bicycle use. UNC and UIUC have researched bike rack use, style and placement to maximize use, and both universities provide extensive bike paths. Federal grant money is available for the construction of such paths through the Intermodal Surface Transportation Efficiency Act (ISTEA).

Both UNC and UW-Madison have extensive ridesharing programs. At the UNC, commuters can rotate permit use (sharing one permit between multiple cars) and share the cost of the permit. Preferential parking locations were offered for people participating in the rideshare program, but enforcement became a problem when non-rideshare commuters used the preferential parking; the preferential parking location program was discontinued (taking away a valuable incentive) until enforcement could be maintained. UNC uses 270 “communications specialists” throughout campus to post announcements, talk with new employees, and provide other transportation information; such duties are often in the staff member’s job description. At the UW-Madison more incentives (besides shuttles, bike rentals, and improved / updated rideshare lists) are needed. Other options to dealing with parking pressures have been debated. They include telecommuting, part-time parking permits (i.e., for specific days or hours of the day), and the possibility of replacing the 8-hour day, five days per week with a 10-hour day, four days per week for some staff. Finally, all the campuses have had to address issues of single occupancy vehicles and a reluctance to cooperate with transportation initiatives. Persistence, campus education initiatives and continual improvement of the programs have addressed these behavioral issues and improved the overall quality of campus transportation and parking programs.

Finally, Cornell University, demonstrates the key elements of a comprehensive program to address transportation and parking. In 1991, when the University was faced with a 2,500 parking-space shortfall, Cornell established the Transportation Demand Management Program (TDMP), which is headed by the Transportation Communications Manager. After a study of the campus and available alternatives, the TDMP implemented a public transportation ride program for University affiliates and a ride-share program (where, if a car carries a certain number of people, it is eligible for a discounted fee or even a rebate, and cars with sufficient numbers of riders are provided with free reserved parking spaces). Only 350 new parking spaces have been built since 1991 (much less than the 3100 that

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68 Ibid., p. 13.

69 At UIUC and UC-Boulder, a student-approved increase in the University transportation fee allows students to ride the city-wide public transportation for free just by showing a student ID.
would have been needed without TDMP), and from 1991-1997, Cornell has saved $13 million (presently, savings are $3,123,000 annually). Cornell students and employees now travel 10 million fewer miles to and from the campus each year; such reductions not only have profound environmental benefits, saving 417,00 gallons of gasoline and 6.7 million pounds of CO₂ annually, but they are savings to the University and the commuters, and the reduction in traffic emphasizes Cornell’s commitment to “being a good neighbor.”

Summary

At Tulane, building policies are characterized by compliance, not innovation or foresight; with all the new construction taking place throughout campus in the mid- to late-1990s, innovative green inputs into the design and construction of buildings are necessary, yet little that is not regulated has been incorporated (with the notable exception of some, but disappointingly few, elements of the new Environmental Science Building). Transportation issues also are not innovative, but simply demand based; with a growing campus, more innovative measures must be used to address transportation issues, especially considering the high costs of building new parking spaces. Unfortunately, the low quality of public transportation in New Orleans is an external barrier to developing comprehensive alternatives to transportation issues, but some alternatives are available and should be included in the discussions presently taking place about parking at Tulane. Finally, no formal policies regarding land use are in place, except for “development” and “trying” to keep green space, which are not formal policies and are, obviously, at odds with each other. An “environmental coordinator” could aid in addressing all of these issues for the University.

Other institutions demonstrate some of the innovative ways of approaching buildings, land use and transportation. Oberlin demonstrates what a leader (David Orr) can do, especially using far-reaching brainstorming and consensus. Tulane is constrained in its land use patterns, unlike World College West, which demonstrates the web of interrelated environmental stewardship initiatives that can result from far-sighted campus planning. UW-Madison, UNC, UIUC, UC-Boulder, and Cornell all show effective handling of transportation issues; with institutionalized programs, resources and campus community input, their leaders have researched, communicated and educated their campuses, and provided them with the appropriate infrastructure to improve transportation measures. They have provided incentives, reached out to a broad constituency, institutionalized measures with policy and continually advocated for change and improvement. These measures reiterate many elements of the model from Chapter Two.

Energy Use.

At Tulane

In the Grade Card, Tulane received two grades in the section on “Energy Use”: an “A-” for lighting and a “D” for heating and cooling. A lighting retrofit (motion sensors and low wattage bulbs and ballasts) as part of an energy efficiency initiative earned Tulane the “A-” grade. Some newer buildings incorporate natural lighting, but most do not. The report concluded that “turning off lights is a serious problem: many buildings leave lights on all the time, even those lights that do not serve a security function.”

The section on “Heating and Air Conditioning Use” cites the fact that air conditioners run

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71 Data is not available for Tulane’s exact cost for new spaces, but construction of the Diboll Parking Garage (built in 1993) cost $7,000 per space, and Loyola University’s parking garage (built in 1997, next door to Tulane) ran $10,000 per space. (Personal communication, Tulane Office of the Senior Vice-President for Operations and CFO, 5/12/98).
In Zemurray Hall, a residence hall, window unit air conditioners run all summer long even though no residents are in the building. And throughout the year, temperatures are often too extreme (and people subsequently must open windows to let excessive cold or hot air escape). Most campus buildings are poorly insulated, both in wall insulation and by doors and windows. The section concludes by relaying and paraphrasing a suggestion from President Kelly: “upgrading the heating and cooling system could result in such large savings from lowered energy bills that those saved dollars could be used to fund other campus environmental initiatives, improvements, and events. These ideas indicate the need for improved environmental accounting at Tulane.”

Leadership in Energy Efficiency

As the result of a study in the early 1980s by the State University of New York (SUNY), Buffalo, the University launched a comprehensive energy efficiency program in 1982. The University achieved a reduction of $3 million per year in the energy bill, and through 1996 SUNY has saved more than $60 million. In addition to the facilities aspect of the program, the study made recommendations to include energy efficiency in all new building design and construction, to use natural gas whenever possible, to increase faculty research in the area of energy efficiency and renewable energy, to cut less grass and plant more trees, and to increase awareness on global warming and energy issues on campus and in the surrounding communities through educational initiatives.

Similar initiatives at Brown University, the Rochester Institute of Technology, the New College of the University of South Florida, Carleton College, Elizabethtown College and Dartmouth College have paid for the initial costs of the program and resulted in a net savings for the institution and the environment. A key element of all the programs was a designated energy manager to spearhead the program. Additionally, federal grant monies (such as the Environmental Protection Agency’s “Green Lights” Program) are available to initiate energy efficiency programs. Often, new positions are justified by the potential paybacks that could ensue. Small and easy efficiency programs are started first (such as retrofitting lighting or delamping); these initiatives have fast payback periods. Larger infrastructure projects are harder to justify because of their significant capital outlay, but at Elizabethtown College, skeptical administrators were mollified by an energy consulting firm which guaranteed the payback of borrowed money (approximately $1,835,000) to implement the energy conservation program that would save the College $247,000 annually. Other projects include public participation (inter-dormitory or inter-building competitions for energy efficiency), student research initiatives, improved classroom scheduling, and building conservation contacts (where individuals insure that monitor energy initiatives in a building, disseminate information and educate building denizens on conservation initiatives).

At Dartmouth College, energy conservation measures began in the 1980s when incandescent bulbs were replaced with fluorescent fixtures. Though the fluorescent saved energy, the students were displeased with the light quality and brought their own halogen lamps, resulting in a net increase in overtime during the hot summers in New Orleans, even when no one is in the buildings.

72 In Zemurray Hall, a residence hall, window unit air conditioners run all summer long even though no residents are in the building. The Housing Maintenance Office says this is to inhibit mold growth. One way to do this in a more energy efficient way would be occasionally use of ozonators to kill the mold.

73 Tulane has taken on a $10 million energy efficiency project to address this very comment. Infrastructure is being updated and improved to be more energy efficient. (Burman, 1998) The savings, however, will not be “used to fund other campus environmental initiatives.”


energy use. With the help of a loan from the College, the Residence Life Operations (RLO) involved students in a selection process for new lighting; when the best lighting fixture was chosen, RLO replaced the fluorescent over a period of a few years and only then banned the halogen lamps, the use of which had already declined.\footnote{Students have complained to me about the poor quality of the lighting in the newest residence hall built at Tulane. Had Residence Life consulted with students when planning the construction, the energy use of the building (which they were hoping to lower with the “newest” energy efficiency measures) would be even lower (because students would not be using their own lamps) and students would be happier with the building.} RLO was able to repay the loan in three years (with annual savings of $75,000), and the College allowed RLO to keep all extra savings accrued after repayment to use for future conservation projects.

At Brown University, laboratory renovations have resulted in annual cost savings of $15,500. Low-tech behavioral changes (such as signs and reminders) to close fume hoods and turn off equipment and lights were one facet of the program, while high-tech renovations were another. The high-tech changes include installing occupancy sensors and zone sensors to regulate lighting and heating/cooling. Additionally, fume hoods have been renovated to include sensors to adjust air flow when no one is standing in front of them.\footnote{Eagan and Keniry (1998), pp. 26-27.}

Finally, renewable energy sources (such as solar) are the wave of the future. A few institutions (Georgetown, the University of South Florida, and the Georgia Institute of Technology) are already incorporating solar energy use into their energy infrastructure,\footnote{Keniry (1995), pp. 59-79.} and Georgetown has quantified annual cost savings to be $45,000 because of electricity generation with solar panels.\footnote{Eagan and Keniry (1998), p. 28.}

Summary

Tulane has taken some initiative on energy issues. Most notable are the lighting upgrade and a recent infrastructure upgrade which is being undertaken while other construction projects are occurring. Lacking, however, are education on energy use and incorporation of energy saving measures, such as turning off lights when buildings are closed and appropriately adjusting heating and air conditioning. Also, a program to insure energy efficiency (as well as other environmental parameters, such as toxins, paper use and toner cartridges) in computing facilities\footnote{Simpson (1998).} would be especially appropriate given the University initiative to be a leader in information technology. Two aspects of Tulane’s energy conservation initiative are notable in the context of the model from Chapter Two. First, the reengineering of large-scale processes (which immediately affects a small number of people and has a positive environmental impact; see Figure 2 in Chapter Two) necessary to green the energy infrastructure of Tulane is underway. Second, the University has not initiated the diffuse efforts of education and implementation of specific policies (which affect a large number of people in a small way and has a positive environmental impact; see Figure 2 in Chapter Two). As a result, the energy conservation plan, while making some progress, does not have the positive benefits that it could have. Tulane needs to educate the campus and institute comprehensive measurement initiatives in addition to continued retrofits and research into savings potentials. Program suggestions include a competition between dormitories (on energy savings per capita) or a week when resident advisors randomly stop by residents’ rooms to see what kind of energy savings they are employing (such as day-lighting, not having their air conditioning on while the windows are open, not running the television and radio at the same time, etc.).
Numerous characteristics of successful energy conservation initiatives at other institutions support the model: an institutionalized leader, involving faculty and students (in research and implementation), advocacy, educating the campus community, the need for seed monies to start projects (and paying for the projects with savings, or appropriate allocation or resources), community involvement (competitions and building conservation contacts) and changing of both large (infrastructure) and small (building scheduling) processes. Finally, innovation in energy infrastructure will insure that the programs continually improve.

**Water.**

*At Tulane*

Water use at Tulane earned a “C” in the *Gradescard*. Conservation by students and by facilities is minimal. Low-flow devices have been installed only in recently constructed buildings. The Grounds Department occasionally waters campus grounds at mid-day, when evaporation is at its peak. Finally, excessive water use in New Orleans has a large environmental impact because of the energy and mineral inputs required by the City of New Orleans to clean Mississippi River water. Suggestions for decreasing overall Tulane water use include changing watering times by the Grounds Department, retrofitting with low-flow devices and education.

**Innovative Approaches to Campus Water Use**

To address water consumption, numerous institutions have developed successful and innovative programs. At the New College of the University of South Florida in 1990, as part of an overall energy efficiency study, students, staff and faculty prepared a plan that outlined three water conservation measures: changing shower heads, toilets and faucets. The total cost to retrofit came to $7,230 with annual savings expected to be $17,469 and nearly 4 million gallons of water (equivalent to approximately 87 pools). The payback time was about five months. A similar venture at Brown University addressed only showerheads. With a savings of approximately 12,609,324 gallons of water annually (which Brown did not have to purchase, heat or pay for sewage costs), the program resulted in an annual savings of $45,800, paying for itself in only four months.

Since 1977, California State University, Northridge, (CSUN) has pursued water conservation measures. Since the base year of 1986, CSUN has reduced water consumption 24 percent. Measures in place for water conservation include low-flow devices on all showers, flush valves and faucets; a reduction and change in irrigation schedules; using reclaimed water for landscaping; public education; and halting the washing of University vehicles. CSUN continually improves water conservation measures by replacing obsolete and malfunctioning systems. Columbia University started its water conservation program in 1996, and since then has cut its water use by 25-30 percent while saving over 59 million gallons of water. Columbia contracted the work to an energy services firm (in fact, the program was so successful that future energy conservation projects are now affordable); the pre- and post-retrofit data were tracked in detail. Toilets, showerheads and faucet aerators were the primary goals of the renovation, with cooling water and water-pressurization pumps as secondary targets. The annual cost savings amounted to $235,000, and the payback period (with rebates from the city of New York) was only 1.8 years.

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Pennsylvania State University, University Park, every day prevents 3.5 to 4 million gallons of wastewater from being discharged into streams that feed the Chesapeake Bay. An on-campus sewage treatment plant treats wastewater from the campus and some surrounding areas. The water is then piped three to four miles to irrigate University agriculture land. The water is treated again by filtration through the ground, where it eventually returns to underground aquifers.\textsuperscript{86} Birmingham-Southern College’s Watershed Restoration Program focuses on a nearby creek that was once a source of drinking water but is now contaminated. The Program works with and educates local communities and industries to prevent further pollution of the creek and to promote its clean-up.\textsuperscript{87} At Seattle University, students learn where their water sources and sinks are (nearby mountains and rivers), and that knowledge inspires a conservation ethic.\textsuperscript{88}

\textit{Summary}

Water conservation at Tulane is minimal. Changes in processes that affect a few people but have a large positive impact need to be made, and education is necessary. Other institutions that have had success addressing water conservation programs reaffirm the model of Chapter Two: including a broad array of the campus community, education, information gathering and policy. The projects used short payback times to justify the capital outlay of such programs. Additionally, the conservation measures demonstrate infrastructure reengineering that directly affects a small number of people but has a large environmental impact, supporting Figure 2 of Chapter Two. A program similar to the Watershed Restoration Program at Birmingham-Southern, coupled with addressing immediate campus issues, would be appropriate for Tulane due to our location near the mouth of the Mississippi River, which is the backbone of a watershed upon which a large percentage of America depends.\textsuperscript{89} Suggestions for other water conservation initiatives include installing low-flow devices, increasing education, developing innovative programming and competitions (similar to that of energy conservation), starting measurement systems and changing the watering habits of the Grounds Department (such as watering in the evenings and early mornings, using drip watering systems and eliminating wasteful sprinkler systems that water sidewalks and passersby instead of laws and flowers.)

\textit{Food.}\textsuperscript{90}

\textit{At Tulane}

Tulane has two primary dining facilities on campus: Bruff Commons, the cafeteria for students on the board plan, and the University Center (UC), the “fast food” dining area. Both operations are contracted to Marriott Food Services. The UC operation received a grade of “C+” and

\textsuperscript{87} Keniry (1995), 199.
\textsuperscript{88} Personal communication with Trileigh Stroh (7/22/98).
\textsuperscript{89} Orr (1994a, p. 59; see also p. 96 and 1994b pp. 45-6) suggests that institutions of higher education adopt watersheds and prioritize that watershed’s health along with the prioritization of funding “campaigns to build new administration buildings or athletic facilities.” Orr (1994a, pp. 147-8) also advocates a sense of place for students while in college so that the community is healthier; one way to do that at Tulane is around the theme of New Orleans and the Mississippi River.
\textsuperscript{90} Food services at Tulane are a major issue; students are constantly complaining about them. In the fall of 1997, the Green Club performed a waste audit and found that students waste approximately 1/4 pound of food (not scraps, but uneaten food) per plate in the University cafeteria. Students complained that if the food were better they would not waste it; the campus must be educated, then, to not take so much food if they are worried about its quality. By showing students what they waste, they are more likely to not waste. (Traicoff, 1998.)
Bruff received a “B-”. For both operations no organics are used, purchasing efforts do not focus on local produce or goods and there are few vegetarian options. At the UC, food is cooked in small batches, and thus, waste is minimal. Large amounts of waste, however, are generated at the UC because of non-bulk items, food packaging, styrofoam, plastic dinnerware, paper cups and paper bags. Efforts are being made to reduce disposable use (through a reusable mug campaign sponsored by the Green Club), and Marriott has been cooperative, but the venture has been only moderately successful. Bruff makes a considerable effort to minimize waste, both by reusing some leftover food, purchasing in bulk and not using disposables. The audit team suggested that both operations could donate leftover food to local homeless shelters and improve recycling. Marriott claims they would use a composting system if it were available.

Efforts to Minimize Adverse Environmental Impacts of Food Services

In 1986, students and administrators at Hendrix College studied campus food sources to try and provide healthier and sustainably produced food. The “Local Foods Project” analyzed the sources, distribution and preparation of food served in the school dining hall. Approximately 95% of the food came from out of state, even though agriculture is an important part of the economy of Arkansas. The College changed purchasing and operations to incorporate locally and organically grown food, thus reducing adverse environmental impacts of pesticide and fertilizer use and transportation externalities (such as CO2 emissions). Additionally, local purchasing fueled the local economies and ensured fresh products. A variety of issues arise in such a project which need to be examined by students, staff, dining services personnel and members from the community. First is identifying certified local farmers / suppliers that can provide safe and quality food. Support and approval from the cooks is important, and their involvement is crucial. Second, deliveries and payment procedures may need to be adjusted for dealing with smaller operations, and increased cost is a primary obstacle to overcome. By reducing costs in other environmentally friendly ways, such as composting, recycling and waste minimization, the increased cost of organics can be absorbed, especially if organics are offered as a supplement to regular dining options. What might be a small increase in costs for the food services operation can be a significant improvement for local food suppliers. Other issues include aesthetics, uniformity and taste of organic foods. At Bates College in Maine, cooks and students have found the aesthetics and taste of local organics to be better, and uniformity has not been an issue.

Numerous institutions have led successful composting and waste minimization programs. The National Association of College and University Food Services (NACUFS) offers regional conferences on waste reduction and other environmental initiatives. A number of these conferences have been held at Tufts University in Boston. Also in Boston, Harvard has developed a unique Environmental Coordinator for a Dining Services position as a result of the involvement of NACUFS in the New

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91 In the past year, Marriott has improved vegetarian options at Bruff.

92 This is evident because the numerous trash cans on each side of the UC are always overflowing with styrofoam containers and paper cups, resulting in a malodorous eyesore.

93 In a memorandum (6/20/97) in response to the Gradecard, Marriott manager Dionne Picard noted that they have had many logistical problems with the Recycling Program that have hampered their involvement with recycling, that they try not to have enough leftovers to have to donate them but if they do then they are donated, and that they are concerned with making a large investment on washable dishware because of theft. Additionally, Kristin Traicoff and I presented a proposal for composting to Marriott that has received some attention but no action; the Grounds Department and Physical Plant was the inhibiting factor, but the proposal has not been abandoned by any of the involved parties.


England region. The position coordinates student volunteers, dining service staff and consultants in energy efficiency, waste reduction and other cost-saving programs with regards to food services. A variety of labor pools can support new programs within food services operations: dining services personnel, recycling personnel and volunteers.

To address leftover food, the University of North Carolina, Chapel Hill and Charlotte; Birmingham-Southern College; Carnegie Mellon University; the University of Pennsylvania; and Harvard University all donate leftovers to various organizations. Two significant barriers to donating food are lack of staff to coordinate the donations and regulations against food donating. To address lack of staff, UNC, Charlotte uses community service volunteers from the University’s honors program. When confronted with laws prohibiting food donation, students at the University of Pennsylvania lobbied the state legislature for proper laws. In North Carolina, legislation protects food donors from potential damages caused by the donated food.

Composting is the primary method of addressing pre-consumer organic waste. Ease of collection is important, and at Bates College this is addressed with compostable bags and at Dartmouth with “compostainers” – recycling bins designated for compostables. In 1992, Dartmouth saved $1,712 in landfill costs and $9,702 in fertilizers in eight months by composting food waste, and to date, such savings ($10,000 in an eight month period) are still the norm. (These figures do not include the associated savings from less water and electricity use in garbage disposals). Post-consumer organic food waste is more difficult to address. Some schools send waste to pig farms, others pulp the waste in large garbage disposals which eliminate water and thus decrease disposal costs by reducing weight and volume (and the disposals may render the waste compostable).

Reducing non-organic waste, such as disposable cups, napkins, utensils and containers, is another way to minimize waste from food services. At Tufts, napkins are located in a central area to reduce the number used, and the University of Richmond uses signs to educate students on reducing napkin use. Reusable mug campaigns address the use of disposable cups. The University of Wisconsin, Madison, was the first campus to start a reusable mug campaign in 1984, and years of tracking data show that they enjoy a cost savings / revenue of $11,400 annually. At the University of Richmond, food services staff are provided with mugs and places to keep them at work, so they lead by example. After introducing reusable mug campaigns, disposable cup usage reduced by 16% at Bowling Green State and 30% at the University of Colorado, Boulder. Dartmouth, Harvard, Bowling Green and Portland public schools have switched to washable dishware (trays, dishes and cups) and all have realized savings when factoring in savings from disposal costs. (For example, Harvard replaced disposable cups with durable plastic ones and recognized an annual cost savings of $186,500. Theft of dishware is a problem that UW-Madison addressed by allowing students to take the dishes and providing return trays in the residence halls. Combined with the ugliness of the containers, theft was greatly diminished. Finally, purchasing in bulk reduces the need for food packaging, which can account for up to 50% of food services waste.

Summary

At Tulane, food service procedures must be reengineered to improve environmental performance. Other institutions have demonstrated the necessary steps: having a leader to implement

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96 Ibid., p. 101.
change; changing processes that affect only a few people but have a positive environmental impact (see Figure 2, Chapter Two); involving students, staff and the community; justifying changes with innovative funding and accounting procedures; making processes convenient; leading by example; and implementing education. For Tulane, the two primary steps are educating the students (with signs, programs and incentives) and changing food services processes; the latter can be accomplished by facilitating recycling, instituting a tray-rack system (instead of allowing students to dispose of their waste and subsequently china and silverware), allowing reusable use instead of all disposables, and researching ways to maintain or improve present services. To address process alterations, the Green Club suggested that Marriott purchase a resource addressing environmental concerns in food service operations.\textsuperscript{101} Unfortunately, no progress has been made in the year since Marriott purchased the book,\textsuperscript{102} but the Green Club plans to focus on dining service issues in the 1998-99 academic year.

**Recycling.**

*At Tulane*

Tulane received three grades for recycling in the *Gradecard*: a “B” for academic buildings, a “C” for dormitories, and an “F” for campus grounds. Academic buildings have paper recycling in place, but more bins and better collection schedules are needed. Additionally, recyclables other than paper need to be collected. Dormitory recycling began in 1996, but the issues of contamination, proper identification and placement of bins, and community education need to be addressed. Recycling on campus grounds is nearly non-existent. The audit concludes that recycling should be easy and accessible and that many efforts – especially education – are needed to make recycling successful at Tulane. The report calls for reducing the amount of waste produced by 40% by the year 2000.\textsuperscript{103}

**Leaders in Campus Recycling**

The University of Colorado - Boulder,\textsuperscript{104} boasts one of the first and best recycling programs in the country. They started their operations in 1976, and the Student Union oversees the recycling services director, students and community service volunteers. Sixty percent of the campus community regularly participates in recycling, and the recycling program collects and separates recyclables from all campus buildings. Since 1980, when records began, the program has diverted nearly 10,000 tons of materials, made $505,000 in revenue and has saved around $150,000 in disposal costs; annual revenue and cost savings are $107,000, not including the mandatory student recycling fee of $1.50,

\textsuperscript{101} Mason and Shanklin (1996).

\textsuperscript{102} In an interview for Chapter Five of this study, Marriott manager Dionne Picard stated that she needed someone with expertise to assist her with reengineering processes; passive assistance from a book is not enough. An “environmental coordinator” would be in an ideal situation to assist Marriott.

\textsuperscript{103} Recently, many improvements have been made to the overall recycling program: dormitory recycling is cleaner and more successful and bins for aluminum cans are increasing in numbers in academic buildings and especially on campus grounds, thanks to grants from the Dean of the Liberal Arts and Sciences, the Tulane Associated Student Body and fundraising from the Green Club in 1998. In 1997, Alicia Lyttle and I earned grants to do follow-up research in the months after the original environmental audit was performed. We compiled comprehensive data and suggestions for recycling (see Appendix A). Also, Recycling instituted a student coordinator position in the fall of 1997, and a successful regional recycling conference (spring of 1998) sparked the interest and dedication of administrators that lead to improvements. The loss of the Recycling Center to parking raised campus concerns about the future of the Recycling Program (i.e., if it was to be cut entirely, as had been threatened in the past), and the administration responded by improving the present program and promising space for a new center (that new space, however, will not be available until the fall of 1999, and the interim space is very inconvenient). Finally, successful meetings involving various participants from the University community and beyond have been responsible for improvements. (See also Chapter Three.)

which has helped the program through periods of low market prices. The program donates used textbooks to libraries in developing countries, in addition to the regular materials recycling. It is supported by newspaper articles, press releases, public service announcements, audio-visual materials and orientation for incoming students; education on waste reduction; and by encouraging use of e-mail, double-sided copying and recycled product use. Student (graduate and undergraduate) interns and workers assist with all facets of the program, including education, outreach, research, materials collection and marketing.

At Harvard, Dining Services recognizes savings in tipping fee avoidance from increased recycling; costs for trash disposal has dropped 20 percent while tipping fees have increased 24 percent between 1993 and 1996 in Cambridge, resulting in an annual savings of $79,275. At the University of Wisconsin - Madison switching from a contracted waste management firm for paper recycling to a local vendor saves and earns the University $120,000 annually, and at the same time the program is protected from the highly volatile paper recycling markets. Additionally, at UW-Madison a recycling analysis showed that the aluminum percentage of commingled recyclables was higher than the vendors expected; as a result, the price paid for the materials to the University increased by nearly $2,000 per month. The analysis cost only $1,000, and the University is realizing an annual savings / revenue of $2,100.

In addition to the UC-Boulder, Harvard and UW-Madison, other universities and colleges, such as Dartmouth, Tufts, and Georgetown, have successful recycling programs. Recycling is often where university environmental initiatives begin. The programs stress involving students and staff; proper training of the collection staff and education of the campus community; effective and efficient collection, processing and marketing of recycled materials; continual program improvement, development, and expansion; and financing, which may come from cost-avoidance, student fees, grants, loans from the university or, least reliably, revenue from selling materials.

Composting and source reduction are intimately involved with recycling. Dartmouth College and Johnson State College have developed successful composting programs. At Dartmouth, the composting program is organized by the institutionalized recycling program, and the program has contributed thousands of dollars in savings to the College every year. At Johnson State, grants helped start the program, and dining services continued to support composting by hiring a work-study student manager. At the University of Colorado, a composting program for landscaping wastes costs almost exactly as much as landfilling the trimmings; the savings is provided by the 50% discount (compared with commercial compost) that the University receives for purchasing finished compost back from the composting facility. Savings amount to $1,300 annually.

Source reduction initiatives (reducing junk mail) have been initiated at Yale University, the University of Arizona, the University of Minnesota and Appalachian State University. Other initiatives include wide-spread use of reusable mugs, mandatory double sided copying, and making note pads out of paper that has been used on one side. At UW Madison, the Solid Waste Alternatives Project (SWAP) is credited with saving / earning the University $241,800 annually. SWAP diverts items such as departmental furniture and computers from the waste stream and sells or donates them to within the University or to the surrounding community. With a staff of six, a computer inventory system and an interactive web site for purchasing equipment, SWAP has become

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106 Ibid., pp. 64-65.
a high-profile success.\textsuperscript{109}

**Summary**

Recycling at Tulane is improving dramatically. While I discussed recycling in more detail in Chapter Three, the basics of its recent success include education, consensus building, empowerment, administrative support, leadership, advocacy and allocation of resources. Other institutions have demonstrated successful recycling programs with initiatives that reiterate the model from Chapter Two: having and institutionally support program with staff and / or student leaders, education, campus community involvement, policies, continual improvement, resources, and changing procedures and behaviors with innovative initiatives.

Recycling programs are the most popular campus greening projects, and 80\% of colleges and universities have programs, which students usually start and then institutionalize.\textsuperscript{110} Recycling is an integral way to raise cognizance of campus greening issues and make a positive community impact.\textsuperscript{111} Combined with waste reduction and internet technology, it is economically beneficial for Tulane (see Appendix A), and even without those two additional programs and their added economic benefits, Tulane Recycling results in financial savings and community benefits. While much is being done to make campus recycling easier, waste reduction and reuse programs are the next step. Waste reduction initiatives could involve all student organizations by improving campus advertising,\textsuperscript{112} while paperless internet approaches to forms (for students and employees) could dramatically increase efficiency, reduce waste and produce savings for the University.

**Procurement.**

**At Tulane**

Tulane received two grades under “Procurement” in the *Gradecard*: a “B” for paper and an “F” for cleaners and pesticides. The audit reported that about half of the paper Tulane purchased is made with post-consumer recycled paper even though it is more expensive than virgin paper.\textsuperscript{113} Most copiers have two-sided capacity, but it is not widely used.\textsuperscript{114} The copy centers on campus do not have recycled paper policies and complain that the recycled paper jams their machines. There is no effort


\textsuperscript{110} Strauss (1996, p. 38) reports the National Wildlife Federation Campus Ecology Program distributes approximately 100 information packets on the “Four R’s” (Reduce, Reuse, Repair, Recycle) for every 50 on environmental justice and for every 10 on tree planting. Mansfield (1998) reports the 80\% figure, although he does not provide a source in his text.

\textsuperscript{111} Ackerman (1997).

\textsuperscript{112} Students at the State University of New York - Stony Brook have taken to removing corporate (non-university) advertisements to make space for campus advertisements. The result was a decrease in the amount of advertising student groups had to do because their ads were more visible. (Hale, 1998.) At Tulane, a similar venture should be done, but in cooperation with the Associated Student Body. Also, some bulletin boards and kiosks should be removed because they are usually an eye-sore and the outdoor ones create litter after storms or because of vandalism.

\textsuperscript{113} ENN (1998d) reports that recycled paper and plastics purchases have declined since the early 1990s, despite a federal executive order which mandates that all federal agencies purchase recycled materials. The executive order was supposed to spur the market for recycled products; one reason it did not is lack of compliance. Eagan and Keniry (1998) report that the nearly 4,000 colleges and universities in the United States spend an estimated $186 billion per year; as such, they represent a formidable purchasing power that could help spur recycled material markets. A Tulane study shows that the University encourages over $1 billion in sales from New Orleans area businesses (Office of Government / Agency Affairs and Institutional Program Development).

\textsuperscript{114} For instance, although President Kelly sent out a memorandum in 1992 to the University to used double sided copying, his own office does not do it, as is evident with every mailing that goes out to parents and students from the Office of the President.
Recently, more services (such as personnel services) are provided on the internet, and email use is encouraged. The Physical Plant Grounds Department replied to the audit and stated that they make every effort to use environmentally friendly pesticides. This section of the audit required additional research into Grounds procedures, but the audit team never did it. The audit team concluded that purchasers must put effort into finding new environmentally friendly products. Such effort is lacking, especially in the areas of pesticide and chemicals use.

**Institutions with Environmentally Progressive Procurement Programs**

In 1989, the University of Illinois, Urbana-Champaign (UIUC) expanded their recycling program to develop a procurement policy that read, “the University will purchase products with recycled material content whenever cost, specifications, standards, and availability are comparable to products without recycled content.” The policy sets no price guidelines, and the University occasionally purchases items that are more expensive than non-recycled content products; many products, however, are less expensive, such as paper towels, toilet and facial tissue, table covers, and kitchen wipes. In fact, purchasing re-refined oil in bulk for UIUC’s nearly 1900 vehicles amounts to an annual savings of $3,500, in addition to all the positive environmental benefits. With an annual budget of approximately $2.5 million for paper products, the University is in a position to positively affect the markets for recycled content materials. By 1992, 22% of the University’s purchases (including floor pads, tires, oil, reprocessed chemicals, office supplies and all paper products) contained recycled content. The purchasing office tracks and communicates the progress of the program to all purchasing managers.

Rutgers University began an extensive procurement program, called the “environmental economic” effort, in 1988, as a result of state legislation that required state institutions to purchase recycled goods. Progressive procurement can help reduce waste, insure materials are reusable or recyclable, and help close the loop by creating a demand for recycled and environmentally responsibly produced goods. The Rutgers program returns packaging to suppliers for reuse; includes language for use of recycled materials in construction contracts; works with students, staff and faculty on research programs; identifies appropriate recycled materials for purchase by the University (from plastic lumber to paper); and helps develop innovative programs, such as purchasing recycled paper made directly out of the paper that Rutgers recycled.

Both Rutgers and UIUC actively identified vendors and contractors to further their environmental procurement programs. They held round-table forums with vendors and contacted many by mail and phone to determine contracts and search for specific items not readily available.

At the University of Minnesota, coordinated lab purchasing helps reduce waste and cost, improve recycled materials markets, and increase laboratory safety. Centralized purchasing of laboratory materials increased safety by improving chemical tracking. Costs decreased by sharing materials between labs and requiring smaller purchases of chemicals by combining orders. The Lab Services Coordinator runs the coordinated lab purchasing program and works closely with the Waste

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115 Recently, more services (such as personnel services) are provided on the internet, and email use is encouraged.

116 The Physical Plant Grounds Department replied to the audit and stated that they make every effort to use environmentally friendly pesticides. This section of the audit required additional research into Grounds procedures, but the audit team never did it.

117 Additionally, other items can be earmarked for green purchasing, and again, more research and effort is needed.


Abatement Committee and the Recycling Program (both of which include student and employee involvement) to incorporate waste reduction and recycling initiatives into the University’s 2,000 laboratories.\textsuperscript{121}

**Summary**

Procurement at Tulane is a mixed bag as a result of incomplete and discontinued advocacy in the early 1990s. The only policies that were initiated dealt with recycled paper; thus, even though purchasing at Tulane is largely centralized, few other products are recycled\textsuperscript{122} or environmentally friendly. As the audit team concluded, an active effort is required because departmental and centralized purchasing will not “spontaneously” green itself.

Several initiatives, which support the model from Chapter Two, characterize successful environmental procurement programs at other institutions: policy, which leads to active initiatives by leaders; focusing and coordinating efforts; gathering information and communicating it to a broad array of constituents; round-tables, committees and working with vendors, students, staff and faculty; and the continual improvement and development of innovative programs to address issues that have effects beyond the campus boundaries and into national and international markets for environmental goods. Some suggestions for improvements include purchasing products that produce less waste (or are reusable, fixable or recyclable), including environmental specifications in all purchasing contracts, getting environmental considerations into service contracts (such as using recycled paper / double-sided copying in copiers), and including “recycled content” messages on all University materials, which should, of course, be printed with recycled paper. Studies have shown that Tulane has a significant impact on the local economy,\textsuperscript{123} and by purchasing sustainable goods, Tulane can tip the price scales to favor environmentally responsible products and encourage their use.

**Hazardous Waste.**

**At Tulane**

Tulane received two grades in the “Hazardous Waste” section of the *Gradecard*: an “A-” for policies and a “C-” for compliance with those policies. The audit team found that just because the Office of Environmental Health and Safety has the necessary and required policies for hazardous waste in laboratories and with cleaning and waste products does not mean that employees adhere to those regulations. Policy enforcement is lacking, and the audit team was uncertain about voluntary adherence to the policies. One positive area is in chemistry lab courses, which are using microscale methods to reduce chemicals used and waste produced; but disposal of chemicals down the sink in chemistry labs is common practice.\textsuperscript{124} The audit team concluded that “Tulane needs to start being more accountable for the hazardous wastes produced. . . . [by] reducing use of wastes classified as hazardous [and] keeping strict records on the handling of the waste. . . . [T]hose handling the waste should be better educated on policies (especially teaching assistants in laboratories).”

\textsuperscript{121} Keniry (1995), 11-14.

\textsuperscript{122} For one positive (and personal) example, the office manager of the Music Department (my other department aside from the Environmental Studies Program) recently made the choice to purchase note and message pads out of recycled materials. When I asked her if the decision was her own or the University’s, she said it was her own, that there was no difference in price and she thought I would appreciate it.

\textsuperscript{123} Bacon-Blood (1997). See also footnote 4, Chapter One.

\textsuperscript{124} Washam (1998) reports that new solvents and better reaction methods (\textit{e.g.} using cabbage, water, vinegar and baking soda instead of pure chemicals) are a new and important aspect of greening chemistry laboratories.
Innovative Approaches to Minimizing Hazardous Waste

In the late 1970s, Bowdoin College chemistry professors developed “microscale” techniques for chemistry laboratories. The chemistry laboratories were safer and had better air quality, and students achieved better results faster than with previous methods. Additionally, the cost of purchasing and disposing of chemicals decreased dramatically. In 1985, the chemistry professors published articles and textbooks using microscale techniques, which are now used in over 400 colleges and university organic chemistry laboratories. Undergraduate chemistry labs at the University of Minnesota, which serve about 7,600 students annually, redesigned lab procedures to a combination of tradition and microscale techniques. The volume of waste before conversion was 2,500 gallons annually, and after conversion the volume was only 23 gallons, resulting in a net cost savings of $37,000 annually.

The University of Washington Office of Environmental Health and Safety developed a computer-based chemical inventory and safety information system that facilitates sharing surplus chemicals and the recycling and substitution of hazardous chemicals throughout the campus. The inventory system allows the University to comply with federal regulations and reduces the costs of purchasing and disposing of wastes; savings / revenues from avoided disposal costs and resale of redistilled solvents amount to $14,400 annually. The University provides information on making a laboratory environmentally friendly and helps institute the procedures and provides two full-time staff to facilitate waste minimization. The University of Washington and Notre Dame University charge laboratories for the cost of disposal so that laboratories have an incentive to minimize waste. Many manufacturers require minimum purchases of chemicals, but with cooperative purchasing, excess waste can be avoided.

A 1991 environmental audit and survey by students at the University of the Arts in Philadelphia revealed a lack of safety procedures governing use and disposal of hazardous art supplies. Lack of information, lack of enforcement, poor ventilation, sporadic inspections and lack of convenient safe disposal methods were sited as problems. The students formulated a comprehensive proposal to the University and recommended training seminars and programs on safety issues, inspections, incoming student orientation, increased availability of protective equipment and training for seniors on how to establish an environmentally sound studio after graduation. Finally, the proposal requested that the administration conduct an audit every five years to measure progress and revise the program.

The University of Wisconsin, Madison, is the second largest nonmilitary user of radioactive materials in the country. The Office of Radiation Safety focuses on reducing the volume of hazardous substances used for research, and they encourage training, monitoring and safe disposal of the materials. In 1987, UW-Madison was the first research institution to use biodegradable scintillation fluids instead of hazardous solvents. Switching to safer fluids allows for safer, less costly disposal. The Office involved campus researchers in the process of developing the program, and research grants are required to cover disposal costs if the materials used are more hazardous than the less-hazardous

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127 Ibid., p. 47.
128 Components of a University of Washington Green Laboratory include: safety training; assessing air, water, and solid wastes; purchasing only necessary chemicals and using surplus chemicals whenever possible; reviewing lab inventories for surpluses and possible hazards; keeping caps on containers; being prepared for accidents; treat wastes before disposal to reduce toxicity; and communicate and continually improve their laboratories environmental initiatives.
options the Office provides. Finally, the Office has reduced the amount of radioactive solid waste from 20,000 cubic feet per year to only 70 cubic feet per year, while radioactive materials orders have remained constant. The Office separates radioactive and non-radioactive wastes to help achieve this reduction.\textsuperscript{131}

The Georgetown University landscape superintendent uses integrated pest management principles to maintain campus grounds. Pests, when they appear, are examined for weak points in their life cycle. Instead of using toxic pesticides, landscapers use non-toxic soaps and oils allowing beneficial insects to live. Although they still use herbicides for weeds, they are not blanket spraying and are testing more biodegradable products.\textsuperscript{132} Seattle University and Dartmouth College also employ extensive integrated pest management principles. The programs increase the value of composting programs, increase the satisfaction of the campus community with campus grounds and decrease costs.\textsuperscript{133} For example, Seattle University calculated that it saves $1,300 annually in labor and materials costs from replacing conventional turf with non-traditional ground covers that require less maintenance and no herbicides for weeds.\textsuperscript{134}

\textit{Summary}

Tulane performs poorly regarding hazardous waste because policy \textit{enforcement} is lacking. Other institutions have successfully – and cost-effectively – reduced hazardous waste outputs, and the characteristics of those programs reaffirm elements of the model: having dedicated staff (leaders), involving various parties (e.g., applying faculty research), having policies (or federal regulations) in place, disseminating information, providing education, making it convenient and offering “incentives” (here, penalties for non-compliance and cheaper supplies). Hazardous waste mitigation programs have the benefits of protecting the environment, using fewer resources, increasing safety, increasing the value of other programs (such as composting), positively affecting the attitude of the campus community, and saving money. At Tulane, a scientific research institution that specializes in environmental research, environmental concerns in the laboratories should be an integral part of research facilities. Suggestions for hazardous waste minimization include developing education programs (especially for large laboratory classes, such as introductory chemistry and organic chemistry), providing chemical sharing programs (to reduce waste and save money) and improving enforcement of regulations governing chemical use.

\textbf{Medical Waste.} \textsuperscript{135}

\textit{At Tulane}

Tulane received a “C” in the “Medical Waste” section of the \textit{Gradecard}. Like the “Hazardous Waste” section, good regulations and policies are in place, but the University does not track wastes. Compliance appears to be successful, and workplace safety is good. The waste, however, is incinerated, and there are many reports on the environmental dangers of medical waste incineration.\textsuperscript{136} Thus, the audit team concluded that Tulane must track and analyze the waste produced

\textsuperscript{131} Smith (1993), p. 19.
\textsuperscript{132} Smith (1993), p. 29.
\textsuperscript{133} Keniry (1995), pp. 29-34.
\textsuperscript{134} Eagan and Keniry (1998), pp. 50-1.
\textsuperscript{135} Although the audit focused on Tulane’s Uptown Campus, this section focused on the Downtown Medical Campus, where information was more difficult to obtain.
\textsuperscript{136} For example, Greenpeace (Costner and Thornton, 1990) and Health Care Without Harm (1997) have produced extensive materials on the dangers of hazardous and medical waste incineration, respectively.
to determine where reductions can be made.

**Innovation in Reducing Medical Waste**

The Thomas Jefferson Medical School Hospital reduced their “infectious” waste stream by 25% over three years. After an examination of the waste stream, the Hospital found that much waste in the red infectious waste bags was not infectious. For example, paper, which could be recycled, was disposed in the infectious waste containers. Also, the Hospital is minimizing use of disposable plastic instruments and is switching to reusables.\(^{137}\)

**Summary**

The three primary elements (which support the model for change from Chapter Two) in reducing the risks and costs associated with medical waste are information / data (knowing how much and what is produced), education and changing processes. At Tulane, the merging of the institutional foci of environment and medicine\(^{138}\) has been accomplished in research and education\(^{139}\) and should be done in operations, especially in research lab operations. Programs to minimize waste should be instituted, and additional research into this area is needed.

**Research.**  
**At Tulane**  

The *Gradecard* section on “Research” (which received a grade of “B”) was itself not well researched. It represented a lack of effort on the part of the student(s) involved. The section concluded that much positive environmental research is being done at Tulane, but sources of funding are unknown. The section did not investigate the potential for laboratory research to benefit local environmental initiatives.\(^{140}\)

**Integrating Research and the Environment throughout the University**

The University of California system initiated a state-wide Integrated Pest Management (IPM) Project for the various agricultural commodities throughout the state. The California IPM Project is a national leader in developing economical and environmentally sound pest control alternatives. The Project draws on the expertise of hundreds of scientists in a variety of disciplines, and the research program has funded over 200 projects in 35 different commodities, and it is an extensive research, outreach and educational program that benefits local communities, the state and the world.\(^{141}\)

**Summary**

Environmental research is the cornerstone of Tulane’s environmental image. Like the University of California example, research at Tulane has benefited the local region (most notably, the

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\(^{137}\) Smith (1993), 22.  

\(^{138}\) Tulane was founded as the Medical University of Louisiana in 1834 and today has a large Medical School complex.  

\(^{139}\) The Center for Bioenvironmental Research has numerous environmental health related projects, and the Tulane School of Public Health and Tropical Medicine along with the Medical School offer programs in environmental medicine.  

\(^{140}\) A recent inquiry to the Tulane / Xavier Center for Bioenvironmental Research (CBR) resulted in information on all CBR environmental research, which includes a wide variety of programs, as discussed in Chapter 3. Additionally, various theses and class projects have had environmental foci, and some have involved the local community. Examples include, for theses, a study on a local Superfund site and community, this study and some environmental science studies (no compilation of honors theses exists, but one is scheduled to be prepared); for class projects, Dr. Timmons Roberts’ Environmental Sociology class undertook a study of local environmental attitudes and perceptions, conducted a campus environmental audit, and is scheduled to perform a study on environmental racism, a serious problem in Southeastern Louisiana.  

\(^{141}\) Smith (1993), p. 79.
Mississippi River Basin). Combining research with education is natural; now the University must green the operations of those facilities.

**Investment.**

**At Tulane**

Tulane received three grades under the “Investment” section in the *Gradecard*: a “B-” for business partners, a “D” for donors, and an “F” for the endowment. Some of the businesses and corporations with which Tulane does business have progressive environmental policies, but not all have good records on the environment. Donors to Tulane include some notorious polluters, such as Shell Oil, Freeport McMoRan and Exxon (all of which, this section of the audit concluded, give to improve their environmental image). No social or environmental screenings are considered when investing the more than $400 million in the Tulane endowment. The audit team suggested investing a portion of the endowment in environmentally responsible companies and improving the evaluation of Tulane’s business partners to include environmental performance standards.

**Institutions with Environmentally Progressive Investment Practices**

In 1987, the Board of Directors of the Associated Students UCLA (ASUCLA) at the University of California, Los Angeles, developed a policy that permits anyone in the campus community to scrutinize the companies with whom the ASUCLA (which controls an $80 million per year budget and contracts food services, book stores and other student services) does business. In 1989, the Board of Directors used the policy to stop doing business with General Electric because of that company’s environmental violations, unfavorable labor practices and connections with weapons manufacturing. At Tulane, policies do govern the endowment, but while those policies make the endowment available for scrutiny, they do not establish standards for screening companies in which the University invests. Recently, the administration has shown interest in

While UCLA’s initiative dealt with business partners, Hampshire College addressed their endowment investments. In the late 1970s, students urged the administration to develop a policy on socially responsible investing; they were one of the first institutions to divest from South Africa because of apartheid, and in 1991 they divested from corporations engaged in major weapons manufacturing. The Hampshire College Investment Policy aims to optimize financial return while adhering to stringent ethical and environmental investment criteria. The Committee on Investment Responsibility, comprised of trustees, faculty, students, alumni, and the treasurer, is responsible for monitoring investment activities and making shareholder recommendations to the Board of Trustees. Students at Cornell University recently formed a panel to review the university portfolio, establish guidelines for screening and make the University’s investments more socially responsible; they state that the University must make a public pledge to improving investment practices so that the public is aware of the goals and Cornell adheres to them.

**Summary**

Policies, advocacy, communication and broad involvement are characteristics of successful green business and investment policies. At Tulane, policies do govern the endowment, but while those policies make the endowment available for scrutiny, they do not establish standards for screening companies in which the University invests. Recently, the administration has shown interest in

143 Ibid., p. 89.
144 Benedetto (1998).
attempts to provide endowment and investment screening. These measures are steps towards involving the administration in broader greening initiatives.

**Summary and Conclusions.**

This Chapter first showed the importance of environmental audits, and how they are the starting point for institutional environmental change. Then, examination of each of the areas in the *Gradecard* described potential programs which Tulane could emulate for greening programs; these programs also demonstrated the economic savings to be achieved from greening. Additionally, many of the focus areas reiterated the model from Chapter Two.

How can Tulane learn about greening initiatives from other institutions of higher education and apply them locally? This brief review can only be a beginning; much more focused research on specific issues would be needed, especially on Tulane’s competitor schools. A general conclusion can be drawn, however: institutionalized positions to promote greening are necessary. Occasionally those positions are generalized; more often they are specific; they may be entirely new or be incorporated into existing positions. These factors depend mostly on the size of the institution and the depth of the program or programs to be instituted. (I will continue to develop the position of an “environmental coordinator” in Chapter Six.)

An examination of programs and initiatives at other institutions provides support for the model for change from Chapter Two: leadership, policy, resources, education, and means and ends. Leadership is emphasized the most, while means and ends are the least clear, perhaps because they are specific to each university.

All the core elements of leadership, in addition to others, were reiterated in this chapter: institutionalized leadership; consensus building via outreach, committees and round-tables comprised of a broad array of constituents; communication; innovation and anticipation of change instead of compliance and reaction; education; active, focused and coordinated efforts; empowerment; advocacy; continual improvement; and leading by example.

The core elements of resources reiterated in this chapter are allocation and procurement of resources; having a leader; using audits as information / data; seed monies to start projects; justifying changes with innovative funding and accounting procedures; using short payback times to justify the capital outlay; and providing opportunities and incentives. The element not discussed was the element of power or access to power.

The core elements of policy reiterated in this chapter are non-rhetorical policy; policy enforcement; offering incentives or penalties; having institutional support; communication; and

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145 Cogan (1994) suggested that since, in 1994, students were concerned about environmental investments and administrators were not, changes in investment policies “will be coming soon.” Students are worried first about physical problems (e.g., recycling, acid rain) that they could do something about and see tangible results. Their investment advocacy, for the most part, has been in things like purchasing and energy, but not in endowment holdings. Recent developments at Tulane (most notably a brief memorandum to the Vice President for Finance and Operations on socially and environmentally responsible investing from the Green Club) may reflect increased interest on the part of the students, but administrative action is, in my opinion, unlikely in the near future.

146 This review focused on information primarily from Eagan and Orr (1992), Smith (1993), Keniry (1995), Weinstein (1996), Environmental Studies 50 (1997) and Eagan and Keniry (1998), all of which either have more specific information or have contacts to obtain more specific information. Additionally, I provide an extensive bibliography in addition to the works cited for this study.

147 The administration is more likely to listen to arguments that compare Tulane with competitor schools than with other institutions. The schools were listed earlier in this Chapter; at least two more schools should be examined because of its progressive greening initiatives, its intention to become a leader in the area of environmental responsibility and its location in the South: University of South Carolina, Columbia (see Sturik and Berman, 1997) and Birmingham-Southern College.
education. The area not discussed was justification.

The core elements of means and ends reiterated in this chapter are implementation strategies; having an accessible “green infrastructure”; not have just a green image but have a veritable green core; focusing and coordinating efforts; changing small and large processes; making processes convenient. The areas not discussed were goals (ends) and the rigidity of both means and ends.

Additionally, we saw that some processes that significantly affect a few people must be reengineered, and some processes that insignificantly affect many people must also be reengineered; both reengineerings have positive environmental benefits.

In the next chapter, I will report on a series of interviews in the Tulane community in order to continue to collect more information and ideas, and to continue to support the model for change and the thesis of this study. These interviews are another step towards a consensus for a green Tulane.
CHAPTER FIVE

INTERVIEWS WITH STUDENTS, STAFF, FACULTY AND ADMINISTRATORS:
TOWARDS A CONSENSUS FOR THE BLUEPRINT FOR A GREEN TULANE

How would we like the media to pounce on the hypocrisy of a university receiving millions from the federal government for its various environmental programs while simultaneously reducing its commitment to recycling?
- Carolyn Deliza,\(^1\)
  Newcomb ‘96 and Law ‘99

Introduction.

The ideas for how to go about environmental change at Tulane cannot come from one or even a few individuals. Consensus building that includes constituents from throughout the campus is necessary for identifying the issues facing the campus and for developing the strategies to address those issues.

To begin that consensus building regarding institutional environmental change at Tulane, I conducted twenty-four interviews with various members of the campus community. In this chapter, I first explain the interview process, its design, expectations, and implementation. I then address each of the six interview questions in independent sections. For the most part, I have synthesized the responses into their core elements. In each section, I organize the responses into major conceptual areas. I present the information gathered first and then analyze the responses and present my own arguments.

As David Orr says, “It is always easier to describe a problem than to offer sensible and workable solutions to it.”\(^2\) Much from the previous chapters has described problems, both environmental and institutional. While Chapter Five does provide support for model for change of Chapter Two, it also compiles suggestions for change from the University community. The results of the interviews will help move Tulane towards a platform for institutional environmental change (discussed in Chapter Six).

Background on the Interview Process.

Selection of the Interviewees

Between January and March, 1998, I interviewed twenty-four Tulane affiliates – from the Chairman of the Board and the President to support staff and undergraduate students – for this study and compiled approximately 50 pages of handwritten notes. The interviewees were unevenly distributed between administrators, faculty, staff and students.\(^3\) I chose them based on four criteria. First, most are in positions to either administer greener policies or advocate them. Second, most have extensive experience working at Tulane and understand how the University operates. Third, some have had experiences with other universities and can understand the institutional barriers to change and compare them with the situation at Tulane.\(^4\) And finally, most of them have explicitly expressed an interest in improving and/or assessing the environmental quality of Tulane; they have insights and

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\(^1\) In Allen (1996).


\(^3\) A listing, detailing relative environmental involvement on campus, is provided in Appendix E. I focused on administrators because many of them had been staff or faculty, and a few were even students at Tulane. The break-down is 9 administrators, 6 faculty, 5 staff, and 4 students.

\(^4\) As I will discuss below when reporting on “Question Three,” this assumption was proven incorrect.
observations about greening. Not all of the interviewees were chosen on all of the above criteria; in some cases, only one or two criteria applied. Finally, the small sample size (only 24 out of a University of approximately 17,000 students and employees) is due the amount of work and time involved with each interview; the questioning was in the form of an in-depth in-person interview and not a self-administered survey. With such an interview format, I hoped to glean the key issues and have the interviewees elaborate on and support their arguments.

**Expectations of the Interviews**

The interviews were not designed to be a sociological questionnaire, subject to statistical analysis or rigorous design and implementation (in order to not bias results). Instead, the interviews served to expand upon four areas of interest:

- reflecting on barriers to change in Tulane’s environmental performance,
- beginning the process of building a consensus of what a green Tulane should be,
- establishing concrete steps towards that greener Tulane, and
- determining if it is possible (and appropriate) to green Tulane.

Some statistical data will be provided, however, to illustrate consensus or disagreement on issues because responses to all the questions varied dramatically. This variance, however, is contrasted with many convergences on specific issues, which is especially noteworthy because the interviewees mentioned these issues independently of one another; even a few overlapping issues from different interviewees warrant attention since no individual has all the answers or ideas. Finally, a future statistical survey could be prepared on the basis of these exploratory interviews to substantiate the results. Data collected from such a survey has the potential to be a powerful impetus for change, both in educating respondents, fostering participation and providing more definitive results to convince those in the campus community who work with empirical data in their academic disciplines. The results of these interviews, therefore, provide critical, albeit exploratory, findings.

**The Interview**

First, I gave each interviewee a passage to read which provided background on what a green campus is. Then, for those who were not familiar with my thesis project, I briefly explained that I was doing my honors thesis on greening the campus and was using the interviews to get ideas and start building consensus. I did not explain details of the thesis nor did I outline any of the above expectations. The interviewees, then, were largely unbiased.

The length of the interviews varied from fifteen minutes to over an hour, depending primarily on what and how much the interviewee had to say. I always attempted to have interviewees clarify and support their statements with examples (hypothetical or actual). I also tried to have them

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5 This goal relates to Question One. (See Chapter Two.)
6 This goal relates to Questions Two and Three.
7 This goal relates to Questions Four and Five.
8 This goal relates to Question Six.
9 Graphs of the statistical data are provided in Appendix E.
10 See Appendix E for the complete passage, which came slightly altered (due to revisions after the interviews) from Chapter One of this study.
11 Unfortunately, this was not always the case. For example, I had conversations with some of the interviewees prior to my formal interview with them, and in a few cases we discussed some of the elements of the present thesis for this report. For example, I discussed the idea of having an “environmental coordinator” with Alicia Lyttle, Yvette Jones, and Dr. Martha Gilliland months prior to the interviews. Such cases, however, were the exception rather than the rule.
summarize statements for certain questions. Many of the interviews turned more to discussions, with the interviewees asking me questions; I used these situations constructively to further examine issues.

I asked six primary questions:

1. What are the obstacles to greening Tulane from your standpoint (as an administrator, student, staff or faculty member), and are there elements that are social, cultural, bureaucratic, institutional, financial or anything else?
2. What are some of the most important elements of a green Tulane?
3. If you have been affiliated with another university, how does Tulane compare in both obstacles to greening and in relative greenness?
4. Address this question from the standpoint of each tier: What is the role of students, staff, faculty and administrators in the greening process, and how can it be improved or better tapped?
5. What could your role be in helping to green Tulane?
6. Is it possible to truly green Tulane? Can Tulane live up to its core values and “walk the talk” on both an institutional (i.e., academia) and campus community level?

Other questions (in direct relation to one of the above questions) arose with some interviewees; the information from those questions will be discussed with the primary question in the sections below. Finally, responses to one question often overlapped with previous questions in the interview. Such overlap usually clarified or elaborated upon previous responses, and these themes will be evident in the following sections.

“**What are the obstacles to greening Tulane from your standpoint (as an administrator, student, staff or faculty member), and are there elements that are social, cultural, bureaucratic, institutional, financial or anything else?**”

Rutgers Professor of Philosophy Bruce Wilshire says: “**Entrenched inertia blocks any coordinated efforts within universities to reassess their current role in the stream of history.**” But he never defines “entrenched inertia.” Many people make the blanket observation that “institutional inertia” is a barrier to change of any kind in an institution of higher education. The goal of Question One is to identify specific barriers to change – not provide more generalized statements such as Wilshire’s. The responses to Question One were the most diverse (and will warrant the most attention) of the six. With the first two interviewees, the question was actually two questions consisting of the first part (obstacles) and the second part (elements) of Question One. After slow starts to the interviews, however, I combined the two questions to encourage the interviewees to broaden their thinking and subsequent responses. The responses are grouped into four categories: institutional / organizational, financial, cultural and educational.

**Institutional / Organizational**

All of the 24 interviewees mentioned organizational / institutional issues as a barrier to greening. Such responses consist of the following issues: bureaucracy of the University, communication, and institutionalized mechanisms for greening advocacy and policy.

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12 For example, in Question One, some interviewees discussed at length how local New Orleanian members of the Tulane community had little perspective on environmental issues and that those from other parts of the country were more educated on environmental issues. In summarizing such a statement or discussion, I would ask if the interviewees believed that their statement constituted a cultural barrier or else to further simplify their response in such a manner.

Six interviewees\textsuperscript{14} mentioned the bureaucracy of the University in two differing regards: the bureaucracy caused no barriers or that bureaucratic elements are barriers to greening. Two claim that the bureaucracy of the institution is not to blame, and four claim that the administration is ensconced in a bureaucracy that slows and inhibits change.

Nine interviewees\textsuperscript{15} mentioned communication issues as a barrier to greening. Communication issues include lack of communication on environmental issues, lack of opportunity for communication, confusion of the lines of communication by those trying to communicate, lack of encouragement of environmental issues\textsuperscript{16} and lack of coordination of efforts. President Kelly claims that he is and has been willing to undertake environmental initiatives, if he is informed of the issues and offered suggestions for change. He says that he has not been approached with such issues since the Tulane Environmental Project reported to him in the early 1990s.

Blaming “the bureaucracy” is not a substantive or convincing argument. Focused arguments (such as the lack of communication and institutional mechanisms) are more substantial and elucidate the underlying organizational barriers to greening. If bureaucratic channels and paperwork are at fault, then having a dedicated lobbyist for environmental change issues is the modus with which to address it. I would like to briefly explore two attempts at improving communication. The first is in regards to President Kelly’s comment that if he is approached with suggestions, he will implement them. Unfortunately, such is not the case; even he has failed to communicate the issues to the appropriate parties in the past.\textsuperscript{17} Secondly, to improve and facilitate communication between administrators, faculty, staff and students, the Green Club established two environmental e-mail listservers, one for all parties and one for faculty and staff. Approximately three faculty use the faculty and staff list, and the Green Club and those same faculty use the all-party list. Even given the forum for extensive communication, many parties do not want to be on the lists (despite the low volume of mail), and they do not use the lists to their full capacity.\textsuperscript{18}

So if communication between the campus environmental community is difficult, how then can communication between the environmental community and the rest of campus take place? As the following information will show, over half of the interviewees suggested that lack of advocacy for the greening issues was a barrier to institutional environmental change. The mechanism to facilitate that advocacy to promote change is an institutional “environmental coordinator” position. The duties of that position must include the facilitation of the needed communication, both within the environmental community and the entire campus community.

Numerous interviewees mentioned institutional mechanisms for greening. The issues include lack of advocacy and actual mechanisms, and policies.

Thirteen interviewees\textsuperscript{19} mentioned that lack of advocacy was a barrier to greening. Issues for the advocacy of greening include the necessity for the following:

\begin{itemize}
  \item a continual push for greening (especially from students) because other parties are continually
\end{itemize}

\textsuperscript{14} 2 faculty, 2 staff and 2 students
\textsuperscript{15} 4 administrators, 2 faculty, 1 staff and 2 students
\textsuperscript{16} Lack of encouragement can also be considered an educational issue.
\textsuperscript{17} Alicia Lyttle and I personally presented Dr. Kelly with over 500 signatures on a petition that called for better recycling facilities on campus grounds (specifically, providing recycling containers across the campus). He said that we did not need to do much work gathering the signatures and that simply explaining the issue to him would have been enough. He said that he would ask Yvette Jones, the Vice President for Finance and Operations, to procure more recycling bins for the campus. No bins were ever purchased, and Yvette Jones was never given any such order. (Personal communication with Yvette Jones, 2/5/98.)
\textsuperscript{18} I am the administrator of these email lists.
\textsuperscript{19} 4 administrators, 5 faculty, 1 staff and 3 students
Yvette Jones posits that it is not a lack of interest in environmental issues that is inhibiting environmental change but that it is a lack of prioritization of environmental issues,20

- advocacy from a broad constituency,
- strong leadership from the administration (specifically the President),
- an administrative commitment,
- administrative vision, and
- continual follow through on environmental initiatives.

The only distinct mechanism cited for addressing these institutional / organizational issues was to have an institutionalized position to address and advocate greening issues – i.e., an “environmental coordinator.”

Finally, only two interviewees21 mentioned lack of environmental policy as a barrier to greening. One administrator, Vice President for Finance and Operations Yvette Jones, believes that if environmental policies were in place, she could make decisions about University financial and operational issues that incorporate environmental concerns. While interviewees did not overwhelmingly cite lack of policy as a “barrier to greening” in Question One, Questions Two, Four and Five will demonstrate that it is an issue that must be addressed.

Financial

Sixteen interviewees22 mentioned financial issues in response to Question One. Not all are in agreement, however, that financial issues are an obstacle to greening. Ten believe that financial issues directly impede environmental change while three (all staff) believe that financial issues are not barriers to greening. Two administrators mentioned that financial issues are both barriers and harbingers for change (for example, energy efficiency saves money despite the initial capital outlay). Four23 believe that more research should be done on potential financial savings with a greening agenda. Many interviewees alluded to or directly mentioned competition with other departments and agendas for resources as a barrier.

Finally, five interviewees24 mentioned that funding is widely available for environmental research but not for environmental “housekeeping” issues, and that the University has actively pursued environmental research because of the financial incentives. Two mentioned that since much funding for the University comes from Louisiana industries (not known as being environmentally conscious), the University in turn has difficulties being green – i.e., “non-green money” results in “non-green practices.” Thus, funding barriers are linked with cultural barriers, which are discussed below.

Two sources prove that environmental responsibility saves money. First, data provided in Chapter Four and Appendix D show the results from the National Wildlife Federation’s Campus Ecology program’s research25 into the issue of financial barriers to environmental change; the report, Green Investment, Green Return, concluded that greening the campus saves money. Environmental improvements tracked at twenty-three campus conservation projects across the country totaled a

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20 Yvette Jones posits that it is not a lack of interest in environmental issues that is inhibiting environmental change but that it is a lack of prioritization of environmental issues.

21 1 administrator and 1 student

22 6 administrators, 3 faculty, 5 staff and 2 students. It is interesting to note that two of the three administrators who did not mention financial issues were President Kelly and Chairman Weinmann.

23 1 administrator, 2 faculty and 1 staff

24 2 administrators and 3 faculty

savings of $16,755, 500 in just one year. The projects included transportation, energy and water conservation, materials re-use and re-distribution, composting, recycling, and management of hazardous chemicals. The fifteen public and private universities varied in size from a few thousand to 40,000 students. Savings ranged from approximately $1,000 to $9 million per year per project. The positive environmental impacts of the projects – and the financial benefits – multiplied at even a modest rate throughout all the institutions of higher education in the country amount to a staggering savings. An institutionalized office responsible for such measures would be able to implement and track such programs to justify and improve the environmental quality at Tulane. Second, *Marketplace* radio reported that people who are economically frugal at home are likely to be just as frugal at work and that using less saves money. Using fewer resources and supplies also benefits the environment. Environmentalism (i.e., greening the campus) is about conservation and responsibility, not waste and irresponsibility.

Blaming financial constraints is an often cited reason for not undertaking change. With the prospect of institutional environmental change at Tulane, the situation is no different. I suggest, however, that “financial barriers” – like “the bureaucracy” – are an excuse. *The real issue is the lack of dedication and allocation of resources*. An institutionalized “environmental coordinator” should lobby for and procure such resources.

**Cultural**

Sixteen interviewees mentioned cultural issues as a barrier to greening. Cultural issues include student apathy, the culture of the campus, and the culture of the South (New Orleans, Louisiana, and the southern United States).

Eight interviewees addressed the issue of student apathy. Three students believe that students do not prioritize environmental concerns and that the students are, in general, apathetic and concerned more about partying. One student commented that students are not apathetic but just too busy: lack of time to commit to environmental concerns (such as recycling) and activist issues is the reason for low student involvement with greening issues. The four non-students all believe that the “party culture” (or “Mardi Gras mentality”) of the University and New Orleans breaks students of good habits shortly after their arrival at Tulane.

The administrators, staff and faculty who addressed cultural issues discussed two issues broadly: the composition of the campus community and the University’s location in the United States. The staff of the University are comprised primarily of local New Orleanians. Interviewees claim that the terrible environmental state of New Orleans (be it trash on the streets during Mardi Gras or the pollution from the local industrial corridor) affects the denizens of the city and causes them to not be concerned with or cognizant of environmental issues. The fact that the environmentally hazardous petrochemical industry has a long history in southern Louisiana adds to that mentality, which is often

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27 See also De Young (1986).
28 See Chapter Two.
30 2 administrators, 1 faculty, 1 staff and 4 students
31 *Times Picayune, The* (1998) reports that oil companies (and subsequently energy and petrochemical industries) are some of the best performing (financially) industries in Louisiana.
described as “backwards.”

Finally, a few interviewees raised one smaller issue about campus culture: breaking old habits. Many people are reluctant to change their ways. For example, when parking on campus has become restricted due to increasing campus population and decreasing space because of construction, the campus community has been unwilling to change: they did not want to carpool or use public transportation and instead wanted the University to find more parking spaces so they could continue to drive individually to campus. The community did not care to address the increased expense to provide more parking spaces (which can run between $8,000 and $25,000 each), nor did they care to address the environmental and financial benefits of carpooling and other alternatives to individual transit.

I posit that most – if not all – of the supposed cultural barriers are simply from lack of education. Some of those with whom I have spoken believe that the cultural barriers are insurmountable. I recognize the difficulty in overcoming them, but I believe that they can be overcome with persistence, education and the ability to show positive results from greening initiatives. Thus, as many of the interviewees mentioned, education is an important element of environmental institutional change, and the lack of education on basic greening issues has been a barrier.

Education

Thirteen interviewees mentioned lack of education on campus environmental issues as a major barrier for greening the campus. Suggestions for improving / providing environmental education included:

- incorporating environmental issues in employee training and student orientation,
- providing an environmental manual (akin to a hurricane preparation manual),
- short workshops and non-academic classes on greening issues,

32 Louisiana State Senator Melvin “Kip” Holden of Baton Rouge maintains that the state of the environment in Louisiana is so degraded and unprotected because of the backwards mentality of the legislators as a direct result of the influence of the petrochemical industries. (Personal communication, 3/20/98.)

33 See also the section on “Colleges that Make a Difference” in Appendix E and related information in the discussion on Question Three in this Chapter.

34 Eagan and Keniry (1998). Data is not available for Tulane’s exact cost for new spaces, but construction of the Diboll Parking Garage (built in 1993) cost $7,000 per space, and Loyola University’s parking garage (built in 1997, next door to Tulane) ran $10,000 per space. (Personal communication, Tulane Office of the Senior Vice-President for Operations and CFO, 5/12/98).

35 This example results from discussions with Yvette Jones who has seen the campus through two severe parking crises.

36 Explorations of such cultural barriers to greening would constitute an entire thesis in and of itself. Thus, I have only perfunctorily discussed the interview results. Rob Gogan of Harvard University (personal communication, 2/9/98) posits that universities are conservative (because they are repositories of knowledge) and elitist (because “they demand excellence and keep score”). He also says that local knowledge is not appreciated; for example, a botanist may “just love that charming grounds keeper with the regional twang and the salty vocabulary, but they are less likely to respect the wisdom of his accumulated experience working with the campus ecosystem through the years than a controlled experiment published in a peer reviewed journal.”

Additional research would be necessary to address this cultural issue, and Bowers (1997) would make an excellent starting point for such an examination; he says that he wrote his book with “a deep awareness of the complexity and slowness of the process of cultural change, and of the educational establishment’s record of lagging behind the other sectors of society when it comes to adjusting fundamental changes related to moral and social justice issues” (p. viii). Additionally, Starik and Berman (1997) address tangentially the issue of cultural change in their study.

37 4 administrators, 3 faculty, 4 staff, and 2 students
• providing continual follow-up on environmental issues in employee and student publications and dedicated environmental newsletters, and
• prominently displaying and communicating environmental goals and achievements.

Finally, many interviewees mentioned that making recycling (or any other greening endeavor) easy and convenient would improve the success of the Recycling Program and serve to educate the campus on other greening issues.

Educational issues have been at the core of the barriers to change: be it finding out with whom to communicate, learning that greening saves money, learning about the basics of recycling or other community environmental issues, education is at the heart of the issue. It connects all the barriers with a common thread – actually, it is the lack of that common thread of education that has hindered environmental change, especially with regards to campus decision makers.\(^{38}\) Education is needed, and an educator – an “environmental coordinator” – is the primary, though not the only,\(^ {39}\) modus for that education.

Summary

Although other authors have posited barriers to change,\(^{40}\) the primary barriers to change at Tulane as outlined in the interviews are:

• institutional / organizational – lack of communication, lack of advocacy and the lack of a leader / fixer;
• financial – lack of allocation of resources, not simply “financial”;
• cultural – amounts to a lack of education; and
• educational – lack of a modus for education.

To address these barriers, an institutionalized mechanism – an “environmental coordinator” – is needed. Although the lack of environmental policies was not highlighted, this issue will return in Questions Two, Four and Five.

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\(^{38}\) Supporting the above claim, David Orr (1994a, p. 172) says that “The reeducation of teachers, administrators, and boards of trustees must be a high priority.”

\(^{39}\) For example, students and departmental liaisons could also disseminate much environmental education.

\(^{40}\) A few authors have provided some of their own perceived barriers to change. Obstacles to creating more sustainable government systems in Montana include: unfamiliarity with policies, mistrust of officials, lack of sufficient resources, and ostentatious power displays (Mitchell and Calder 1998). In academic institutions, the culture of consensus decision-making is an obstacle, as is the conservatism and tradition of the institutions; paradoxically, “while they exhort students to continually change and improve through learning, academic institutions themselves too seldom practice what they preach” (Riggs 1997, p. 15). Other barriers in academic institutions include a lack of incentives, long payback periods, and accessible information (Meyerson and Massy 1997). Eco-Compass (1998) notes that an obstacle to greening campus operations is lack of “serious commitment at the very highest levels of administration.” Finally, Benjamin Strauss in the Class of 2000 Report (1996) lists the following obstacles to campus environmental change:

• non-acceptance of environmental sustainability as a guiding principle for operations;
• lack of designated staff, administrative mandate, or process;
• time constraints on staff;
• short pay-back periods required for conservation projects;
• state reabsorption of savings from state university campus conservation programs, which destroys financial incentives to conserve; and
• failure to use total cost accounting.

Strauss also notes the following obstacles to student involvement in campus greening:

• high level of technical competency needed for campus operations;
• low pace of campus development planning processes;
• rapid student turnover; and
• lack or staff concern about communicating efforts.

These few reported lists of general barriers to change on campus are a useful addition to the primary barriers at Tulane.
“What are some of the most important elements of a green Tulane?”

The goal of this question was to begin building a consensus of what a green Tulane is. The responses are categorized in two categories that relate to two of the three divisions of the University. The first is operations, which relates to the business division of the University (the “maintaining and furthering the institution” goal). The second category is individual and community learning, which relates to the education division of the University. The research division is not highlighted in the responses.41

No interviewees disagreed with the ten items outlined by the Blueprint for a Green Campus, which were provided in the passage each interviewee read before the interview. Many responded positively to the outline and offered additional suggestions or reiterated some of the points as priority. Nearly all the responses addressed the issue of waste and recycling. But instead of repeatedly discussing the recycling issue, I prompted interviewees for larger goals and priorities.42

**Operations**

Operations, while preserving its “maintaining and furthering the institution” goal, is divided into two distinct areas of focus: administrative and physical. Administrative operations constitutes the bureaucratic, informational and interpersonal operations of the University; these topics are on a larger scale, reflect the need for general policies and relate more to the focus of this study. Physical operations constitute facilities, maintenance and engineering aspects; these topics are more specific, and I do not elaborate on them in this report (their mention, however, reflects the need for specific policies to address them). Both areas are inherently intertwined and dependant upon each other but are separated here for clarity.

Ten interviewees43 cited administrative operations as important elements of a green Tulane. The issues are synthesized as follows:

- the University needs a leader for environmental issues;
- the administration must provide leadership, commitment, support and resources for greening issues; and
- environmental policies must be incorporated into the core of University decision making (i.e., develop an environmental management plan).

Thirteen interviewees44 cited physical operations issues as important for a green Tulane. Some of the issues included:

- greening the infrastructure (up to the highest possible percentage) of the University,45
- providing for construction to be done environmentally responsibly,
- maximizing efficiency (in energy, water and resource use),
- preserving and providing green space on campus,
- procuring environmentally friendly products,

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41 One administrator mentioned environmental research, but no other interviewees explicitly mentioned environmental research as an important element of a green Tulane. Many, however, did mention academics, and to some, environmental research may be implied in environmental academics.

42 One student stated that recycling and energy efficiency are ways to move environmental decision making into the backbone of the University, where it should be. Such sentiments are common in the recycling community: recycling is a method not only of conserving resources and providing positive economic benefits, but it is also a modus for education and raising awareness. (See Ackerman, 1997.)

43 3 administrators, 4 faculty, 2 staff and 1 student

44 6 administrators, 3 faculty, 2 staff and 2 students

45 Dr. Joan Bennett admonishes that trying to go 100% green is impossible and that such a goal is irresponsible. Jeremy Shaffer and Drs. Michael Zimmerman and Oliver Houck agree with these sentiments.
Gabelnick (1997) addresses the benefits of learning communities on campus: “Student retention in learning communities is high because students feel they are active participants in their education.” The Environmental Studies Program at Tulane could be shaped into a learning community with ties to the proposed “office of environmental affairs.” Additionally, the University could make more pronounced efforts to improve the campus-wide learning community with numerous service- and outreach-related learning activities.

Eleven interviewees cited out-of-classroom learning as a key to greening Tulane. Ideas and suggestions include the following:

- Broad-based campus environmental education is needed, especially for incoming students;
- A change in campus culture is required through education;
- An environmental manual is one way to provide a resource for environmental information;
- The campus community must commit to our core values, and environmental responsibility must be one of them; green initiatives must be visible for the community and for visitors;
- It must be easy and convenient for all to participate in environmental initiatives;
- Outreach into the community and service projects should incorporate environmental themes; and
- The theme of the Mississippi River and the city of New Orleans can be used as educational laboratory and a basis for many environmental projects.

Twelve interviewees cited in-the-classroom education issues as being important to a green Tulane. Ideas and suggestions include the following:

- The University needs an academic niche in the environmental field;
- Using the niche of the Mississippi River could help promote the needed cultural shift because it spreads into so many non-environmental topics;
- Environmental academics at Tulane needs a leader for the sake of the students; and
- With such a leader, the environmental programs could recruit more and better students and then use tuition income to run the program and finance environmental operations projects.

Summary

Question Two, aside from clarifying specific issues for greening, serves to reiterate the following themes: education and communication are needed, an institutionally supported leader with allocated resources is needed to initiate and advance greening issues, and procedures must reflect the

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46 Gabelnick (1997) addresses the benefits of learning communities on campus: “Student retention in learning communities is high because students feel they are active participants in their education.” The Environmental Studies Program at Tulane could be shaped into a learning community with ties to the proposed “office of environmental affairs.” Additionally, the University could make more pronounced efforts to improve the campus-wide learning community with numerous service- and outreach-related learning activities.

47 3 administrators, 4 faculty, 1 staff and 3 students

48 Dr. John McLachlan posits that even if Tulane cannot “save to world” or “save New Orleans,” we should at least be able to commit to the goal of “saving our campus.”

49 Provost Dr. Martha Gilliland believes that there should be a different, special feel to the campus for Tulane to really be green. She also believes that every member of the Tulane community should know what a green campus is and how to be an integral part of it.

50 3 administrators, 5 faculty, 1 staff and 3 students

51 In Chapter Four in the section on water I also suggested using the Mississippi River as a theme.
environmental goals and policies of the University. Additionally, the issue of accessibility arose in these responses.\textsuperscript{52} The responses to this question did not focus on environmental research issues, perhaps because they appear to be progressing well as a result of the institutional leadership of Dr. John McLachlan.\textsuperscript{53} In his capacity as a high-ranking administrator, and with his ample resources and supportive policy, he has made much progress in the environmental research area. Similarly, to be effective at developing and implementing greening policies and campus environmental education, the “environmental coordinator” must be a high-ranking administrator or answer directly to a high-ranking administrator.\textsuperscript{54}

To summarize the comments of Dr. Martha Gilliland, everyone at Tulane must be totally green in order for the University to be a true environmental University. With such lofty and ideal goals (admonished against in Chapter Two), no university would ever be green. These criteria of Dr. Gilliland (the “special feel” and having “everyone know”), while truly noble and ideally desirable goals, are unattainable. As outlined in the institutional change literature in Chapter Two, if the goals of institutional change are too high, then failure is imminent. As responses to Question Six will show, interviewees overwhelmingly agree that Tulane can be green, but that it will never be 100\% green.

Finally, a response from President Kelly to this question exemplifies the need for education of the administration on basic environmental concerns of the University: he said that he is “not qualified to answer” the question. The leader of an institution should be at least marginally familiar with the issues and concerns facing the institution, especially when environmental studies has been identified as a pillar of excellence in the University’s strategic mission.

“\textit{If you have been affiliated with another university, how does Tulane compare in both obstacles to greening and in relative greenness?}”

\textbf{Responses}

Question Three was the least successful of the six interview questions. The interviewees were not aware of what other universities are doing nor did they have experience working at other universities. Fourteen interviewees responded with either a “don’t know” answer or provided so little and such dated information that the response was irrelevant. For the ten who did respond, five had recent experience that is useful. Another six (some from that group of ten, some from the entire cohort) speculated on some general trends they have observed.

Nine of the ten affirmative responses addressed geographical location. The tenth response came from President Kelly, who responded that, despite his extensive travels to other universities, he never notices greening issues. He posits that they are not controversial and thus do not make it onto agendas at seminars and conferences. Eight of the nine geographical responses posited that institutions in the northeast, Midwest and west coast are more progressive than those in the south.\textsuperscript{55} The ninth response was from Dr. John McLachlan who helped green the National Institute of Environmental Health Sciences in North Carolina (arguably in the South, but a dedicated

\textsuperscript{52} Williams (1991) reports that making recycling easy (\textit{i.e.,} accessible) improves the success of the program. See also Ackerman (1997).

\textsuperscript{53} In Tulane’s organizational chart (pre-Cowen), Dr. McLachlan answers directly to the President. It is partly because of this, he believes, that he has been able to make so much progress.

\textsuperscript{54} For example, Tufts University made significant progress with their greening initiative because of a “Dean of Environmental Programs” position.

\textsuperscript{55} Dr. Amy Koritz did not explicitly state that the other regions were better, just that the south was worse because the common mentality of “nature-as-a-trash can” is spread throughout southern society. Another response, from Dr. Dan Nadler, posited that Tulane would be “on the cutting edge” of the environmental movement – if only we were in a region more conducive to environmental stewardship.
environmental organization). McLachlan held a town forum to address environmental issues and begin making change. The project was successful, and he suggests Tulane initiate a similar forum.

Summary

Question Three, while its original goal was to gather ideas to start building consensus for a green Tulane, resulted in a reiteration of the cultural barrier element from Question One and of the need for education. A preliminary sampling of such that supports the interviewees’ conclusions (that the south is not conducive to environmentalism) is provided in Appendix E. The lack of “Colleges that Make a Difference” in the South represents excellent niche for Tulane to occupy (especially, if the interviewees’ claims are true) since a large portion of the student body and faculty is not from the South. Further research into the geographical and cultural barriers would be necessary to draw substantiated conclusions. Also, further research into the culture of higher education in general to resist changes would be needed.56

“What is the role of students, staff, faculty and administrators in the greening process, and how can it be improved or better tapped?” 57

The goal of this question was to establish concrete steps towards a greener Tulane. In the interviews, I explained that the difference between staff and administrators was one of money and power: administrators get paid more money, have control of University finances and have more power; whereas staff do not get paid as much, do not have control over University finances, and have less (or no) power within the institution. Many were able to answer the question from multiple tiers because they had been in multiple positions during their tenure with the University; a minority found it difficult to address multiple tiers and thus speculated, while some simply did not answer. Responses are grouped into the four tiers as the interviewees addressed them (not in groups of the responses by interviewee-tier). Almost none of the interviewees addressed how to “improve or better tap” each of the tiers.

Only two interviewees did not address the question from the standpoint of each tier; they instead responded in an across-the-board fashion on what everyone should do. One said that leadership by and communication between all tiers was important, while the other responded that "there are no tiers; each individual is responsible for him- or herself.” Three interviewees offered general suggestions for all members of the University community. These were that everyone should get involved, get educated,58 communicate and practice what we preach. Finally, President Kelly offered the suggestion that the key to environmental change at Tulane is a forum like the Tulane Environmental Project. Such a forum involves all the tiers of the University, is recognized as a legitimate entity and offers recommendation to the administration, which, as Dr. Kelly posits, is not the appropriate impetus for achieving change.

Students

By far, the most agreement was on the role of students in the greening process: students should act as advocates and activists. Of the twenty-two interviewees who answered the question,
fifteen explicitly said that students should be advocates for environmental issues. The other primary response, which ten interviewees addressed, was that students should get educated, either actively seeking the education or passively receiving it in the classroom and through the campus community. Other suggestions, each mentioned by at least two interviewees, for student roles in the greening process included:

- creating a **community service component** for all Tulane students and having environmental issues as a part of it,
- making **connections between environmental and health issues** (such as smoking),
- **getting students involved and educated as soon as they arrive on campus** (i.e., at orientation) because nearly all will come in with an inherent concern for environmental issues, and
- **providing a “green infrastructure”** so they can continue to be environmentally aware, responsible and involved.

Five interviewees said that students should take active roles in doing greening projects, and the students responded that doing projects and being actively and integrally involved was a way to combat student apathy. Finally, the four students who responded to the question were in agreement on the fact that students must be more involved with or at least aware of environmental issues. Students are not only ephemeral in terms of institutional change but they are also undependable. To keep students involved, they must be paid or get academic credit for their work. Even then, there are so many other pressures from school work and from social engagements that it is hard to depend on students as full-time advocates. The “environmental coordinator” should be the full-time advocate, and students should work with the coordinator on projects that do not depend on continued student leadership, year-round student involvement or urgent campus administrative attention. Students should be paid or should get academic credit for long-term projects, while for short-term projects or single events volunteer students are more appropriate. Working with the “environmental coordinator” on campus greening projects is a way to educate students others, and it is an avenue for students to get involved. In this way, the primary issues suggested by the

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59 7 administrators, 3 faculty, 3 staff and 2 students

60 Note the high number of administrators that offered this response; compare it with the response in the “Administrators” section that offers the suggestion that administrators take a leadership role in campus greening: 100% of the students offered that suggestion, but only two administrators did. The statistics are nearly opposite, and they denote the projection of “oughts” and “shoulds” briefly alluded to below in Question Five.

61 4 administrators, 1 faculty, 3 staff and 2 students

62 One administrator suggested (as have students and officers involved with the Green Club, though not part of this survey) that having events, activities and opportunities with which students can get involved shortly after arriving on campus would keep them interested and involved. Students, however, cannot organize such events and opportunities because they return to campus at the same time and have other priorities. Thus, the “office” could supply some basic assistance and support to such a program so that it could be initiated at the beginning of the year.

63 3 administrators and 2 students

64 This statement is explored in Chapter Three and the *Blueprint* (1995); additionally, from much personal experience at Tulane and in discussions with students from other schools, I have found that volunteerism only can accomplish so much, but that when academic credit or money are involved, then students accomplish more.

65 I have dealt with all three of these issues, with marginal success, because I have been on-campus during holidays and have been involved long enough to be involved in a small number of administrative situations (such as the removal of the Recycling Center for a parking lot, as discussed in Chapter 3).
For example, student environmental advocacy improved when the Environmental Studies Program began paying Green Club officers and offering career development opportunities (summer internships). Also, Environmental Studies provided travel and expense monies to Alicia Lyttle and me, and our involvement and leadership capacities were greatly catalyzed. (See Chapter Three.) Finally, this study is an example of getting academic credit for campus greening work, though its scope is much larger than a “regular” project, such as a waste or energy audit. (See Chapter Four.)


8 (5 faculty and 3 students) of 9 total responses from faculty and students

4 administrators, 3 faculty, 2 staff and 2 students

The *Blueprint for a Green Campus* provides “Recommendations for Students” in each of its ten primary sections. A sampling of the key ideas is that students should:

- get organized and organize others (students and non-students),
- advocate/lobby the institution on environmental issues,
- practice environmentally conscious behaviors,
- get educated and educate their peers on how the institution works and on environmental issues,
- program around environmental issues and encourage programming to be environmentally friendly,
- get academic credit and/or payment (employment) for research and work on campus greening initiatives,
- plan and help implement environmental changes, and
- cooperate with others.

Other authors also note the importance of student involvement. These recommendations support the responses of the interviewees.

**Staff**

An overwhelming response from the faculty and students about the role of staff was one of compliance: interviewees said, quite explicitly, that staff should obey orders. Administrative response, however, emphasized the absolute importance of staff in the day-to-day operations of the University. The staff’s knowledge about the inner-workings of the University is a valuable resource for greening. Eleven interviewees did agree that staff need to get educated, the only area of significant consensus among the four tiers. Another, though less-agreed-upon, suggestion was to provide staff with incentives to participate in and comply with greening initiatives. Finally, staff responses tended to suggest what was immediately in their realm of control: facilitating communication, including information in their departmental publications and events, and reaching out and serving as educators and role models.

The responses regarding the staff reiterate the need for education, both on the issues (as suggested by the interviewees) and on the importance of the role of the staff. Additionally, the staff should be empowered to help with institutional environmental change; the “office of environmental affairs” could coordinate such empowerment.

The *Blueprint* also provides “Recommendations for Staff.” A sampling of the key ideas is that staff should:

- assist faculty, students, administrators and other staff,
- educate and get educated,
- publicize issues,
- organize and advocate for environmental concerns,
- identify areas that need improvement,

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66 For example, student environmental advocacy improved when the Environmental Studies Program began paying Green Club officers and offering career development opportunities (summer internships). Also, Environmental Studies provided travel and expense monies to Alicia Lyttle and me, and our involvement and leadership capacities were greatly catalyzed. (See Chapter Three.) Finally, this study is an example of getting academic credit for campus greening work, though its scope is much larger than a “regular” project, such as a waste or energy audit. (See Chapter Four.)


68 8 (5 faculty and 3 students) of 9 total responses from faculty and students

69 4 administrators, 3 faculty, 2 staff and 2 students
collect data / information / resources,
act as liaisons to facilitate communication,
question and change practices (especially purchasing and material use),
incorporate environmental concerns into their job descriptions, and
cooperate with others.

These recommendations support the responses of the interviewees.

Faculty

General responses about what faculty could do in the greening process included educating students, setting a good example and advocating environmental issues. Faculty response, however, focused on the fact they had already done much to improve the environmental state of the University and that others should take initiatives.70

Fourteen interviewees71 mentioned including environmental issues in faculty research, curricular or general education agendas. Eight responses72 addressed the issue of faculty as role models for environmental issues, in the classroom, in personal practices and in their professional milieu. Students were especially emphatic about having a stronger environmental faculty that “practiced what they preached.”73 Seven interviewees74 mentioned that faculty should take an increasing role in advocating environmental issues to their departments, to the administration and to the committees in which they are involved. The three environmental studies faculty interviewed, however, mentioned that the faculty had already done much for the environmental program at Tulane through the series of two Environmental Faculty Enrichment Seminars in addition to the fact that the Environmental Studies Program was strong and growing. Professor Oliver Houck summed up his position as a former campus advocate for campus environmental issues when he said that he had already done his part and that it was time for others to work on the issues. He also suggested that there should be more opportunities for team teaching and more environmental faculty events. Two final suggestions (which interviewees made) were that the interdisciplinary model should be embraced by more of the faculty throughout the University and that incentives should be provided for faculty to be green.75

For the faculty, responses reiterate the need for leadership, advocacy and education (primarily as in-the-classroom education but also for personal behaviors). The responses of the faculty and of the other tiers also demonstrate the divisions between the tiers: students and administrators believe the faculty need to be stronger advocates, while the faculty believe they have done much already.

The Blueprint offers “Recommendations for Faculty.” Some of the key ideas are that faculty should:

- educate others in their field and department,
- educate students in the classroom and using the campus as a laboratory,
- advocate for environmental improvements,

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70 Chapter Three supports this claim of the faculty; much has been done, and nearly always with faculty at the lead.
71 6 administrators, 3 faculty, 2 staff and 3 students
72 3 administrators, 1 faculty, 1 staff and 3 students
73 For example, two of the student interviewees and myself have repeatedly observed many environmental faculty who do not recycle (even when easy recycling is readily available) and who do not print their class materials double-sided. Such practices send negative messages to Environmental Studies students specifically and to other (students, co-workers, and others) as well.
74 3 administrators and 4 students
75 One interviewee suggested that faculty – or any University employee – could be “certified green” and that administrators and personnel could take such certification into account when considering raises, promotion, etc.
do research on environmental issues (assisting with on campus work and including environmental research in their personal research agenda),

- take personal actions to be good role models and to be environmentally responsible (such as printing double-sided, making fewer copies, recycling, etc.), and

- cooperate with others.

These recommendations support the responses of the interviewees.

Administrators

Interviewee responses focused more on what administrators could do in the greening process than on any other tier. The responses were also the most varied. The primary areas mentioned were establishing policies for, providing leadership on and showing support for greening initiatives.

Twelve interviewees explicitly mentioned that administrators need to establish environmental policies. Eleven interviewees agreed that administrators should take a larger leadership role in campus environmental issues. Ten interviewees suggested that administrators should directly support (with resources) or fund environmental issues. Among the variety of suggestions, interviewees said that administrators should:

- get educated on environmental issues and take the initiative to educate others;

- make a commitment to campus greening issues and environmental studies in general;

- recruit students and faculty with interests in environmental research and education;

- develop an institutional niche (clearly defined) for Tulane in the environmental arena;

- provide incentives and penalties for compliance with environmental goals;

- clearly define the environmental issues for the campus, articulate and communicate them as issues, and evaluate them in terms of our core values;

- provide the impetus for institutional environmental change by researching the issues, developing the plans to address those issues and implementing the projects;

- keep open lines of communication and facilitate communication throughout the University; and

- institutionalize environmental concerns as part of the mission of the University.

Finally, five interviewees suggested that the administration must be continually pressured to keep environmental issues on the University agenda and that the way to do that was to have an

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76 4 administrators, 4 faculty and 4 staff

77 2 administrators, 3 faculty, 2 staff and 4 students

78 Note the low number of administrators that offered this response; compare it with the administrators response (7 of 9 administrators) in the “Students” section that offers the suggestion that students act as the activists / advocates (effectively taking the lead or initiative) in campus greening: 100% of the students offered the suggestion that administrators take leadership, but only two administrators did. The statistics are nearly opposite, and they denote the projection of “oughts” and “shoulds” briefly alluded to below in Question Five.

79 4 administrators, 3 faculty, 2 staff and 1 student

80 One suggestion did not have financial implications. Professor Houck said that the administration should actively support University environmental issues, not tacitly accept them, as they have done with the Environmental Law Clinic / Shintech affair (see Chapter Three).

81 While not in opposition to funding environmental projects, Jennifer Casebere made a suggestion to actually cut operation budgets across the University for items such as paper and office supplies to encourage more efficient use of such resources. The savings could then possibly be used for other environmental projects.

82 Yvette Jones said that the primary environmental focus of the University is part of a strategy for research and procuring funding monies – not for being a green institution.

83 2 administrators, 2 faculty and 1 student
institutionalized mechanism to maintain that pressure\textsuperscript{84} and to have the support of the president.

Responses about the role of the administration in the greening process do not mesh with responses from Question One. (As the interview progressed, interviewees developed and clarified their arguments and recognized the need for policies.) In Question One, only two interviewees mentioned lack of environmental policies as a barrier to environmental change, whereas in Question Four half of the interviewees suggested that it is important for administrators to establish environmental policies.

The responses for the roles of administrators reiterate every major component of the model for change as outlined in Chapter Two: policy, resources, leadership, means and ends, and education, plus the “minor” components of communication and support. Additionally, the responses underscore the need for an institutionalized mechanism (i.e., an “environmental coordinator”) to lobby the administration and advocate for change in order to accomplish many of the interviewees’ suggestions. The administration must then provide leadership on broad environmental issues. This leader of the movement for environmental change, therefore, must be an administrator and have the associated powers.

The Blueprint offers numerous “Recommendations for High-Level Campus Officials” (administrators), which are the most broad in scope. Key ideas suggest that administrators should:

- make supportive statements, policies and endorsements;
- sign-on to national and international environmental commitments (such as the Talloires);
- support environmental literacy and environmental goals;
- allocate / provide resources and incentives;
- fundraise for environmental projects;
- form alliances with other institutions;
- establish / support an environmental task force;
- establish / appoint faculty or staff leaders or establish offices to address various environmental concerns;
- publicize events and achievements;
- institute requirements and standards for environmental goals;
- facilitate communication, research and the reengineering of processes; and
- practice environmental responsibility (printing double sided, waste reduction, recycling etc.).

These recommendations support the responses of the interviewees.

Summary

Question Four helped to clarify the role of each tier that comprises the campus community. Students should take their place – as learners and educators – supported by an institutionalized leader (the “office of environmental affairs”) to act as advocates for institutional environmental change; they should be educated from their arrival on campus and have access to a green infrastructure throughout their college years. Eventually, the students will bring the message of environmental stewardship into society. Staff, integral to the functioning of the University and the movement for change, must be empowered and get educated; some mechanism must do the educating and empowering (again, the “office”), because, as is presently evident, they will not “spontaneously” educate and empower themselves on environmental issues. The faculty need a break; but at the same time, they must increase their classroom education, leadership and advocacy capacities. An “office of environmental affairs” would be able to assist the faculty and help them in their quest to incorporate environmental

\textsuperscript{84} Dr. Charles Reith suggested developing a comprehensive environmental management plan (similar to the plans that industry establishes for their operations) and having an environmental manager who reports directly to the president of the University (as many corporations do).
These suggestions are an excellent source of suggestions for future greening initiatives. The “office of environmental affairs” should follow-up on them.

Dr. Kelly said that by making the committee voluntary and his inviting people to participate in the committee is enough to make it succeed. Such is the power of the President that a request to make something happen will make it happen. In a previous meeting (9/10/97), he said that he needed concrete suggestions, not general ideas, for campus greening initiatives. He also stated that a new Tulane Environmental Project (TEP) should form to address the issues and that the TEP should go to the staff and administrative councils (in addition to the faculty and student governments) to build support.

“What could your role be in helping to green Tulane?”

Responses

The goal of this question was to continue to clarify concrete steps towards a greener Tulane, but on individual basis as opposed to the goal of Question Four which was aimed at a tier basis. Additionally, the question was meant to encourage the interviewees to clarify what their part in the greening process was instead of projecting “oughts” and “shoulds” onto others. Nearly all mentioned that they could take individual steps, such as recycling or energy efficiency, but I will not elaborate on those basics.

Responses from each tier were generally coherent. Administrators responded that they could take on greening issues in their division or subdivision of the University, but only when prompted to do so. Faculty mentioned developing new environmental programs and facilitating present ones. Staff answered that they could incorporate environmental concerns into their job descriptions (i.e., what their position does as opposed to their personal habits) when given the authority, impetus, incentive or assistance to do so. Finally, students felt that they could mention greening issues more often in non-environmental meetings, committees or programs, and that they could do academic projects on campus environmental issues.

The following is a selection of responses:

- Initiate a University-wide committee to address academic and nonacademic environmental issues (Dr. Eamon Kelly, President).
- With resources and guidance, advocate for environmental concerns in contracts for construction and renovation of housing facilities, develop environmental and environmentally friendly programming, and work with the Resident Advisors to disseminate environmental information (Penny Wyatt, Director of Housing and Residence Life).
- With pressure and vision from her superiors and the rest of the University, can procure financial resources and develop operational policies (Yvette Jones, Vice-President for Finance and Operations).
- Utilize connections with all student organizations and student government to improve communication and initiate greening initiatives (Dr. Daniel Nadler, Assistant Dean of Student Programs).
- With Presidential endorsement, design courses and develop a task force in the faculty senate to address environmental issues (Dr. Martha Gilliland, Provost).
- With adequate requests and communication to convey those requests, can initiate meetings and get greening issues on agendas of meetings to accomplish environmental goals.

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85 These suggestions are an excellent source of suggestions for future greening initiatives. The “office of environmental affairs” should follow-up on them.

86 Dr. Kelly said that by making the committee voluntary and his inviting people to participate in the committee is enough to make it succeed. Such is the power of the President that a request to make something happen will make it happen. In a previous meeting (9/10/97), he said that he needed concrete suggestions, not general ideas, for campus greening initiatives. He also stated that a new Tulane Environmental Project (TEP) should form to address the issues and that the TEP should go to the staff and administrative councils (in addition to the faculty and student governments) to build support.
Develop and institute an environmental management plan (Dr. Charles Reith, faculty).

Besides teaching, publishing and facilitating the Environmental Studies Program, develop summer international environmental programs (Dr. Michael Zimmerman, faculty).

Unify the Liberal Arts and Sciences, the Business School, and the School of Public Health and Tropical Medicine to develop comprehensive environmental education curricula (Dr. Ernie Edmunson, faculty).

Provided there will be adequate follow-up with students after orientation, incorporate environmental issues into orientation, some of which can be done through community service and leadership programs (Jennifer Casebere, Director of Orientation, Leadership and Community Service).

If provided with expert assistance, can develop programs and incentives for staff to implement and adhere to greening programs (Dionne Picard, Marriott Dining Services).

Incorporate greening issues into the content and production of publications (Judith Zwolak, University Publications).

Co-program with non-environmental organizations and develop better connections with the residence halls (Brian Fink, student).

If provided with resources and assistance, can mention greening issues in committees and meetings that address issues that may have tangential environmental issues (Jeremy Shaffer, Associated Student Body President).

Incorporate greening issues into the content and production of publications (Judith Zwolak, University Publications).

Co-program with non-environmental organizations and develop better connections with the residence halls (Brian Fink, student).

If provided with resources and assistance, can mention greening issues in committees and meetings that address issues that may have tangential environmental issues (Jeremy Shaffer, Associated Student Body President).

Recurrent through many of these suggestions of what individuals can do is a common theme: a qualifier (“if”, “with resources,” “with pressure,” “provided that,” etc.) These suggestions reiterate the need for policy and a mechanism to procure resources and provide information, advocacy, education and leadership: an “environmental coordinator” and an “office of environmental affairs.”

Summary

While not uniformly evident across all four tiers, Question Five (primarily in the staff and administration tiers) reiterated most of the model for change from Chapter Two: the need for environmental policies and allocated resources for a leader to advocate, provide information and to educate on greening issues. Additionally, many individual goals were outlined, and many more could certainly be highlighted given group brainstorming and more thought and prompting on the matter. An institutionalized “environmental coordinator” could facilitate the forums necessary to help individuals clarify such goals and to aid in their implementation.

“Is it possible to truly green Tulane? Can Tulane live up to its core values and ‘walk the talk’ on both an institutional (i.e., academia) and campus community level?”

Responses

The goal of the question was to determine if people thought it was possible and appropriate to green Tulane. Responses were overwhelmingly affirmative: all 24 interviewees said that it was possible and appropriate. Each had reservations, however, the most common of which was that real greening would take some time to accomplish. Additionally, many felt that there would be isolated pockets of resistance, but that the majority of the campus would support greening initiatives. Some of the other qualifications or clarifications to the “yes” answers were the following:

- Environmental issues are a part of strategic plan of the University, they are not just academic.

One interviewee, Dr. Amy Koritz, answered “no,” but later clarified that it was a short-term “no” because people – especially the people in the southern culture – resist change and especially environmental change. Eventually, however, it is possible.
For example, information technology is part of the strategic plan, but we could not educate on technology without first having the technology infrastructure. (Dr. Eamon Kelly)

- Tulane could green and become a model institution. (Drs. Teresa Soufas and Oliver Houck)
- But Tulane will never be 100% green; there are varying degrees of greenness. (Jeremy Shaffer, Drs. Joan Bennett, Oliver Houck and Michael Zimmerman)
- Greening requires resources. (Dr. Mary Konovsky and Penny Wyatt)
- Greening will take much work. (Drs. John McLachlan and Daniel Nadler)
- Environmental concerns must be a core value and people must know it. (Dr. John McLachlan and Yvette Jones)
- Environmental concerns already mesh with the core values of the University. (Chairman John Weinmann)
- The movement will need momentum and the level and speed of greening will depend on that momentum. (Dr. Martha Gilliland)
- Tulane has no choice; we cannot be hypocrites. (Dr. Ernie Edmunson)
- The greening must be a meaningful process. It cannot be a sales pitch; it must be real. (Jennifer Casebere)
- Each must take individual responsibility. (Keith Hook)
- Strong leadership is needed. (Dr. Michael Zimmerman and Alicia Lyttle)
- With education, consensus building (with all tiers involved), and more administrative commitment instead of lip service, Tulane can be green. (Emery Myers and Judy Zwolak)
- The cultural issues will be a substantial obstacle, and though we may not be a green University throughout academia, we could be one in the south. (Dionne Picard and Sylvester Johnson)
- Students are so ephemeral it will be hard to change student culture. (Dionne Picard)

The suggestions usually served to summarize the entire interview and to highlight the interviewees’ salient point(s). The responses represent an amalgamation of previous questions (especially Questions One and Two) and show the diversity of responses and issues.

Summary
This final question recapitulates all of the model for change from Chapter Two, and it clarifies many of the themes from throughout this chapter: Tulane can green, although it will not be 100% green; it will take time; environmental policies are needed; resources are needed; an institutionalized mechanism for change is pivotal to provide the leadership, support and advocacy, and to maintain the communication necessary to achieve change; education is needed; and substantial means and ends are needed. Most importantly, Question Six reiterates the need for an “office of environmental affairs” to provide the necessary leadership to the greening initiative and to sustain the momentum for change.

Summary and Conclusions.
The information gathered in these interviews accomplished, to differing degrees, all of the goals set forth: reflecting on barriers to environmental change, beginning to build a consensus towards a green Tulane, establishing concrete steps towards that greener Tulane and determining if it is possible (and appropriate) to green Tulane. With the exception of the cultural barrier, the other barriers outlined – institutional / organizational, financial (i.e., resources) and educational – are recapitulations of the barriers hinted at in Chapter Three, and the institutional change literature substantiates those barriers culled from the interviews. The interviews began the movement towards

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88 Houck stated in 1996, (Navaratnarajah, 1996) that “Tulane is one of the foremost environmental colleges, and the University is missing out by not publicizing this.”
a green Tulane, and many of the suggestions in these pages will be useful in future broad-based initiatives.\footnote{For example, as a result of some of the suggestions from the interviews, the Green Club’s \textit{Enviro Counter Culture Catalog} will include an extensive section that functions as a first attempt at a campus “environmental manual.”} Finally, the interviews determined that it is possible and appropriate to green Tulane, because of some obligatory / moral reason and because of the University’s strategic initiatives.\footnote{Recall President Kelly’s comment that to be an information technology University we must first have the information technology in house; it is the same for environmental initiatives: to be an environmental University we must “practice what we preach.”}

The primary barriers to change as outlined by the interviewees in Question One are institutional / organizational (lack of communication, lack of advocacy and the lack of a leader), financial (lack of allocation of resources, not simply financial), cultural (lack of education), and educational (lack of a modus for education). To address these, an “environmental coordinator” or “environmental coordinator” is needed. Thus, Question One highlights portions of the model for change as outlined in Chapter Two: the need for leadership, resources and education.

Question Two outlined some specific issues for greening that relate to operations (administrative and physical) and education (individual and community learning both in and out of the classroom); the responses also reiterate the model for change from Chapter Two: education and communication (especially of and among executive administrators), an institutionally supported leader (with resources and power), and policies (applied, not rhetorical). Additionally, the issue of accessability (to a green infrastructure) arose in these responses, and it appears to be a requisite for institutional environmental change.\footnote{Farmer (1990) discusses the importance of a “supportive environment.”} Additionally, Question Two served to further explore some of the elements of the theory section of Chapter Two. Specifically, some in the University community may be setting their goals too high to possibly be achieved, and some support the fact that Tulane will never be totally green.

Question Three reiterated the cultural barriers from Question One and of the need for education. Further research into such barriers is necessary, but since “colleges that make a difference” (see Appendix E) are lacking in the South, it represents an excellent niche for Tulane to occupy in academia.

Question Four clarified the roles of each tier of the University community and highlighted the need for an “environmental coordinator” in an “office of environmental affairs.” For students, the important roles (supported by the “office”) are as learners, educators and advocates. An institutionalized mechanism – the “office” – could empower and educate staff. The “office” also could assist the faculty and provide incentives to increase their classroom education, leadership and advocacy capacities. Finally, the roles of the administration underscore each element of the model for change outlined in Chapter Two: they must develop and implement policies, procure resources for greening initiatives, provide advocacy and support, show leadership, develop the necessary means and ends to change the University, and play a role in educating themselves and others. Again, the “office” could assist them to maximize these environmental leadership roles.

Question Five reiterated most of the model for change from Chapter Two: the need for environmental policies and allocated resources for a leader to advocate for, provide information about and educate on greening issues. Additionally, that leader – the “environmental coordinator” – could facilitate the forums necessary to help individuals clarify the goals suggested, develop new goals and aid in their implementation.

The final question clarified the themes from this chapter and reiterated the model for change from Chapter Two. Overall, Question Six reiterates the importance of an “office of environmental affairs” to provide all of the above.
In sum, Chapter Five reiterated and supported the model for change. While voluntary answers are not as likely to support model elements of a theoretical nature, the responses reiterated that expectations cannot be too high and that it will take time for Tulane to green. Chapter Five also substantiated my earlier claim that the University earmarked environmental research because of the potential funding sources. Finally, Chapter Five repeatedly underscored the importance of the primary hypothesis of this report: the “environmental coordinator” is absolutely integral to provide the continual advocacy needed to achieve change, especially since the University cannot depended upon faculty (who feel they have done enough as it is), staff (who have had little initiative to date) or students (who are not dependable sources of the needed continual advocacy). Now, using the support of the interviews for the model, I will develop a “blueprint” for achieving institutional environmental change at Tulane and outline the “office of environmental affairs.”
CHAPTER SIX
SUMMARY AND CONCLUSIONS

The university can be considered among the foremost dangers to the Earth and to the survival of the human community.
- Thomas Berry
“The Universe and the University”

But signs of change in educational priorities and directions are now more evident than ever before. And no institutions in modern society are better able to catalyze the necessary transition to sustainability than schools, colleges, and universities. They have access to the leaders of tomorrow, and through alumni, to the leaders of today. They have buying and investment power. They are widely respected; consequently, what they do matters to the wider public. And through faculty research and publication, they have a great impact on what people pay attention to. The question is not whether colleges and universities could help catalyze the transition to a sustainable society, but whether they have the vision and the courage to do so.
- David Orr
“The Problem of Education”

Introduction.

Chapter One stated the thesis of this report and outlined the justification for the proposed greening of Tulane. Chapter Two formulated the model for institutional change and examined non-environmental change initiatives at Tulane. Chapter Three examined the history of greening in education, research and operations at Tulane. Chapter Four contrasted the Green Gradecard for the Green Wave (which focused mostly on operations) with greening initiatives at other institutions. Chapter Five determined barriers to institutional environmental change at Tulane and began the process of including input from the Tulane community. Now, with the model for change from Chapter Two firmly supported, with the thesis of this study supported, and with insights from academia and the Tulane community, Chapter Six will first present a platform for greening Tulane – the “Blueprint for a Green Tulane” – and then conclude with a description of the Office of Environmental Affairs (OEA).

As a follow-up to the Green Gradecard, I wrote a “Platform for Making Tulane the Environmental University in the South” in the summer of 1997 (it is provided in Appendix F). It got a tepid response from a few administrators. Provost Dr. Martha Gilliland, however, did make some suggestions about the Green Gradecard for the Green Wave and the “Platform.” She said that:

- research on what is required to green the campus;
- she is supportive of the issues, though political and administrative realities constrain her from immediately implementing my (or anyone’s) agenda – more broad-based University support is needed;
- an environmental fee could be viable, though grant possibilities should not be ignored;
- having students involved is critical; and
- the proposed Environmental Coordinator position (from the “Platform”) should be combined with another staff position.

I have taken her comments seriously. This study comprises the research on what is needed to green

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1 Berry (1996).
2 Orr (1992a).
the campus. In order to garner support from throughout the University community, I not only
conducted the interviews in Chapter Five, but I also circulated an executive summary of an early draft
of this study throughout Tulane; I posted it (and the complete study) on the Internet and presented it
at numerous conferences. With that support, including dialogues with Tulane’s administrators,
faculty, staff and students, I move on to address funding issues below, taking into account internal
and external sources. Student involvement in the greening initiative has been shown already (with the
Green Club and Environmental Studies Program), but I will return to focus on it below, as it is
absolutely pivotal to the success of a concerted effort to green any institution of higher education.
Finally, the combination of the Environmental Coordinator position with another staff position,
however, is not realistic. In such a combined position, the person would wear “too many hats,” and
the focus and hard work needed to make change would be lacking. Tulane is a large enough
institution – and there are enough changes that must be made and maintained – that a full-time
position is necessary. Dr. Gilliland was not sure that such a position would have much to do; as I
show below in Appendix F, however, many projects await such a position.

The “Blueprint for a Green Tulane” is based on the model for change from Chapter Two. It
is also infused with elements from throughout this study and from the “Platform for Making Tulane
the Environmental University in the South,” which was based on the Blueprint for a Green Campus
from the 1994 Campus Earth Summit. The “Blueprint for a Green Tulane” is the outline of the steps
needed to implement institutional environmental change. Included in it is the proposal for the
establishment of the Office of Environmental Affairs and the creation of an Environmental
Coordinator position, both of which are explained below in more detail since they are the pivotal
elements for the greening of Tulane. Presidential reworking (if needed), approval and action are the
final stages.

**The Blueprint for a Green Tulane.**

**Advocacy**

**RE-ESTABLISH / REINVIGORATE THE TULANE ENVIRONMENTAL PROJECT (TEP) AS THE TULANE
ENVIRONMENTAL COMMITTEE (TEC).** It is necessary for President Cowen to initiate the new TEC.
The TEC would be charged with approval of an annual plan for campus greening as well as a review
of the year’s projects as coordinated by the Office of Environmental Affairs (OEA); a working group
from the TEC and the OEA could develop the plan and continually work with the OEA.

The Environmental Coordinator of the OEA would report to the TEC, and the Committee
would, in turn, answer to the President. (See Figure 1.) It is necessary for the President to approve

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3 See the Acknowledgments on p. vii for a listing of reviewers and conferences.

4 In fact, support staff for the Environmental Coordinator would be ideal but in reality, such is not likely in the beginning.
As discussed below, however, students are important for taking on that role as support staff.

5 The environmental stewardship program at Stetson University is arranged in a similar manner, with its coordinator
answering to a committee which answers to the president. (Personal communication, Courtney McIntyre, 8/22/98.)
William Hochstin of Dartmouth College (personal communication, 2/11/98), who has years of experience with various
campus greening projects, suggests a similar establishment, with an environmental coordinator independent of facilities
and academics but working closely with both through a coordinating committee or working group. Bates College uses an
establishment similar to Hochstin’s suggestion, with an environmental coordinator reporting to an “Environmental
Confederation” that is neither solely academic- or facilities-oriented but rather a combination – a confederation – of the
two. Bates’ Environmental Coordinator Maria Libby (personal communication 2/12/98) notes some strengths and
weaknesses of the Bates establishment: her office is officially under the Dean of the College, and as such she has access
to political power; she is responsible for recycling, and although it is beneficial to be integrated into the operation aspect
of the institution, she finds herself spending too much time attending to details; her alignment with academic programs gives
(continued...)
all appointments to the Committee, which would need a Chairperson of the President’s choosing to act as the Presidential liaison. The TEC would meet once (perhaps twice) each academic year with representatives from the students (e.g., the Associated Student Body and the Green Club), the staff (e.g., the Staff Advisory Council), the faculty (e.g., the University Senate, the Center for Bioenvironmental Research and the Environmental Studies Program) and the administration (e.g., the Executive Working Group). The representation from the administration, as well as the students, staff and faculty, will explicitly involve the three primary divisions of the University: from research will be the Center for Bioenvironmental Research, from education will be representatives from the Provost (who will also appoint various deans) and the Environmental Studies Program, and from operations will be representatives from the Vice-President for Finance and Operations (who will also appoint representatives from Physical Plant) and from the Vice-President for Administration and Strategic Planning.

The representatives on the TEC should be the key players on campus with regards to environmental change. As such, it will be the convergence of grassroots advocacy (which has been displayed for years) and top-down advocacy (which has yet to be shown) for environmental change. Simultaneously, the TEC will hold the power for making that change (i.e., the responsibility for planning in the OEA). The working group of the TEC could cooperate with the OEA throughout the year.

The TEC is the pivotal coordinating body for environmental issues across the University, and the OEA is the leadership entity for carrying out environmental change. The TEC and the OEA and Environmental Coordinator are interdisciplinary, interdepartmental and interdivisional entities focusing on comprehensive institutional greening.

Policy

PUBLISH A STATEMENT THAT TULANE WILL BE A LEADER IN ENVIRONMENTAL RESEARCH, ENVIRONMENTAL EDUCATION AND ENVIRONMENTAL STEWARDSHIP. The statement should outline the core values of environmental responsibility that Tulane will espouse. With such a proclamation, the TEC working group would gather input from the entire University community via “town meetings” and would draft a comprehensive University environmental policy statement for TEC approval. The President and the various legislative bodies of the University should then ratify the policy. Additionally, it would be necessary for the University to sign on to national and international environmental platforms, such as the Talloires Declaration and the Valdez Principles. Such involvement brings national and international attention as well as assistance in implementing sustainability on campus. Finally, specific policies for projects such as recycling and procurement

(...continued)

her excellent opportunities to implement programs throughout the college. Many United States government environmental agencies are arranged in a similar manner, with the council reporting directly to the highest official with an agency answering to the committee. Examples include the President’s Council on Environmental Quality, and departments of environmental quality in Florida, Michigan and California. (Personal communication, Oliver Houck, 8/19/98.)

The council method is not the only way successful programs are structured. For example, Middlebury College’s environmental coordinator position reports to the Director of Environmental Affairs and Planning (Middlebury has extensive environmental programs and thus warrants a division dedicated to them), but the coordinator cooperates with all divisions of the College through an environmental committee. (Personal communication, Jennifer Hazen, 5/1/98.) And at Brown University, the environmental coordinator reports dually to the Provost and to the Director of Facilities; the coordinator is housed in the Environmental Studies Department and also teaches a course, which involves students doing campus environmental research. The Brown coordinator also sits on many campus committees where his services and insights are needed. (Personal communication, Kurt Teichurt, 2/10/98.)
should be developed.6

**Resources**

**SEEK FUNDING FOR INSTITUTIONALIZING THE OFFICE OF ENVIRONMENTAL AFFAIRS.** Funding sources should be internal and external. Internal funds could first come from a cooperative funding procedure, whereby each of the academic deans along with the vice-presidents who would be primary representatives on the TEC would contribute $3000 – $5000 for the job search and first year’s salary of the Environmental Coordinator. With a job search estimated at $3500 to $4000 and with salary and benefits estimated at $36,000 to $36,500 (for a senior program coordinator position), a total of approximately $40,000 is needed; with eight academic deans and two vice-presidents, the cooperative funding program could work. To date, no one approached about the cooperative funding measure has resisted it, however, they did mention that they would be more willing to participate once they know that the President is in support of the OEA proposal. This literal buy-in into the OEA is important for developing cooperation among the various entities.

External funds could come from alumni gifts and endowments for programs (such as scholarships and speaker series) and grants for projects and operating expenses. An endowment of $1 million would secure the OEA in perpetuity; the Office of Development could assist in such fundraising. Some grants pending in the ENST are already including such monies in anticipation of the OEA; the ENST has found, however, that granting agencies will not pay for employee salaries, but will provide monies for students, programs and operating expenses. A study sponsored by the Nathan Cummings Foundation suggests that granting agencies and foundations fund specific campus projects that not only have the potential for success but could also be a model for other institutions to use; additionally the monies should be “seed money” for projects that will eventually sustain themselves.7

Other funding mechanisms include a regular University budget, internal “loans” repayable with savings from cost avoidance programs, and a student environmental fee. The more innovative the designed of the OEA, the more marketable it is; as such, the OEA could easily raise outside funding – especially from alumni.

Other important resources include personnel (especially a leader and student employees, discussed below), information and data and an office. Initial sources of information and data on greening initiatives (or lack thereof) at Tulane are provided in the corpus and appendices of this study and in the Green Grade Card for the Green Wave environmental audit. In the future, an annual report of the OEA submitted to the TEC (e.g., the “State of the Tulane Environment”) could chronicle important information and data. Finally, the OEA has been allocated office space in the new Environmental Science Building complex, where it will be in close proximity to most of Tulane’s environmental research and education programs. The CBR, Green Club and Environmental Studies Program can provide necessary office supplies, including a computer, until funding is raised.

**Leadership**

**EMPOWER THE OEA TO MAKE A POSITIVE IMPACT ON CAMPUS.** The Environmental Coordinator

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6 The International Institute for Sustainable Development (http://iisd1/iisd.ca/educate) provides dozens of environmental policies from universities and colleges in Canada, the United Kingdom, the United States, and numerous other developed and developing countries. The TEC could use these examples to aid in creating policies for Tulane.

7 Strauss (1996). One reviewer of this study suggested taking the model from this study and the lessons learned at Tulane and offering them to foundations as benchmarking tools and as a resource for the greening of other institutions. The OEA could raise some funding with foundations in that way, in addition to doing “private” (that is, as a representative of the University) consulting work.
of the OEA should work closely with various campus entities and constituents to develop and implement greening initiatives. (Discussed below.)

**Means and Ends**

**EDUCATE THE CAMPUS ON ENVIRONMENTAL ISSUES.** This education could be via large-and small-scale seminars and programs for students, staff, faculty and administrators; continued research into and implementation of greening initiatives; a comprehensive measurement system; the development of an environmental management plan; classroom and curriculum initiatives; and other programs. The TEC should initially prioritize projects for the OEA to undertake, and after the first year the TEC will approve annual plans and review past performance. The “ends” should be outlined in general and specific policies. (More specific programs are discussed below and are listed in Appendix F.)

**The Office of Environmental Affairs.**

**Leadership**

The OEA will house the leadership which will make environmental change at Tulane: the Environmental Coordinator. The Director of the OEA (the Environmental Coordinator) should report to the TEC. Dr. John McLachlan and the CBR would essentially provide a “home” and some day-to-day operational oversight for the OEA, while the TEC would provide the approval and guidance for long-range operations; Dr. McLachlan could chair the TEC. Such an establishment is necessary because of the access to the varied power and resources of TEC members, in addition to the valuable experience with successful environmental change initiatives of the CBR and its director. The TEC would involve the people who guide the University in its daily and long-range operations and would insure that environmental concerns are heard. The TEC should appoint a working group (with ample student involvement) to cooperate with the OEA throughout the year on projects and programs. The organizational structure is presented in Figure 1.

The OEA should be “bootstrapped” to each division and tier of the University: research, education and operations; and students, staff, faculty and administrators. Bootstrapping means creating official and unofficial connections which prevent atrophy or abolishment of the OEA and which foster collaboration and cooperation between all areas of the University. Those connections would be established in the TEC: research programs with the CBR; educational and service programs with the Green Club, the Environmental Studies Programs and the deans of all the colleges and schools; and operational connections (the ones which will receive much of the focus) with the Vice-President for Finance and Operations and the Vice President for Administration and Strategic Planning. Many other connections would also exist, including those with janitorial services, Student Programs, Orientation, Admissions, Housing and Residence Life, Athletics, and campus institutes (such as the Center for Research on Women, the Payson Center for International Development and Technology Transfer, the National Center for the Urban Community, etc.). These connections will “bootstrap” the OEA to the core of the University and provide mechanisms for gathering and disseminating information.

Having an Environmental coordinator – the leader– is absolutely critical to the institutional environmental change movement. The leader must be a full-time employee with appropriate experience and degrees; the leader cannot be a student, although students are the second key to success in the movement.  

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8 Benjamin Strauss (1996, p. 50), author of the Nathan Cummings Foundation study, says that “Environmental employees are particularly valuable because they become the first full-time, year-round campus advocates for sustainability. Also, (continued...)}
Students

The international student movement for environmental sustainability on campuses is large, growing and well organized, and students “are challenging campus administrators to make the setting of their education more sustainable.” Campus environmental stewardship programs encompass all facets of university and community life, and they stimulate a level of student involvement that has unparalleled benefits – for the students, the institution and the environment. Students from the Green Club, the ENST, student organizations and the general student population will be integral to the feasibility and success of the OEA.

Not only would students carry out office duties in the OEA, but they would participate and benefit from the myriad programs of the Office. To maintain their involvement in the OEA, ENST and OEA fundraising endeavors could provide work-study funds for student workers, scholarships for leadership and academic excellence, and research assistanceships for student projects. Such funding should be used to recruit incoming students in addition to students already enrolled in the University. The Nathan Cummings Foundation study reports that outside funding for campus environmental stewardship projects should “influence student development in a positive way.”

As “customers,” students are effective advocates for change; they could advocate and stand up for issues in student milieus by, for example, representing the OEA on various campus committees. Through the OEA, students would have an organized outlet for environmental activism, volunteering and research opportunities as soon as they arrive on campus. They would provide a constant source of enthusiasm and ideas for the program, continually clarifying the raison d’etre of the OEA. Students in the OEA would be involved in an active learning and service community.

The students could gain valuable leadership and job skills in their time working with the OEA. They could take part in efforts to educate other students and employees through programs, such as in-office greening seminars, a comprehensive Internet site focused on campus environmental stewardship, continued development of the Enviro Counter Culture Catalog, campus environmental audits and follow-up initiatives, dormitory greening programs, and other projects. (More programs

8(...continued) unlike students they do not have to leave after four years.”
11 Strauss (1996) also discusses the important role of students.
12 Charles Foster (in Gordon and Berry, 1993) makes the case for needing scholarships to train environmental leaders. I would add that since environmental issues are so complex and so interdisciplinary, the scholarships should not be discipline oriented (i.e., not earmarked for political science or chemistry majors), but instead based on overall merit and leadership potential. The environmental sciences appear to have ample research grants, but such monies keep students in laboratories doing fine-tuned scientific research, which, although valuable to the pursuit of environmental problem-solving, do not often contribute to localized (i.e., campus) problem-solving. The OEA should strive to award scholarships based on leadership and community involvement criteria, as well as academic success.
14 ENN (1996 and 1998b) provides government data that show the market and industry for environmental products and services of all kinds are growing steadily. Skills that OEA students learn (akin to those the students at Dickinson College acquire, see Chapter Four) will be valuable in their search for meaningful work after graduation. Additionally, Weinstein (1996) provides arguments and data in support of the following claim: jobs that make a difference (e.g., environmental, peace and civil advocacy jobs) are not only available but they provide a decent and meaningful living. (Weinstein’s book is a compendium of higher education programs that “make a difference,” either in the education they provide or the ways in which they provide a traditional curriculum.)
are discussed below.)

Not only can students contribute to the success of the programs and projects of the OEA, but they will also be active participants in their own ecological education. Programs and projects such as those proposed for the OEA help students make the leap from “I know” about environmental problems to “I care” about them to “I’ll do something” about them. Typically, says David Orr, the traditional “campus and curriculum offer little opportunity for any sort of experiential learning, whether interaction with nature or the acquisition of competence with life-support systems [i.e., ecological processes].” Tulane has a new experiential learning program, and cooperation between the OEA and that program is a must. Students in ENST courses could do service learning projects in the community as well as research on campus environmental issues (the 1997 Green Gradecard for the Green Wave environmental audit was done in an ENST course), effectively using the campus as a laboratory for environmental problem solving – and for learning how to make change.

Programs of the OEA can also help create connections for students, especially between students and place (i.e., Tulane and New Orleans). David Orr differentiates between “residents” (temporary occupants who put down few roots, invest little, know little and care little for the immediate locale) and “inhabitants” (those who dwell “in an intimate, organic, and mutually nurturing relationship with a place”). Students are usually thought of as “residents,” and their connections to the institution are considered temporal; their behaviors often reflect this lack of connection, be it through vandalism or lack of community involvement. Orr contends that students usually learn indifference to the campus and those who maintain it; they learn hypocrisy because they learn from books about injustice but take no actions to correct it; and they learn practical incompetence from “indoor learning” (learning which is not interactive). Rutgers Philosophy Professor Bruce Wilshire notices that many of his students at Rutgers “come alive when they begin to feel and believe that they are small but vital members of . . . a world that makes human sense, where people are not just ciphers but can make a difference” as a result of their campus greening involvement. Students are likely to become “inhabitants” if they create more connections and invest more of themselves in the campus, becoming happier and more satisfied, and performing better. The connections they make at Tulane through the OEA – with outside agencies, community members, with professors and, most importantly, with each other – would insure the lasting success of the OEA because of the broad and dedicated alumni support network that could develop. The innovative programs of the OEA and ENST would also attract new students.

The OEA will depend integrally on students; it will also empower, support and educate them.

16 David Orr (1994a, pp. 97-8) says that campus greening programs “engage young people and faculty together in the effort to solve real problems . . . [not just] as ‘service’ projects alone but as ways to integrate learning and service. . . . [Such] problem solving requires broadening what we take to be our constituency to include communities in which educational institutions are located. . . . Students and faculty alike discover that they are competent to change things that otherwise appear to be unchangeable.”
17 In the spring of 1999, a new ENST class will perform a comprehensive environmental analysis with a corresponding plan for greening Gibson Hall, Tulane’s main administration building. Similar classes have been offered at Oberlin, Harvard, Brown, Dartmouth, et al.
18 Orr (1992b), p. 130. See also Orr (1990a).
19 Orr (1990b).
The relationship will be one of symbiotic – or “collective”\textsuperscript{21} – leadership and learning. Campus sustainability programs are an extraordinary boon for the students, the entire university community and, subsequently, modern civilization, because the students will carry their lessons and skills with them into society, disseminating environmental sustainability wherever they live.

\textit{Programs}

Potential programs of the OEA range from large-scale projects (such as conferences with national or international organizations) to smaller-scale projects (such as office recycling education in a particular department), and they would encompass all the divisions and tiers of the institution, the areas of Tulane’s strategic interest, and the areas outlined in Chapter Four (and mentioned by the interviewees in Chapter Five). All programs would strive for ecological literacy (\textit{i.e.}, environmental education). Through the TEC, Presidential invitations could be sent to key faculty and administrators to strongly encourage them to attend the seminars and events, and in doing so, the OEA could be educating campus decision makers and crystallizing their involvement with campus stewardship programs. The following are some brief examples, and Appendix F provides many more.

For faculty, the OEA could coordinate Environmental Faculty Enrichment Seminars\textsuperscript{22} for environmental studies faculty and for other non-environmental faculty groups. Such seminars might range from campus stewardship initiatives to watershed projects, and they may be half-day or week long programs. They could include student input, as did the Environmental Studies Faculty Enrichment Seminar in 1996, in order to design better programs for students. For administrative and staff retreats, the OEA could organize them in a natural setting and have environmental issues on the agenda, be they campus related issues or not.\textsuperscript{23} For staff, the OEA could coordinate departmental greening seminars, when staff members would learn about how to run their departments in a more environmental manner with their operations that involve printing, purchasing, energy using, etc. Students could benefit from similar seminars in dormitories, and the connection between conservation of resources and money could also be included. The OEA could help coordinate Green Club efforts and regularly publish the \textit{Enviro Counter Culture Catalog}. Students could also represent Tulane and the OEA / ENST at conferences; recent experience in the ENST at Tulane shows that students who were given such opportunities stayed involved in ENST programs and prospered.

Research-oriented programs could involve laboratory issues, such as minimizing waste or establishing a chemicals exchange to save money and minimize disposal hazards. Campus environmental audits could also be a bridge between research and education, especially if included in classes. Other educational initiatives of the OEA could involve the greening of admissions information (using recycled paper, providing information on campus greening initiatives), as well as presentations to classes and at orientation events which continue throughout the year. The Environmental Coordinator, if qualified, could also teach a “Campus and the Biosphere” course.

Campus operations would receive the majority of the attention of the OEA.\textsuperscript{24} Education and coordination activities of campus recycling (the most visible greening initiative) would be at the

\textsuperscript{21} Gordon and Berry (1993), p. 16.

\textsuperscript{22} Reith and Allen (1996).

\textsuperscript{23} Bowers (1997) suggests taking key administrators on a retreat (so there are no distractions) and educating them on environmental issues (global and local) instead of just giving them reports and presentations; perhaps bringing in a famous scientist to legitimize the issues would sit better with the more academic types. Then, he suggests, making the connections to the campus and what the institution can do.

\textsuperscript{24} Bowers (1997) strongly encourages this setup, because operational activities affect the entire campus community, and they are a modus through which environmental educators can reach everyone.
foreground of the operations programs. Other initiatives could include retrofitting water faucets and shower heads, installing energy efficient lighting or motion sensors, addressing campus parking problems with a ride-share program, developing ways to maintain the campus landscape with indigenous flora and fewer chemicals, cooperating with campus planning on new building designs, assisting with non-environmental campus conferences to make them greener (less paper, fewer disposables), and working with campus dining facilities in minimizing disposable use and coordinating a composting program.

The OEA could coordinate efforts with the University focal areas of information technology and environmental, international and urban studies. For example, the most recent Environmental Faculty Enrichment Seminar was on information technology, and the faculty contributed to a CD-ROM compendium of Tulane’s environmental programs while learning how to use presentation software to enhance their teaching. Another information technology project could be a comprehensive web site focusing on Tulane’s campus greening initiatives. International issues could be addressed with the Payson Center for International Development and Technology Transfer; such issues might be include the role of higher education in developing countries and might also involve international organizations such as the University Leaders for a Sustainable Future, the international association of signatories to the Talloires Declaration (see Appendix B). And for working with urban studies programs, many projects are possible with the Community Action Corps of Tulane University Students (CACTUS), the Campus Affiliates Program (CAP), and the National Center for the Urban Community. A University of Illinois study showed that grass and trees encourage children in housing projects to play more often, more creatively and less violently; the OEA could coordinate with other (non-environmental) campus and community organizations to establish some greener playgrounds in local housing projects, most of which Tulane helps manage. Another program involving the local community might be a “Green Wave Seal” program, where local businesses and industries that conduct business in an environmentally responsible manner are awarded University contracts and receive local recognition for their accomplishments.

The OEA would not necessarily run all the above-mentioned programs, but it would help coordinate efforts, provide information and experience, and advocate for new programs. Students are an integral part of the programming function of the OEA, and they comprise crucial the links between the Office and the myriad departments, programs and organizations on campus and in the community. The successful projects of the OEA should be chronicled in campus newspapers and newsletters, as well as in local or national media. Projects of the OEA would likely begin focused on campus; once the Office builds momentum and accomplishes some major campus greening tasks, programming could move into the local community. The program possibilities of the OEA are seemingly endless, as this section and Appendix F show.

Conclusion.

Julian Keniry has reported that four typical models are used for institutionalizing environmental stewardship on campuses. The first model is a task force or coordinating committee, similar to the TEC mentioned above. Student or departmental liaisons are the core of the second model. The third model involves establishing an office to coordinate students, staff, faculty and

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26 Strauss (1996) suggests getting non-environmental organizations and individuals involved in such environmental projects as a way of spreading an environmental service ethic. Doing so might also dispel notions of environmentalism only being for “hippies” or “tree-huggers.”

administrative efforts, similar to the OEA. And the fourth is faculty driven, *i.e.* through an environmental studies program that may use campus environmental audits from classes as a modus for campus greening. Some institutions use all four models, such as the University of Wisconsin, Madison (see Chapter Four). All methods of institutionalizing campus greening programs depend integrally on the role of students. The OEA proposal uses all of Keniry’s “models.” Perhaps what may make the OEA proposal in this study unique is its reliance on the model for change from Chapter Two to develop the Office. An extensive literature of experience and research supports the development of the OEA, and if it is developed using the model for change from this study, then chances for success are greatly improved.

While the proposed OEA and Environmental Coordinator position may not be the panacea for all institutions, it is relevant for Tulane, a university that has many divisions, schools and colleges. (Harvard, for example, is structured in a similar manner, with each division or department responsible for all its own needs; a coordinating entity like the OEA seems most appropriate for such a structure.) An alternative to the OEA could be to develop a new division at Tulane, for example, a “Dean of Environmental Programs” similar to the establishment Tufts developed in the early 1990s. But such centralization would not engender the cooperation and *coordination* essential to the design of the OEA and Environmental Coordinator. Thus, the ideal situation for Tulane is, as many of the reviewers recognized, a committee reporting scheme (the TEC) explicitly linking and coordinating efforts from the students, staff, faculty and administrators and in research, education, operations and service.

I suspect that it will take one year to establish the OEA: development and fundraising (fall, 1998), fundraising and hiring (spring 1999), and implementation (and continuing fundraising) in the summer of 1999 in time for the fall semester, when programs would begin (and fundraising would continue). The three most important things needed immediately are:

- **Advocacy** – President Cowen’s blessing, support and directive for establishing the TEC.
- **Policy** – a commitment from President Cowen that Tulane will be a leader in environmental education, research and operations, upon which the TEC will expound to create an official University environmental policy.
- **Resources** – funding for the salary of the Environmental Coordinator (to come from a cooperative funding initiative supported by President Cowen).

With these three requests granted – with the convergence of grassroots and top-down advocacy – Tulane can begin a concerted effort towards institutional environmental change. That change will not happen spontaneously: only with dedicated policy and resources will institutionalized leadership develop the means and ends to educate the campus and move Tulane towards sustainability.

This year – which President Cowen has hailed as a “Renaissance of Thought and Action” – is the year to make environmental change at Tulane. Tulane has proven its commitment to “thought”: environmental research and education programs are performing well. Now the administration must commit to the “action”: taking active steps to being responsible environmental stewards on our planet, in New Orleans and on our campus.

**Epilogue.**

I wrote the bulk of this study in the spring of 1998. Since then, I have presented it at conferences and workshops, used it in a class, and had numerous individuals reviewed it. I have incorporated most of the suggestions in the Executive Summary, which I prepared for circulation and eventual publication. That Summary should be seen as my most up-to-date thinking on the subject at hand, since I was not able to update each detail of the main study.

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28 Strauss (1996) also supports this claim.
I am pleased to report that as of May 1999, the month I must officially submit this thesis, we are in the process of hiring an Environmental Coordinator. Extra advocacy came from a student government resolution to green Tulane (which supported the establishment of the OEA); the publication of the Executive Summary from this study; a visit and lecture by David Orr; the recommendations from a committee of students, staff and faculty who attended a sustainable campus development conference; and the class (Ecological Design) which I co-designed and co-taught with Dr. Charles Reith in the spring of 1999. That class did an in-depth environmental audit of Gibson Hall, Tulane’s main administration building. The class supported establishing the OEA, and they also formally suggested to President Cowen (our primary audience for the audit results) that the University commit to ISO 14000 certification, which calls for an environmental management system that continual improves the environmental performance of the institution; an Environmental Coordinator is needed to lead such an initiative. A committee of faculty and staff (and myself) is organizing a meeting on the prospects of making Tulane the first American institution to become ISO 14000 compliant. The administration is excited about the prospect, as am I, since ISO certification will institutionalize the greening process at Tulane.

We have had trouble getting the President to make a public policy statement, although the new talk of ISO 14000 has piqued his interest and such a statement may come soon. But because our resource venture (the cooperative funding program) has been successful and because many opportunities for foundation grants and alumni gifts exist (and are already in the works), we were able to move towards officially establishing the OEA. Hiring the Environmental Coordinator will take place during the summer of 1999, and programs should be up and running in the fall of 1999. The formation of the TEC and the official policy statement will likely be first projects of the Environmental Coordinator.

While the model for change and the resulting “Blueprint for a Green Tulane” appear somewhat abstract on paper, the fact is that they work. They may not work for every institution in the same way, but I am confident that the model, which is itself rather general, is applicable in nearly all situations. This study should inform future Tulane Environmental Coordinators others elsewhere embarking on the path towards institutional environmental change.
* Tulane Environmental Committee

Appointed with Presidential Approval; Yearly Meeting for Agenda Setting / Approval; Representatives from:
Administration: Executive Working Group
+ Operations: VP Fin. & Ops., VP Admin. & Strategic Planning
+ Education: Provost, Deans, Environmental Studies
+ Research: CBR
Faculty: University Senate, CBR, Environmental Studies, faculty
Staff: Staff Advisory Council, staff
Students: ASB, Green Club, students

Figure 1. Proposed organizational structure.
Appendix A

Suggestions for Improving Waste Management Practices.

Definition of waste management in the immediate context for Tulane University: recycling, refuse operations of any sort - including grounds operations - and property management.

The university should adopt a policy on waste minimization and treatment, including goals for recycling (such as 50% of the waste stream by the year 2000), commitment to resource saving technologies, community education, and continuous improvement.

A restructuring of hierarchical and accounting practices regarding waste management is absolutely necessary for the improved efficiency, success, and quality of waste management.

Hierarchy

- Consolidate / merge the Physical Plant Department (PPD) entities of Recycling, Grounds, Refuse, and Property Management.
- Purchasing should also be incorporated into this new division of Waste Management. By purchasing recycled products this “demand side recycling” would help maintain the market for selling recyclables.
- A single Director of Waste Management should be appointed to manage and most importantly reduce waste generation and waste sent to the landfill while increasing diversion of waste from the landfill.
- The merger will also reduce temporary labor costs by proper peak-work-load scheduling.
- Track and report everything. This section of the Director’s job description is vital to continuous improvement and public education, and to insuring that Tulane is properly billed or paid.
- Join and adhere to such programs as the EPA’s Waste Wise.

Accounting

- All University departments (and especially every non-University funded Auxiliary such as Barnes & Nobles, Marriott, Digital, P.J.’s etc.) should be charged for their waste disposal. At the same time, however, an incentive program should be developed to give them credit for recycling, thus nullifying any substantial charges for trash disposal (and sending the message “It Pays to Recycle”).
- Auxiliaries (and departments) should not be charged a static rate, but instead Expense recovery monies should be adjusted to reflect the fluctuations and possible decreases in market prices for recyclables and the rises in tipping fees.
- Dormitory floors that continuously contaminate their recycling bins should be charged fees as punishment, just like other floor damages are charged. (See also under “Student Education.”)
- Support a $5 per year per student “environmental impact fee” to raise capital for environmental improvements, including recycling. The Administration should match the funds raised.
- All incomes, tonnages, and savings from recycling, composting, and donations must be regularly tracked. (“Savings” are monies not spent on landfilling the waste.)
- A key point is that the Division of Waste Management should be given credit not only for all the revenues earned, but more importantly, also for the “savings,” even if it is only lip-service. The Division should be able to use that “credit” awarded to it for budget justification and capital improvements as needed. For example, “loans” can be made to the Division for capital improvements. The Division must have good “credit” (i.e., a proven source of savings to the University, which has already been established) to receive the “loans,” which are then paid back via savings to the University by cost avoidance, income, cost recovery, and
efficiency.

* Any income above what is needed for the equipment improvements, education, “loan” repayments etc., should be put into a special fund that is used as “incentive monies” for the Tulane community to continue successful recycling (e.g., a pizza party for a successful dormitory hall.)
* Do not assume a certain amount of money will be earned to satisfy budgetary needs.
* Do not aim for recycling to be a self-sustaining entity. (Is, for example, grounds a self-sustaining entity? No. It is a service to the University community as recycling and refuse are.) Aim for waste reduction and diversion, not profit; this goal is much more pragmatic because of curbside recycling’s impact on the Tulane recycling program.

**Education is a key** component for improving overall participation in recycling and waste reduction.

**Campus**

* By having recycling bins always labeled and paired with trash receptacles (and never having trash receptacles isolated), there will be continuous education on campus.
* Use and publicly display compelling numbers to encourage participation in recycling. (E.g., display the number of trees per year that Tulane uses for paper consumption and also display the number of trees saved per year by recycling. This requires accurate tracking.)
* Do a large, promotional waste-stream analyses on the University Center Quad. Get high-level administrators involved, get reporters out, and make an event out of it to promote and propagate the message of waste responsibility, reduction and recycling, and to educate people on just how much and what wastes the University produces and could reduce, reuse or recycle.
* Educate on reuse of paper for printing of drafts and double-sided printing. Give incentives for double-sided printing at copy machines *(i.e. significant* discounts).
* Produce and continually update a manual on recycling.
* Develop and maintain a web-site for information, feedback, and requests for pick-ups, etc.
* Students, administrators, staff, and faculty should all take significant roles in the education. It should not be lead by any one of these groups, but the Director of Waste Management should serve a key roles as an information source and leader of these educational goals.

**Students**

* Work with Residence Life and the Resident Advisors (RA’s) to disseminate information.
* Offer incentives for keeping hall recycling successful *instead of having fines*. Additionally, recycling (and other environmental) projects can build community and be educational.
* Establish a Student Recycling Network to have a diffuse base of observers and reporters on problems with recycling and other environmental situations.
* Promote and encourage an “End of the Year Everything Drive” in the dormitories to reduce the volumes of move out month waste. Such an event could be organized with a non-profit, off-campus entity to spearhead and benefit from any profits (and to reduce the work-load of Residence Life staff at a very busy time of year). The University would benefit by sending less waste to the landfill.
* Another option to the “Everything Drive” would be to store all the discarded but still usable materials for resale to incoming students the next year. Use profits to fund the storage and the project overall, and appreciate savings from waste diversion.

**Faculty & Staff**

* Each department (academic and otherwise) of the University should be visited by recycling coordinators and students (and interested faculty involved in the program) to educate the office residents on how, why, and what to recycle. They should also be given contact information. All faculty and staff should be “strongly encouraged” to attend so that
misinformation can be corrected and new information can be disseminated.

- Educate all of the Jani King and PPD employees on recycling and basic environmental science to provide clarification (in addition to the education) on their absolutely pivotal role in making recycling and waste minimization a success at Tulane.
- A “recycle me” flier can be used to give everyone a “wake up” call about recycling periodically.

**Capital, methodological & organizational improvements** in the recycling program on campus are essential for increased participation and education . . . which ultimately leads to a successful program that conveys and lives up to the University’s commitment to waste reduction.

- One possibility to eliminate confusion and simplify the entire recycling process is to go to a *commingled container* system that is for aluminum, glass, steel and plastic (with another bin for all paper). This would reduce the number of bins needed, eliminate confusion, conserve valuable space, and increase waste diversion. Vista Fibers will take commingled materials but will not pay for them. Income should not be a goal, and instead savings should be. Some income will be earned from concentrated sales of paper, aluminum or scrap metal. Using student or other labor to sort certain grades of paper / containers to sell is an option.

**Research**

- Do an up-to-date market feasibility study, and constantly update and maintain it.
- Do continual waste-stream analyses and determine what portion of the waste stream is recyclable.
- Is Tulane disposing of refuse in the best possible way? Would an incinerator be cheaper? Is the landfill EPA certified? Is there any potential risk for Tulane to be a Primary Responsible Party in a superfund clean-up of the landfill? Is there a closer disposal site to decrease gasoline, time, and equipment costs? These questions and many others should be investigated to determine if Tulane’s waste disposal system is economical, effective, low in risk (to the environment and to Tulane), and the most efficient method available.

**Physical Changes**

- Relocate all the trash receptacles on campus to be immediately near a recycling receptacle. If there is no way to have the recycling and trash receptacles near each other (because of space or availability of recycling receptacles) then there should be neither located in that place.
- Exploit the income potential of aluminum recycling by providing can recycling bins everywhere.
- In addition to providing bins to facilitate aluminum recycling, the machines dispensing one-liter plastic bottles of soda should be removed because they not only create a form of waste that is not presently recycled at Tulane, they also reduce the potential for income from aluminum recycling.
- All campus recycling bins should be clearly labeled and should not look exactly like the trash cans.
- Clear plastic bags should be used instead of opaque bags to eliminate confusion on what is recyclable and what is trash. Strength of bags is certainly an issue, but clear bags can be just as strong as opaque bags if purchased properly. (This is primarily a concern in the dorms.)
- Consolidate trips to sell recyclables (also use a larger vehicle).
- Use only one buyer (possibly two), Vista Fibers (and Southeastern Recycling), instead of a variety. Although using many insures better prices, income should not be focused on, instead it should be waste diversion, tracking, and fewer trips.
- Do not initiate a contract with the buyer(s), instead keep options for change open.
- Recycling of shredded confidential materials must be improved. Departments and Recycling should enter into binding agreements of trust to handle the shredded documents. Departments
should be assured confidentiality will not be breached. (Shredded documents are no longer potential confidentiality problems; however departments continue to believe that they are and that Recycling will find out confidential information. This should be clarified with the Departments.)

- Expand recyclables to include plastics and toner cartridges, oil and other materials as needed.
- Improve composting of yard waste. Explore cooperative ventures with Loyola University, with Audubon Park and Zoological Gardens, and / or with Harvey Jeffcoat’s Nu-Earth facility. (For best results from composting, Grounds should go to an Integrated Pest Management System that eliminates all chemical fertilizers and pesticides, fungicides, herbicides, etc.)
- Clean - and keep clean - all the Profile 6000 recycling receptacles near the dormitories.
- Exploit the collection of recyclables from the downtown campus. They contribute to the waste stream but do not contribute enough to the waste diversion stream.

Other Changes

- Use work study students (paid well above minimum wage to provide incentive for helping) for assistance in tracking, collecting, monthly or weekly dorm and office walk-throughs and education.
- The key to a successful waste management program is to REDUCE waste generated. Documentation and comprehensive education will help reduce waste.
- Improve and encourage paperless communication (E-mail) for University memos, reports, transactions, and other primarily paper-bound transactions for the entire University and within departments. Make sure all faculty and staff (and students) have access to, know how to use, and are willing to use E-mail.
- Other waste reduction strategies are to: insist on double-sided copying for all university documents, buy double-siding printers, eliminate the printout of "in between" or "header" pages in computer labs, have a no more junkmail program, scale down mailing lists and ordering of documents like newspapers, use more reusable envelopes, use electronic scheduling and grade reporting, eliminate the purchase of disposables for break rooms and meetings and conferences, use fax modems, get rid of thermal paper faxes that cause people to copy documents, stock fax machines and copiers with used paper for in-house documents, bind used paper into scratch pads, and educate on copying on reused paper.
- Each department (academic and otherwise) could be encouraged to purchase their own bins for all staff and faculty. Selection of models should be department (and individual) specific.
- One alternative to purchasing bins is to make bins out of old paper boxes (this alternative should be incentivized.) To give the boxes permanence they could be painted or decorated by the department / dormitory members, helping to build a sense of community.
- Every University building clean-out, renovation, and move must incorporate all aspects of recycling and waste reduction. Lack of time to complete a job is not an excuse for not doing so.
- All the top officials of the University should lead by example and have efficient office recycling in place across the campus.
- Assist large waste generators (such as Marriott) in reducing their waste by making recycling very easy and encouraging (and aiding in) waste reduction efforts.
- The Recycling Coordinator’s job should not be collecting refuse. Decide if he is to be a laborer or a manager (i.e., should the Director of Waste Management take the initiative to educate, track, and coordinate activities and let the Recycling Coordinator simply coordinate recyclables or should the Recycling Coordinator do education, tracking etc.?)
- Develop a “service learning” program for free or inexpensive labor.
Work out a program with the bookstore to take discontinued books for recycling (to reduce the number of books thrown away by students).

Explanatory Notes for Recycling Data.

These data compare the cost and savings of recycling versus landfilling for FY91 to FY97, and concludes that overall savings result from having a Recycling Program. The data of most relevance are from FY95-97, after the initiation of a curbside recycling program in New Orleans, which diminished non-University use of Tulane’s facility. The income of the Program (G) is augmented with the amount of tipping fees saved (J) from diverting waste from landfilling. With this adjusted figure, Tulane has incurred a small cost per ton (<$100) for recycling since FY95 (Q). Using the adjusted figure, since FY95, expenses have slightly outweighed income and resulted in a deficit.

In terms of refuse, the total cost per ton to landfill (X) has been less than $100 as well. This figure, however, is inaccurate: it relies on an income figure unadjusted for the cost of subsidizing Marriott’s program, and it does not take into account some PPD costs in its expenses. Thus the actual amount that Tulane spends per ton of refuse is greater than that stated. Already at this artificially low cost per ton (X) it is more expensive to landfill than recycle (Q). The total tonnage of waste per year is calculated by adding tons recycled and tons landfilled; this figure is multiplied by the cost per ton for Tulane to refuse. Thus a hypothetical figure for the cost of refuse without recycling is obtained. Compared to the actual cost of the refuse and recycling programs combined, Tulane has saved $35,427 in the period FY91-97 as a result of Recycling.

A: It is important to note that Curbside Recycling began in 1995. Thus data after FY95-96 is considered more accurate for Tulane because the Uptown community was no longer using Tulane’s Recycling Center.

B: “Tons recycled” is not accurate because many materials are not weighed. Also, many receipts were unavailable for totaling, especially scrap metal - revenue from it goes to a general PPD fund. (See also note for column H.)

C: B/Z As a result of B not being accurate (and some inaccuracies in R and thus Z), this percentage is inaccurate. Also, up to ’95 uptown residents used the center, making it look like Tulane reduced a larger portion of the campus waste stream.

D: For 92-93 no accurate record exists. It is assumed that the amount given by the University was only $25,000 and the additional $12,500 was assumed income. (Records show only one figure: $32,500.)

E: “Assumed income” is calculated into the total budget of the Recycling Dept. but is not given by the University; they assume that the Dept. will earn this amount to meet their budgetary needs.

F: D+E What the total determined budgetary needs of the Dept. are. (However, these funds have proven inadequate for expenses and ridiculously small for wages.)

G: “Actual income” is what Ken Symonette (PPD’s senior accountant) has on the official accounting statements.

H: Figures in brackets are from various Recycling Dept. reports. FY’s 94-97 are from totaling all available receipts from the FY. The inaccuracies for FY’s 94-97 (from missing receipts) further support the inaccuracies in B (the data in B from FY’s 94-97 were obtained from the same receipts as the data in I.) Note also the Recycling Dept.’s discrepancies from the “actual” (the reason for this is not known).

I: G/B Prices paid for recyclables vary significantly (see “Vista Prices” graph), and this column is simply an average.

J: BxS Tip fees “saved” (i.e., cost avoidance) is an important figure not normally accounted for, nor is Recycling given credit for the cost avoidance. FY’s 95-97 reflect approximately the Dept.’s impact on the campus.
K: “Actual” because they are from the PPD accounting sheets provided by Ken Symonette & include all costs: equipment & labor.
L-1: (D+G)-K
L-2: (J+G+D)-K “Adjusted” because it includes cost avoidance from tipping fees saved.
M: K-G This is the figure that accounts for approx. what Tulane spent (approximately, because of incomplete / inaccurate data. It would be lower if not charged for large mistake, if market prices were better, and if more was recycled.
N: M-J By including the savings from tipping fees that would have been spent were there no Recycling Dept., a more accurate figure for expense to the University is determined.
O: K/G This is an inaccurate figure (it is too high) because, although the expenses (K) are correct, the tonnage (G) is not accurate because of missing receipts.
P: M/B Since M is adjusted for income, this is Tulane's cost/ton for recycling - though still not entirely reflective of the program because of missing data on income and the fact that cost avoidance from tipping fee savings are not incorporated.
Q: N/B Now cost avoidance from tipping fee savings are incorporated and, although still inaccurate (too high) due to missing data, Q better reflects the true cost to the University.
R: The thousands of receipts had to be hand tallied. Additionally, many receipts were missing (in the case of an entire month, the average for that month from other years was used.) Some inaccuracies.
S: Tip fees change often. Here an average is used (total of tip fees times months valid for each rate divided by twelve).
T: “External” because it is from out-sourced University services: Marriott and Barnes & Noble. These numbers are inaccurate because Marriott does not pay its total amount (Tulane subsides them).
Note: Auxiliaries pay expense recovery fees to PPD, but it's still University funds; it has been noted by PPD that the Barnes & Noble and Digital do NOT pay for refuse services - contrary to what is on the books.
U: These are base-line figures (total spent on tip fees, labor, materials, etc.). However, because refuse has no actual budget, many expenses such as temp labor or labor from other PPD depts. is not reflected.
V: U-T This number is artificially low since Tulane subsidizes some unknown amount of T.
W: U/R The real cost for disposing of waste per ton.
X: V/R The cost Tulane incurs for waste disposal. It is inaccurate (see notes V & T) & lower due to external cost recovery.
Y: Registrar figures for total students at Tulane per semester (two semesters divided by two for the average) plus payroll figures for faculty and staff (calendar year divided by 2 then reaveraged into fiscal years). Does not accurately reflect the population of the Uptown campus, where nearly all recycling takes place.
Z: B+R MSW=Municipal Solid Waste
AA: M+V (* = N+V) FYs 91-95 are expense based; FYs 95-97 include savings from cost avoidance from tipping fees.
AB: XxZ If Tulane had no recycling it would pay for disposal of the entire MSW stream. Not an accurate figure (a bit too high) because some of the B portion of the tonnage of Z is from the community & due to previously mentioned inaccuracies.
AC: AA-AB As a direct result of the Recycling Dept. Tulane University is AHEAD $35,427. Despite the many inaccuracies, this number is still compelling. Even if more exact data were available, Tulane would have and would still be saving.
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9 2-9 3

9 3-9 4

9 4-9 5

95-96

96-97

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2 4, 2 86

2 4, 2 86

2 4, 2 86

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1 6,2 98

1 6,6 36

1 6,3 50

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2 99 1.8 6

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1 41 ,45 4

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151


Recycling Deficits

<table>
<thead>
<tr>
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<th>Actual (L-1)</th>
<th>Adjusted (L-2)</th>
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<tbody>
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<td>13,691</td>
<td>-21,549</td>
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<tr>
<td>94-95</td>
<td>44</td>
<td>-12,392</td>
</tr>
<tr>
<td>95-96</td>
<td>-24</td>
<td>-21,549</td>
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</table>

Cost per Ton to Recycle

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<tr>
<th>Fiscal Year</th>
<th>Total Cost (O)</th>
<th>Cost to Tulane (P)</th>
<th>Cost to Tulane w/ savings (Q)</th>
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</thead>
<tbody>
<tr>
<td>91-92</td>
<td>123.5</td>
<td>99.33</td>
<td>72.55</td>
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<td>92-93</td>
<td>142.57</td>
<td>99.34</td>
<td>72.5</td>
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<tr>
<td>93-94</td>
<td>154.05</td>
<td>124.62</td>
<td>74.73</td>
</tr>
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<td>94-95</td>
<td>157.48</td>
<td>126.58</td>
<td>74.73</td>
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<td>95-96</td>
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<tr>
<td>96-97</td>
<td>95.35</td>
<td>126.58</td>
<td>74.73</td>
</tr>
</tbody>
</table>

Cost per Ton to Landfill

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Total Cost (O)</th>
<th>Total Cost to Tulane (X)</th>
</tr>
</thead>
<tbody>
<tr>
<td>93-94</td>
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</tr>
<tr>
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</tr>
<tr>
<td>96-97</td>
<td>79.3</td>
<td>79.3</td>
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</table>

Cost per Ton: Recycling vs. Landfill

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Recycling (Q)</th>
<th>Landfilling (X)</th>
</tr>
</thead>
<tbody>
<tr>
<td>94-95</td>
<td>95.35</td>
<td>95.35</td>
</tr>
<tr>
<td>95-96</td>
<td>95.35</td>
<td>95.35</td>
</tr>
<tr>
<td>96-97</td>
<td>95.35</td>
<td>95.35</td>
</tr>
</tbody>
</table>
Savings (+) / Extra Cost (-) as a Result of Recycling (AC)
Appendix B

“Numbered” or “bulleted” items in the institutional environmental change literature.

Kinery’s (1995) “12 benchmarks of success”:
- Executive Support.
- Policy.
- Resources and Incentives.
- Structural Framework.
- Curriculum.
- Research.
- Ecological Planning and Design.
- Sense of Place.
- Measurable Reduction of Cost and Waste.
- Public Relations and Documentation.
- Financial Accountability.
- Leadership Development and Training.

Smith’s (1993) ten “strategies for change”:
- Put it [greening research] in Writing.
- Get a Commitment from the Top.
- Creating the Planning Process.
- Fiscal Planning.
- Work with Campus Administrators.
- Campus Outreach.
- Get Students Appointed to Decision-making Positions.
- Monitor Your Progress.
- Get the Word Out.
- Use Your Network.

Hamburg and Ask’s (in Eagan and Orr, Eds., 1992) three “key operational guidelines”:
- Environmental Change and the University’s Missions.
- Environmental Change Must Be Without Net Costs.
- Environmental Change Must Be Systems Based.

The Blueprint’s (1995) ten “recommendations” and three “strategies for implementation”:
Ten recommendations:
- Integrate environmental knowledge into all relevant disciplines.
- Improve undergraduate environmental course offerings.
- Provide opportunities for students to study campus and local environmental issues.
- Conduct a campus environmental audit.
- Institute environmentally responsible purchasing practices.
- Reduce campus waste.
- Maximize energy efficiency.
- Make environmental sustainability a top priority in campus land-use, transportation, and building planning.
- Establish a student environmental center.
Support students who seek environmentally responsible careers.

Three strategies for implementation:

- Build Diverse Campus Coalitions.
- Improve Regional, National, and Global Communication Channels.
- Participate in Public Policy Formulation and Citizenship Education.

The Talloires Declaration:

“We, the presidents, rectors, and vice-chancellors of universities from all regions of the world ... agree to take the following actions:

- Use every opportunity to raise public, government, industry, foundation, and university awareness by publicly addressing the urgent need to move toward an environmentally sustainable future.
- Encourage all universities to engage in education, research, policy formation, and information exchange on population, environment, and development to move toward a sustainable future.
- Foster programs to produce expertise in environmental management, economic development, population, and related fields to ensure that all university graduates are environmentally literate and responsible citizens.
- Foster programs to develop the capability of university faculty to teach environmental literacy and responsibility to all undergraduate, graduate, and professional school students.
- Set an example of environmental responsibility by establishing programs of resource conservation, recycling, and waste reduction at the universities.
- Encourage the involvement of government at all levels, foundations and industry in supporting university research, education, policy formation, and information exchange in environmentally sustainable development. Expand word with nongovernmental organizations to assist in finding solutions to environmental problems.
- Convene deans of appropriate schools and environmental practitioners to develop research, policy, and information exchange programs and curricula for an environmentally sustainable future.
- Establish partnerships with primary and secondary schools to help develop the capability of their faculty to teach about population, environment, and sustainable development issues.
- Establish a steering committee and secretariat to continue this momentum and inform and support each other’s efforts in carrying out this declaration.

Second Nature’s seven components to the “Road Map to Sustainability”:

- Role of Higher Education.
- Principles of Sustainability.
- Education for Sustainability Movement.
- Skills to Build Your Movement.
- Transforming Curriculum.
- Transforming Operations.
- Community Outreach.

Walter Simpson’s “fifteen actions . . . for an effective campus environmental stewardship program” (in Calder 1998):

- Organize a campus environmental committee with participation of key faculty, staff and students.
- Secure top level campus administrative support.
- Obtain resources for starting new programs and increasing participation in existing ones.
- Form a network of environmental contacts from various departments and offices and assign a network coordinator.
- Get the facilities department on board.
- See the appointment of an energy officer and recycling coordinator.
- Hold regular committee meetings and conduct regular follow-up (perhaps with a newsletter).
- Conduct a campus environmental audit.
- Develop, obtain administrative approval for, implement and publicize campus environmental policies.
- Create awareness programs which take the moral high ground and publicize the benefits of campus greening programs.
- View the campus as a learning lab for students.
- A campus energy conservation program should be a central tenet of a campus greening program.
- Recycling is also important.
- Document savings and demonstrate how future measures could save money.
- Defend the programs against apathy, inertia and external threats.

Example of general and specific environmental policies.

- **General.** From the mission and guiding principles of the division of facilities at the University of Wisconsin-Madison: “We will strive to be good citizens of society, recognizing out duty to protect the environment in all various respects.”

- **General.** Various (unrelated) examples provided by Dr. Charles Reith, adjunct Professor of Environmental Studies and Business.
  - Environmental considerations will be factored into all decisions above a certain threshold.
  - Environmental performance will be integrated into each employee's job description and performance reviews.
  - All decisions with potentially negative environmental impacts will have a formal "scoping" process with an analysis of alternatives.
  - Management is accountable for its environmental decision making.
  - One out of every three specific quality improvement initiatives will be directed toward environmental performance.
  - Environmental performance will be independently audited every year.
  - Our institution will be formally benchmarked against similar institutions, as well as neighboring facilities.
  - Customers and employees will have every opportunity provide input on environmental performance and, when commenting, they are owed a reasonable answer.
  - Our institution will strive to define for itself "sustainability" and will strive to measure and manage its way toward the achievement of that end.

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Specific. The Tufts University Environmental Policy:

We, the Tufts University community, affirm our belief that university faculty, staff and students have a responsibility to take a leadership role in conducting activities as responsible stewards of the physical environment and using educational activities to promote environmental awareness, local action and global thinking. In our university functions, Tufts University will strive to:

- conserve natural resources and support their sustainable use;
- conduct affairs in a manner that safeguards the environmental health and safety of students, faculty, staff, and communities;
- reduce the use of toxic substances and the generation of wastes and promote strategies to reuse and recycle those wastes that cannot be avoided; and
- purchase renewable, reusable, recyclable and recycled materials.

In our education and research missions, Tufts University will strive to:

- foster an understanding of and a responsibility for the physical environment;
- ensure that individuals are knowledgeable about the environmental and health issues that affect their discipline;
- encourage environmental research;
- conduct research and teaching in an environmentally responsible way; and
- provide a forum for the open flow of information among governments, international organizations, industry, and academia to discuss and study environmental issues and their relationship to other social issues.

In our student and employee relations, Tufts University will strive to:

- delineate individual responsibility and guide action for ensuring safety and minimizing adverse environmental impacts in the implementation of this policy.

Tufts will consider full compliance with the law to be the minimally acceptable standard and will exercise whatever control is reasonable and necessary to avoid harm to public health and the environment, whether or not such control is required by regulations.

Specific. Middlebury College’s Environmental Council’s mission statement.

1. To promote environmental awareness on campus among faculty, staff, and students.
2. To make recommendations to the President of the College designed:
   A. to ensure a safe and healthy environment for all who live and work on the College campus.
   B. to maintain biodiversity and wildlife habitat, restore damaged ecosystems, prevent pollution, safely manage hazardous waste, and safeguard the beauty of the landscape in the outdoor environment directly under the care of the College.
   C. to promote throughout the College community conservation of resources, energy

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2 Dr. Anthony Cortese, the first Dean of Environmental Programs at Tufts, described the establishment of the policy (in a personal interview, 8/13/97) as such: First, the committee to develop the policy must include students, staff, faculty and administrators. With informal hearings or “town meetings” the committee includes the campus community and decides what issues are to be included (this provides community “buy-in”). After drafting the policy, it was sent along to the deans council, where it was forwarded to the president for endorsement. The statement should outline tracking, how the policy should be used, how success should be measured, how to implement elements of it, and what rewards and incentives result. (These elements strongly support the model from Chapter Two.)


4 <http://www.middlebury.edu/~enviroc>
efficiency, waste reduction and recycling, pollution prevention, increased reliance on renewable resources, and other measures consistent with sustainable living.

D. to further long-range environmental planning by the College.
E. to assist the College in carrying out its civic responsibilities in the area of the environment.

3. To ensure that the College undertakes a College wide environmental audit on a regular periodic basis (every two, three, or four years) and that the audit is shared with appropriate College administrators.

4. To encourage faculty to provide students opportunities within the framework of academic courses to conduct research on campus and local environmental issues; and to ensure that such research is shared with the Environmental Council and appropriate officials within and outside the College so that it can be used to formulate improved policies and programs.

5. To design and coordinate environmental programs on campus as directed by the President.
Appendix C

Resolutions from the First EFES.¹
The Top Five Resolutions in Order of Priority are the Joint Resolutions of the Tulane Environmental Faculty:

* Establish a physical office for environmental education on the uptown campus.
  A central location, designated as The Office for Environmental Education, will catalyze the communication and cooperation necessary for environmental initiatives to proceed. Faculty, students (especially in the Tulane Green Club), and staff are motivated to contribute substantially to the growth of the program. The harnessing and coordination of this collective energy requires a central location for communications, record keeping, information dissemination, and meetings. This location will draw students into the program, and will serve as a clearinghouse for faculty advice, course information, research opportunities, and experiential learning. The creation of this office will legitimize the university’s expressed commitment to environmental education and research. The seminar participants resolved to set up committees, list servers, and web pages to promote communications and sustain the momentum established in the seminar. However, the feeling was unanimous that progress would be impeded if the Environmental Studies Program were to lack physical facilities until completion of the new environmental building. It is proposed that the office be located in the Alcee Fortier Building in close proximity to the uptown office of the CBR.

* Identify Sources of Funding for the Tulane's Environmental Studies Program.
  The program requires seed funding now and sustained funding through grants over the long-term. Faculty will collaborate to identify funding sources, develop strategies, and submit proposals. Institutional vehicles such as the currently inactive Meso-American Ecology Institute will be evaluated for their potential use in raising funds for education and research. Faculty and administration will also explore revenue generating measures such as professional short courses and community training offered on environmental topics through University College.

* Schedule Meetings every Semester for the Environmental Education Community on the Uptown Campus.
  These meetings will be used to review progress, improve ongoing efforts, and identify new opportunities to enrich the program. Faculty, students, staff, and administrators should attend these sessions, which will be carefully planned and orchestrated to promote communications and assure input from all involved. The meetings will be structured around a program of action items that maintain the momentum of the seminar and introduce new areas of progress as warranted.

* Improve Environmental Advising.
  Undergraduates now face a potentially vexing array of courses which comprise the Environmental Studies curriculum. Moreover, the content and value of courses outside Liberal Arts and Sciences may be unknown to undergraduates who would greatly benefit from taking these courses in their junior and senior year. Environmental faculty must work together to provide these students with the information and guidance they need to navigate effectively toward a joint degree between environmental studies and another major. The establishment of Drs. Bianchi and Rothenberg as advisors to first year students in Tulane's Environmental Studies Program is an excellent start. Strategies for continued service -- rotating appointments, development of a CD-ROM and a web page as an academic "roadmap," and collaboration with the Green Club -- will be evaluated for their effectiveness in providing mechanisms for an improved advising system.

¹ Taken directly from Reith and Allen (1996).
● Improve the Environmental Performance of the University.

A university that proclaims environmental science is one of its top priorities should strive for an environmentally progressive campus. Current environmental initiatives such as recycling and energy conservation are admirable, but they are piecemeal and lacking of much-needed support from senior administration. An integrated, campus-wide approach to environmental improvement is needed, spearheaded and supported by the highest levels of administration. Progressive businesses embrace total environmental quality management as a strategic element in their competitiveness and sustainability. As one of the largest employers in Louisiana, Tulane University needs to provide environmental leadership through exemplary performance.

Other Recommendations and Objectives Formulated During the Seminar Follow:

● Establish a Centrally Coordinated Environmental Internship Program.

Today's students need experiential learning to be effective in the competitive market. Several schools and departments at Tulane have capstone experiences and off-campus internships available for their students. These should continue to be administered by their respective schools and departments. However, an element of coordination and record keeping is needed to assure that these programs are nurtured and expanded where appropriate. This would be a function of the Office of Environmental Education.

● Offer a Second-semester Freshman Seminar.

A seminar-type course should be offered as a sequel to the integrated environmental sciences and freshman writing classes. This class, tentatively entitled exploring environmental issues will survey compelling environmental issues in the context of a multidisciplinary exploration of one or two topics of keen local interest. The environmental health of the Lake Pontchartrain Basin, and the urban ecology of lead pollution in New Orleans are two examples of subjects that would provide threads of inquiry for the course. The course may be designed and coordinated by one or two faculty, but the material will be presented by a multidisciplinary cadre of qualified faculty. The course may include a short-duration quantitative data gathering exercise (for instance, an environmental impact analysis) to illustrate the importance of methodological rigor and interdisciplinary communications.

● Assure that Requisite Courses in the Environmental Studies Coordinate Major (in Liberal Arts and Sciences) include Environmental Content and Develop New Environmental Courses.

Students need to receive exposure to, and reinforcement of, environmental concepts even as they navigate the required basic courses in science and mathematics. The coordinated environmental sciences and freshman writing classes scheduled for this fall will begin to address this objective. Environmental faculty should work with their respective departments to inject environmental material -- perspectives, case studies, and guest lectures -- into the classes to enhance their relevance and motivational qualities to students contemplating environmental careers. Courses earmarked for specific improvement were: Economics 101 (microeconomics) and Chemistry 250 (environmental chemistry). Suggestions were also made to develop a team-taught course in population issues, to develop a course on Louisiana ecosystems, to revive the established course in ecology of fishes, and to develop a course on the Gulf of Mexico ecosystem.

● Provide support for the Environmental Engineering Program.

The Tulane School of Engineering recently instituted a four-year degree program in environmental engineering. Offered by the Department of Civil and Environmental Engineering (CEE), the program is continuously undergoing review and improvement. Last year, three new environmental engineering courses and one new course from LAS were added to the curriculum. As the CEE department continues to strengthen this program, it expects to add new faculty and to offer a greater variety of technical electives addressing environmental issues with prominent public policy, public health, or ecological implications. Potential elective topics for the future include solid and
hazardous waste management, air pollution control, water resources engineering, and infrastructure design and maintenance. Also, development of joint classes with other engineering departments and LAS is being explored. The Environmental Studies Program should include those environmental engineering classes which are appropriate for non-engineers. Environmental engineering classes with few prerequisites in mathematics or science are the most likely candidates for inclusion.

- Enhance the Visibility of the Environmental Studies Program on Campus.

The Environmental Studies Program, heretofore, has been successful but under publicized. As a result, it remains unknown to students who might otherwise be interested in enrolling. The Office of Environmental Education will, once established, increase the visibility of the program and accessibility to potential enrollees. Popular course offerings, social initiatives, and joint events with the Green Club need to be developed as tools to enhance the status of the Environmental Studies Program on campus.

- Track Environmental Freshmen.

Incoming environmental students should be tracked as to their experiences enrolling in classes, seeking advice, performing internships, and finding jobs upon graduation. Data must be acquired and analyzed to identify opportunities to increase the efficiency and value of the program to students. This would be another function of the Office of Environmental Education.

- Improve Outreach and Interface with the Local Community.

The relationships that developed between seminar participants and local environmental officials were immediately rewarding. Many opportunities for service, research, and experiential learning were explored. The community is reaching out for energy and expertise such as may be provided by Tulane faculty, staff, and students. The environmental faculty will nurture these newly formed relationships, and expand the role of the university as a provider of service to southeastern Louisiana.

- Establish a "Capstone" Environmental Course.

A capstone course will provide juniors and seniors in the Environmental Studies Program with an integrative exposure to the environmental field as they embark on graduate education or the environmental field. The course may be aligned with internship/experiential learning, or may be a more academic/seminar type survey of advanced environmental topics.

- Increase Pre-college Communications with Prospective Students.

The existence of an Environmental Studies Program with a coordinate major should be made evident to prospective students as early as possible. For instance, students are being contacted this summer and invited into the coordinated environmental sciences and freshman writing class. Based on the results of this program, it may be warranted to provide information on the Environmental Studies Program and opportunities therein to a broader array of prospective students before they arrive at Tulane and begin planning their curricula.

- Offer more Collaborative Courses.

The interdisciplinary nature of environmental studies lends itself to courses taught by multiple faculty members offering widely differing perspectives. The recent class on the Chernobyl disaster, which included both historical and engineering perspectives, is an excellent model. The potential for such courses in Latin American Studies and urban ecology is substantial. Faculty should work together to identify opportunities for productive collaboration.

- Engage Undergraduates in Environmental Research.

Undergraduate students can be productive and insightful contributors to research projects. Environmental faculty should identify opportunities to include undergraduates as they craft their research activities. The Office of Environmental Education can track and publicize opportunities, dispatching candidate students for consideration by the sponsoring faculty. The involvement of undergraduates in quantitative research exercises, ranging from local urban investigations to tropical
ecological studies, would constitute an extremely enriching educational experience for all participating students.

- Increase the Interface and Cooperation between the Schools of the University.

  Taken together, the environmental resources at Tulane are truly remarkable. The environmental education program per se under-performs relative to its potential because these resources are not yet fully coordinated. The CBR, directed by John McLachlan, has provided exemplary leadership in this direction. The next important step is to enhance the educational charter of the CBR, and to integrate perspectives that fall outside the realm of the biological and physical sciences. Faculty members in sociology, history, engineering, law, and business (to name a few) seek increased involvement in the CBR. Whether through the CBR or a separate, allied vehicle, the impressive educational resources of the university need to be marshaled into a coordinated program that delivers the highest measure of educational opportunity to environmental students.

Participants from the Two EFES's.

Steering Committee (1996):
John McLachlan, Ph.D., Sponsor, Professor of Pharmacology and Director Center for the Tulane / Xavier Center for Bioenvironmental Research.
Joan W. Bennett, Ph.D., Lead Faculty, Co-Chair Environmental Studies and Professor of Cell and Molecular Biology.
Michael Zimmerman, Ph.D., Lead Faculty, Co-Chair Environmental Studies and Professor of Philosophy.
Charles Reith, Ph.D., Lead Faculty, Adjunct Professor Freeman Business School, and Tulane School of Public Health and Tropical Medicine.
Christine Murphey, Program Coordinator for LAS Environmental Studies.
Michael Guill, Student Coordinator, Graduate School, Ecology, Evolution, and Organismal Biology, Graduate Ph.D.
Gregory Rose, Student Coordinator, Tulane School of Public Health and Tropical Medicine, Graduate M.P.H.
Ridgely Pittman, Student Coordinator, School of Engineering, Sophomore, Civil and Environmental Engineering; Green Club Environmental Forum Editor.
Aaron Allen, Student Coordinator, Tulane College, Junior, Ecology, Evolution, and Organismal Biology with Environmental Studies; Green Club President.

Faculty Participants (1996):
William Balee, Ph.D., Associate Professor of Anthropology.
Hank Bart, Ph.D., Associate Professor of Ecology, Evolution, and Organismal Biology.
Tom Bianchi, Ph.D., Assistant Professor of Ecology, Evolution, and Organismal Biology.
Eugene Cizek, Ph.D., Professor of Architecture.
Lisa Fauci, Ph.D., Associate Professor and Chair Department of Mathematics.
George Flowers, Ph.D., Assistant Professor of Geology.
Sam Ramer, Ph.D., Associate Professor of History.
Timmons Roberts, Ph.D., Assistant Professor of Sociology.
Molly Rothenberg, Ph.D., Associate Professor of English.
David Sailor, Ph.D., Assistant Professor of Mechanical Engineering.
Tom Sherry, Ph.D., Associate Professor of Ecology, Evolution, and Organismal Biology.
Laura Steinberg, Ph.D., Assistant Professor of Civil and Environmental Engineering.
Julie Whitbeck, Ph.D., Assistant Professor of Ecology, Evolution, and Organismal Biology.
**Students (1996):**

Aaron Allen, Student Coordinator, Tulane College, Junior, Ecology, Evolution, and Organismal Biology with Environmental Studies; Green Club President.
Rebecca Atkinson, Newcomb College Class of 1996, Sociology with Environmental Studies.
Jennifer Gould, Newcomb College Class of 1996, Political Science with Environmental Studies.
Michael Guill, Student Coordinator, Graduate School, Ecology, Evolution, and Organismal Biology, Graduate Ph.D.
Mary Harner, Senior, Newcomb College, Ecology, Evolution, and Organismal Biology with Environmental Studies.
Larry Levine (in absentium), Tulane College, Senior, Political Science and Philosophy; Green Club Vice-President.
Ridgely Pittman, Student Coordinator, School of Engineering, Sophomore, Civil and Environmental Engineering; Green Club Environmental Forum Editor.
Martha Rodriguez, Newcomb College, Junior, Communication with Environmental Studies; former Green Club Secretary.
Gregory Rose, Student Coordinator, Tulane School of Public Health and Tropical Medicine, Graduate MPH.
Dana Thomas, Graduate School, Ecology, Evolution, and Organismal Biology, Graduate Ph.D.; former Green Club President.

**Other Tulane Faculty Attending Portions of the Seminar:**

Allen Abplett, Ph.D., Assistant Professor of Chemistry.
Jed Diem, Ph.D., Professor of Mathematics, Tulane Media Services.
Oliver Houck, J.D., Professor of Environmental Law, Tulane Law School.
Harry Howard, Ph.D., Assistant Professor of Spanish and Portuguese.
Eamon Kelly, Ph.D., President of Tulane University, Professor of Economics.
Gary McPhearson, Ph.D., Associate Dean, Faculty of the Liberal Arts and Sciences, Professor of Chemistry.
Jerry Speir, LL.M., Director, Tulane Environmental Law Institute.
Bill Toscano, Ph.D., Chairman, Environmental Health Sciences, Tulane School of Public Health and Tropical Medicine.
Beth Wee, Ph.D., Laboratory Coordinator, Cell and Molecular Biology.

**Staff (1996):**

Thomas Armitage, Superintendent, Grounds.
Susan Brower, Manager, Media Production Services.
Karen Henley, Associate Director, Housing Facilities.
Keith Hook, Director, Recycling.
Marco Kauzoukas, Redd Pest Control.
Allen Perry, Associate VP, Facilities.
Mike Ragus, Redd Pest Control.
Stephen Regan, Assistant Director, Purchasing.

**Outside Presenters and Consultants (1996):**

Ron Burr, Ph.D., Associate Professor of Philosophy, University of Southern Mississippi.
John Clark, Ph.D., Professor of Philosophy and Coordinator of Environmental Studies Certificate Program, Loyola University of New Orleans.
Amy Clipp, Environmental Liaison, New Orleans Mayor's Office of Environmental Affairs.
Brenda Devaleir, Xavier Triangle Association.
Dianne Dugas, Louisiana State Department of Environmental Epidemiology.
William Graves, Ph.D., University of North Carolina, Chapel Hill, Institute of Academic Technology.
Sharon Harrington, Director, New Orleans Mayor Marc Morial's Office of Environmental Affairs.
Mary McCay, Ph.D., Professor and Chair, Department of English, Loyola University of New Orleans.
Howard Mielke, Toxicologist, Xavier University.
Ed Overton, Ph.D., Professor of Chemistry and Director of the Institute for Environmental Studies, Louisiana State University
Robert Thomas, Ph.D., Audubon Institute.

Faculty participants in the 1997 EFES:
Hank Bart (Tulane EEOB)
Robert Berman (Xavier Philosophy)
Ernie Edmundson (Tulane Business)
David Heins (Tulane EEOB)
Don Hodges (Tulane EHS, SPHTM)
T.R. Kidder (Tulane Anthropology)
Ronaldo Luna (Tulane Civil & Environmental Engineering)
Beverly Mason (Xavier Sociology)
Franco Marcantonio (Tulane Geology)
Ean McNaughton (Tulane Architecture)
Efstathios Michaelides (Mechanical Engineering)
Sara Singleton (Tulane Political Science)
Jerry Speir (Tulane Environmental Law Institute)
Laura Steinberg (Tulane Civil & Environmental Engineering)
Scott Wall (Tulane Architecture)

Organizers of the 1997 EFES:
Aaron Allen (Tulane Environmental Studies) - Tulane Undergraduate in Environmental Studies
Joan W. Bennett (Tulane Cell Biology) - Environmental Education Committee Co-Chair
Edwin Lyon (Army Corps of Engineers, New Orleans)
Alicia Lyttle (Tulane Environmental Studies) - Tulane Undergraduate in Environmental Studies
Christine Murphey (Tulane Environmental Studies) - Environmental Education Committee Member
Charles Reith (Tulane Environmental Studies) - Environmental Education Committee Member
Michael Zimmerman (Tulane Philosophy) - Environmental Education Committee Co-Chair

Participants in the TEP Proposals.
List of participants as in the April 1991 report “The Tulane Recycling Project, Phase 1: A Proposal”:
Tom Armitage, Physical Plant
Jim Balsamo, Environmental Health and Safety
Prof. Linda Carroll, French and Italian Dept.
Prof. Julie Denslow, Biology Dept.
Prof. John Elstrott, Business School
David Heins, Arts & Sciences
Prof. Oliver Houck, Law School
Martin Jansky, Arts & Sciences (’91)
Prof. Bob Kuehn, Law School
Peter Lusk, Alumnae (’90)
Prof. John McDowell, Geology Dept.
Tracey McLeod, Public Health (‘92)
Aaron Miscenich, Business (‘91)
Gino Napoli, CACTUS / Recycle Tulane
Sharon Obrofta, Administrative Services
Blain Paxton, Engineering (‘93)
Prof. Bob Reimers, School of Public Health
Taylor Root, Biology (‘93)
Prof Molly Rothenberg, LAS English
Matt Silvers, Law (‘92)
Martha Sullivan, Student Affairs
Terry Trehan, School of Public Health
Nancy Workinger, CACTUS / Recycle Tulane
Penny Wyatt, Student Activities
Prof. Michael Zimmerman, Philosophy Dept.

List of participants as in the May 1992 report “The Tulane Recycling Project, Phase 2: Closing the Loop”:
Lina Alfieri, Business School
Tom Armitage, Physical Plant
Jim Balsamo, Environmental Health and Safety
Ed Burmaster, Administrative Services
Prof. Linda Carroll, French and Italian Dept.
Prof. Julie Denslow, Biology Dept.
Price Dodson, Copy Center
Prof. John Elstrott, Business School
Carlos Gavilondo, Law (‘93)
David Heins, Arts & Sciences
Prof. Oliver Houck ¹, Law School
Prof. Bob Kuehn, Law School
Prof. John McDowell, Geology Dept.
Aaron Miscenich, Business (‘91)
Don Newton, Bookstore
Blain Paxton ², Engineering (‘93)
Steve Regan, Purchasing Department
Prof. Bob Reimers, School of Public Health
Taylor Root, Biology (‘93)
Prof Molly Rothenberg, LAS English
Matt Silvers, Law (‘92)
Martha Sullivan, Student Affairs
Dana Thomas, Biology (‘94)
Terry Trehan, School of Public Health
Daniel Weiner, Physical Plant / Recycling

² Community Action Corps of Tulane University Students, a community service organization.
¹ Listed as a co-chair of TEP.
⁴ Listed as a co-chair of TEP.
The story of the rise in tipping fees is a long and complex one. Due to lack of suitable land, questionable disposal practices, and new legislation regarding landfill operation, fees rose considerably. The TEP report cited increases of 100% that occurred prior to 1991. Between 1993 and 1997 they rose another 25%.

In a September 1991 article in *Inside Tulane* (Volume 11, No. 1, p. 1), Dan Weiner said that “Tulane uses 37 million sheets - 150 tons - of paper a year.” Weiner’s numbers may be more exact after closer examination of purchasing records he may have done for his position as Tulane’s first recycling coordinator.

The mechanics for dealing with waste disposal was divided between four custodial crews on the uptown campus in 1990: Physical Plant’s Building Services (administrative and academic buildings), the University Center staff (University Center), WFF (dormitories), and Imperial Cleaning Services (Reilly recreation center). Waste was consolidated and placed behind buildings in dumpsters. Trucks emptied the dumpsters on average of once per week and brought the waste to a landfill sixteen miles outside of New Orleans. The report did not address the downtown campus of Tulane, and it suggested that a separate program should be established.

The 1990 Phase 1 proposal called for bins to be placed on campus for collection of aluminum (55-gallon rigid plastic bins on grounds), white ledger paper (cardboard boxes in offices for individuals, large plastic bins for consolidation), and newspaper (a few plastic bins around campus, and an extra newspaper dumpster). Plans for composting were reported as being underway with New Orleans Fairgrounds and Audubon Park. Glass and plastic were not chosen for recycling because of low market value and difficulties of handling; the report suggested adding them once economics and logistics made it feasible. Bin appearance was to be homogenized with a recycling logo and signs. They were to be placed by garbage cans and in readily accessible areas. Bins were to be serviced by a variety of methods: student volunteers, custodial services, individuals, and grounds personnel. The recycling center was to stay operable as a drop-off site for all recyclables.

The proposal stated that a Recycling Coordinator position was to be created in the Physical Plant Department. The Coordinator was to work with Recycle Tulane volunteers and the various collectors of recyclables to oversee recycling efforts. Additionally, the Coordinator’s duties were to include: coordinating recycling collectors and vendors’ time schedules (for pick-ups), overseeing education projects, maintaining containers, and developing initiatives for additional recycling.

Education played a key role in implementing successful recycling. The proposal suggested volunteer education teams to visit each campus office to explain the logistics of the program. Student education was to be directed at orientation efforts for incoming students, in addition to fliers and newspaper and radio announcements. Recycle Tulane volunteers were to provide ongoing education projects and public information booths. One facet of the education initiative was waste reduction. The proposal claimed that the University could save $10,000 through a waste reduction / education initiative on double sided copying. The report suggested a directive from the President’s office to begin this; such a memo was sent to all University members in 1992.

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5 The story of the rise in tipping fees is a long and complex one. Due to lack of suitable land, questionable disposal practices, and new legislation regarding landfill operation, fees rose considerably. The TEP report cited increases of 100% that occurred prior to 1991. Between 1993 and 1997 they rose another 25%.

6 In a September 1991 article in *Inside Tulane* (Volume 11, No. 1, p. 1), Dan Weiner said that “Tulane uses 37 million sheets - 150 tons - of paper a year.” Weiner’s numbers may be more exact after closer examination of purchasing records he may have done for his position as Tulane’s first recycling coordinator.
The recycling program was designed to start small and expand when resources became available. The future goals set forth in the proposal were:

- Expanding recycling to recover glass and plastics.
- Expanding recycling to include cardboard and steel from Marriott Food Services.
- Implementing a recycled procurement system.
- Printing University course materials on recycled paper.
- Designing waste reduction initiatives to address food service disposables.

The report concludes with an analysis of financial issues. After an initial loss of approximately $34,000, the recycling program was projected to break even and recover all interest and opportunity costs by year four (1995). Modest estimates were made for the number of bins needed and the percentages of recyclables collected. Costs included the capital investment into bins and renovation of the Ben Weiner recycling center, in addition to the salary of a full-time staff person ($15,000 per year plus benefits) and part-time work-study students. Assumptions were also made that tipping fees would increase dramatically because of then impending U.S. Environmental Protection Agency regulations. Revenue assumptions were compiled with the help of local recycling industries. Key in the financial assumptions was savings in tipping fees and savings in paper expenditures by a double sided copying initiative. Recovery rates were modest projections in comparison with similar projections used by Louisiana State University around the same time. The proposal authors provided an extensive and in-depth financial analysis with projections showing a break-even in four years.

Finally, the report offers some final comments on savings and benefits indirectly related to recycling. First, by participating in a recycling program, University community members are likely to adopt a “spirit” of conservation, conserving resources and turning of lights. Energy savings could be significant from simple changes in behaviors. A second less quantifiable benefit is the development of a community spirit or pride in the environment, whether on a global or more localized (like the campus) level.

Dorm Recycling.

Comprehensive dorm recycling required a variety of inputs. First was preparing feasibility reports and data chronicling the waste diverted, revenue earned, and savings realized from the Recycling Program. Second was researching costs for and the placement of bins. Third was a survey on the attitudes toward recycling that had some small impact on the process. And finally, recycling duties (bringing recyclables from the residence hall to outside the building for the Recycling Program to collect) were incorporated into the newly contracted custodial services (JaniKing). The agreement between the RHA, the Green Club, Physical Plant Recycling, and HRL was as follows: HRL purchased the bins at a cost of $4,243.68, and the Recycling Department studded together and placed the bins in the halls. The custodial contractor was required to empty the bins from each hall into the large recycling containers near the dorms. The Recycling Program was then responsible for emptying the large containers. The Office of Housing Facilities agreed to provide liners for the bins and to replace bins due to wear and tear, loss, or vandalization. Finally, the Green Club and RHA were responsible for campus education on recycling. By May of 1996 all parties had agreed in writing to the proposal.

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7 For a summary of the survey of attitudes on recycling, done when the administration threatened to cut the Recycling Program’s budget in 1996, see Appendix C. The survey was to show support for the program and to help implement dormitory recycling. A report prepared by Professor Timmons Roberts and Keith Hook, “Greening Tulane: Potential for Recycling at Tulane,” is also summarized in Appendix C.
Summary of the TEP Phase 2 Report - Procurement.

The May 1992 “Phase 2” proposal called for Tulane to recycle “in the full sense of the word” by procuring products made from recycled goods, otherwise known as “closing the loop.” The report outlined responsibility for purchasing, listed items purchased, made suggestions for incorporating recycled goods, addressed financial issues, and made a proposal for a double-sided copying initiative.

The authors concluded that the proposal, if adopted, would make Tulane’s purchasing initiative one of the most environmentally progressive in the country. As a result, Tulane would become a leader in environmentally progressive initiatives.

By December of 1991, progress was being made on inquiries of paper use and purchasing. The Medical School was purchasing separate from the Uptown Campus, which hurt the leverage of the University to guarantee good prices. Additionally, the University Bookstore was selling $30-40,000 in paper items, of which about $2,000 was recycled. TEP was working with the Bookstore to increase that amount.

Tulane’s purchasing is centrally controlled by an Assistant Director of Purchasing, Steve Regan, and three buyers. The Purchasing Department’s Mission Statement is to “…maximize the value of every dollar of expenditure for goods and services, in order to effectively and efficiently add value and meaning to the mission of the university.” Additionally, the Department gives preference to local vendors, those owned by Tulane alumni, and those owned by minorities. The report recommended that preference also be given to vendors that supply recycled goods.

Paper items that were available in recycled form included copy paper, hand towels, bathroom tissue, computer paper, and letterhead. Additionally, copiers and laser printer toner cartridges were examined.

Copy paper was the most widely used of the items. On the Uptown Campus of Tulane, a total of 29 million sheets of paper were purchased each year. (Including the Downtown Campus and Medical Center, the total came to 40 million sheets.) At the time of the report, all purchases were for virgin (i.e., no recycled content) paper. Report authors found a large price variance between brands of recycled paper (a range of $2.18) and a small variance for the same brands of virgin paper (a range of $0.58); they attributed this to the immaturity of the recycled paper market. Overall, prices for recycled paper were significantly higher, and switching 85% of purchases to recycled paper would result in an increased cost of approximately $40,000 per year.

The report also considered copy machine compatibility. Authors contacted service representatives of copier repair companies and carried out tests on in-house machines to test copier compatibility. Their conclusion was that the use of recycled paper caused a small increase in jamming but that it could be alleviated with fine-tuning of the machines. Additionally, maintenance contracts were reviewed and the report concluded that the use of recycled paper (and the increase in jamming) would not increase maintenance costs.

Hand towels were examined next. The University was purchasing 80 cases per month of bleached white 35% pre-consumer waste towels. A 100% recycled (60/40) unbleached item was available from the same supplier. The unbleached recycled item was 5% cheaper, and a switch was projected to save at least $1050 per year.

A change to 100% recycled (85/15) bathroom tissue required a change in dispensers (at no extra cost) and increased cost by 10.3%. The campus used approximately 20,400,000 square feet per year. A switch was projected to cost at least $2160 extra per year.

Tulane used approximately 400 cases of various types of computer paper (all 100% virgin)

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8 The recycled paper was “50/40/10,” or 50% virgin, 40% pre-consumer waste, and 10% post-consumer waste. Hereafter, double ratios are “pre-consumer” / “post-consumer” and triple ratios are “virgin” / “pre-consumer” / “post-consumer.”
per year in up to 1992 (it was declining due to use of personal laser printers that used standard copy paper). A switch to recycled paper (50/40/10) offered a savings of approximately $700 per year.

Tulane letterhead was already produced with recycled paper (50/40/10), but it was not labeled as such. The report recommended that the University stay with the same brand but have recycled logos printed on the paper.

The University owned approximately 300 copiers, and all the high volume copiers (which handled approximately 50% of the copying load) had double-sided copying ability. Additionally, many had size adjustment features so that multiple pages could be copied onto one page. The two paper saving capabilities were to be incorporated into new purchases. Education on and encouragement for their use, however, was necessary because the report authors believed they were under used features.

The use of remanufactured laser printer toner cartridges amounted to the largest potential savings (and revenue) in the procurement proposal. The Uptown campus used 60-80 cartridges per month. Costs for remanufactured cartridges were 12.5% less, and the rebate on recycling cartridges was $20. The savings and revenue amounted into a 37.5% cheaper product. Some test marketing of the remanufactured cartridges was being done at the Law and Business Schools.

For the financial analysis, there were three aspects: the results of double-sided copying, use of different recycled papers, and the use of remanufactured toner cartridges. Many of the estimates for the five-year-projection were conservative. Double-sided compliance (at the 21 largest copiers on campus) was estimated to rise from 15% in year one to 35% in year five, resulting in savings each year. Switching 85% of copy paper purchases to recycled content was forecasted to be an extra expense each year. Over the five-year period, however, the expense was expected to decline to due decreased use of copy paper because of double-sided copying. Switching to recycled paper for other paper products had mixed financial outcomes. Savings were projected to decline for computer paper due to decreased use (and increased use of regular copy paper). Including a growth factor for paper towel use, savings were projected to decline. And for bathroom tissue with a growth factor included, costs were expected to increase. The effect of recycling and using remanufactured toner cartridges was the key to financial success for the procurement initiative. Over the five year period, savings/revenues were projected to rise over $10,000 from $23,040 to $33,733. By year four of the project, overall savings would be realized, and if minor savings ($0.25) were realized in the cost of recycled paper, a substantial savings would be realized much earlier.

In a May 28, 1992, memo to President Kelly, Oliver Houck outlined the actions that would be taken if the recommendations from the “Phase 2” report were accepted: request that the Purchasing Department purchase the recycled materials indicated and coordinate the recycling of toner cartridges; request all departments to print materials of more than two pages on a double-sided copy; and finally, make the measures visible by printing a recycled logo on all letterhead and distributing the Tulane program to other schools and major New Orleans employers (so that there was a stronger demand for recycled materials coming from New Orleans.)

The recycled procurement initiatives began at the start of fiscal year 1992-93. An undated and informal memo from early 1993 "A line that gives a clue to the date reads: “The copy paper purchased for all departments except the Copy Center was changed to a recycled paper effective February 1993.”
The discrepancy between “Other recyclables” and the materials listed is as reported in “The Tulane Recycling Project, Phase 1: A Proposal,” Appendix A.

Tulane Green Club Uptown Waste Stream Analysis.
Conducted November, 1995
Methods:
Green Club members and Physical Plant personnel selected several full trash bags from various dumpsters on campus. The dumpsters were chosen to represent each kind of campus building (administration, recreation, food service, dormitories, academic buildings, etc.). The contents of each of the bags was piled in the Physical Plant yard and sorted. Percentages of materials sorted were correlated with an estimated waste volume from each building type.

Food waste from the cafeteria was not included because it was not in bags. It was estimated that this waste was 1% of the total waste stream. Additionally, yard trimmings and other compostables were not included for similar reasons. Physical Plant estimated these to compose 12% of the waste stream. The data collected and the two estimates were combined to yield the following result (all percentages by weight):

Non-Recyclables: 43.4% (magazines, low grade paper, food service disposables and other materials)
Compostable Materials: 15.2%
Newspaper: 14.1%
White Ledger Paper: 12.6%
Glass: 5.3%
Cardboard: 4.4%
Aluminum: 1.4%
Other Recyclables: 3.6%
Ferrous metals - 1.3%
Computer paper - 1.0%
Colored ledger paper - 0.7%
“Recyclable” plastics - 0.4%

Results from an Informal Green Club / TEP Survey.
(NOTE: The survey was done in April of 1996 primarily by e-mail using no sociological survey methods. Sixty-nine Tulane community members were surveyed, most of whom were students.)

A- Strongly Agree
B- Agree
C- Ambivalent
D- Disagree
E-Strongly Disagree

Question 1: I recycle only when someone else does all the “dirty work” (i.e., disposes of the materials).
A-5
B-13
C-4
D-19
E-28

[The discrepancy between “Other recyclables” and the materials listed is as reported in “The Tulane Recycling Project, Phase 1: A Proposal,” Appendix A.]
Question 2: The service of recycling is as fundamental as garbage pick up and disposal, and the two (recycling and garbage pick up) should go hand in hand.
A-54
B-14
C-0
D-1
E-0

Question 3: I feel that recycling should be readily available all over campus so that people can conserve resources and save money at the same time, regardless of the initial expenditure needed for the implementation of such a comprehensive program.
A-50
B-17
C-2
D-0
E-0

Question 4: Tulane should continue to invest in a model recycling program to continue its reputation as an environmental leader.
A-54
B-15
C-0
D-0
E-0

Question 5: Tulane should not contract its recycling program to a private company because university control over the operations and flexibility of the program is important to preserve.
A-20
B-10
C-23
D-13
E-3

Question 6: I am favorably impressed by the responsiveness of Tulane’s in-house recycling program.
A-12
B-10
C-28
D-13
E-6

Summary of “Greening Tulane: Potential for Recycling at Tulane.”
The summary of the report read, in full: “Recycling at Tulane slightly reduces refuse costs, but still diverts only a small proportion of the University’s garbage. The institution of curbside recycling reduced revenues but now allows Tulane’s recycling program to focus on collecting campus materials and diverting materials from the landfill.” Data compared 1996 and 1997 recycling revenues and tonnages for February and March and concluded that a significant drop in revenue and tons recycled had occurred. This was because of New Orleans curbside recycling. The report also
analyzed costs to operate the recycling and refuse programs. The costs to operate recycling grew steadily from 1991 to 1995 while the costs for refuse decreased over the same time period. At the same time, recycling revenues increased. The report concluded that recycling was working but that significant changes in the recycling markets (due to curbside) would affect the profitability of recycling. But the authors suggested that Tulane needed to improve recycling on campus if we were to become the “Environmental University of the South.” (NOTE: Data from this report is included in Appendix A.)

Green Club Environmental Views Survey.
January 1995
1. How do you classify yourself in terms of environmentalism?
   - Active and/or sympathetic - 62%
   - Neutral - 32%
   - Unsympathetic - 6%
2. Can environmental protection and economic development go hand-in-hand?
   - Yes - 70%
   - No - 12%
   - Don’t know - 18%
3. In your opinion, how far have environmental laws and regulations gone?
   - Not far enough - 72%
   - Right balance - 24%
   - Too far - 4%
4. How do you classify Tulane as an environmentally aware (and concerned) university?
   - Active and/or sympathetic - 20%
   - Neutral - 32%
   - Unsympathetic - 48%
5. Do personal efforts to benefit the environment make a difference?
   - Make a large difference - 42%
   - Make a small difference - 46%
   - Make no difference - 4%
   - Don’t know - 8%
6. Suggest one thing that could be done differently on the Tulane campus to help the environment:
   - 76% suggested more recycling.

Results from 1995 Green Club Environmental Audit.
- Solid Waste: Tulane generates “over 2000 tons” yearly (or 42.94 tons per week), at $26.40 per ton for “nearly $70,000 per year.” The local landfill is set to close in late 1995. Marriott pays a flat fee of $19,000 per year, “clearly . . . a disincentive to [sic] Marriott to reduce its solid waste generation.” Disposable cups and dishes are used frequently.
- Recycling: Tulane currently recycles glass, paper, cardboard, tin, aluminum, telephone books, hardback books, and magazine. A pilot composting project is to be started during the summer. “Recycling revenues amount to approximately $12,000 per year, which should increase as the market continues to escalate.” New recycling containers will be installed outside of all dorms to facilitate campus recycling.
- Waste Reduction: Despite a double-sided policy, it is not enforced. Use of reusable interdepartmental envelopes, but no scratch paper.
- Pesticides: Contracted to Redd Pest control, uses water based chemicals, and in recent years use has declined overall.
List of Green Club Officers, 1989-1999.\footnote{Note that all officers may not be listed for the years 1990-1996 because of inaccurate record keeping.}

89 - 90
President - Paul Speck  
Vice President - Matt Silvers  
Secretary - Uchenna Chukwu  
Treasurer - Matt Silvers or Uchenna Chukwu  
Public Relations - Kathryn Rogers

90 - 91
President - Taylor Root  
Vice President - Blaine Paxton

91 - 92
President - Blaine Paxton  
Vice President - Amanda Stucko  
Treasurer - Nicole Idnani  
Secretary - Dana Thomas

92 - 93
President - Dana Thomas  
Vice President - Amanda Stucko  
Treasurer - Nicole Idnani  
CUPPS Project/Recycle Tulane - Blaine Paxton

93 - 94
President - Myers McDougal  
Vice President - Mehdi Dovachi  
Treasurer - Kim Otis  
Secretary - Jennifer Albright  
CUPPS Project - Wheeler Moorman  
Recycle Tulane - Nicole Idnani

94 - 95
President - Nicole Idnani  
Vice President - Jim Bolden  
EF Editor - Larry Levine  
Recycle Tulane - Jane Provalenko
95 - 96
President - Jane Provalenko
Vice President - Jim Bolden
Treasurer - John Holden
Secretary - Dan Gotvald
EF Editor - Aaron Allen
EF Assistant Editor - Ridgely Pittman
Public Relations - Brianne Metzger
Recycle Tulane - Emery Myers

96 - 97
President - Aaron Allen
Vice President - Larry Levine
Secretary - Emery Myers
Treasurer - Brianne Metzger
EF Editor - Ridgely Pittman
EF Assistant Editor - Chanakha Navaratnavajah
Public Relations - Brian Fink
Recycle Tulane - Johanna Lundgren

97 - 98
President - Aaron Allen
Vice President - Brian Fink
Secretary - Emery Myers
Treasurer - Hannah Carmalt
EF Editor - Chanakha Navaratnavajah
EF Assistant Editor - Hank Schumacher
Public Relations - Nikki Thomas / Melissa Vernon
Recycle Tulane - Alicia Lyttle
Outings - Johanna Lundgren / Rachel Moss
Grassroots Chair - Johanna Lundgren
Volunteer Chair - Sarah Rowan
TEP / Green Dining - Kristin Traicoff
In 1998, the officers of the Club reorganized with committees falling under various VPs.

In the spring of 1999, Paul Speck contacted me and visited Tulane for the tenth anniversary celebration of the Green Club and the Center for Bioenvironmental Research. He wrote the following to contribute to this study. I have made only minor formatting changes.

Tulane Green Club’s Founding and First Year of Operation. Recollected by Paul Speck, April 17, 1999

Introduction
Tulane Green Club came into existence in November 1988, although its seeds were planted sometime before then. During its first academic year of operation, it grew quite a lot—publishing an environmental newsletter, eliminating most Styrofoam use on campus, and protesting the Exxon Valdez oil spill.

Ten years after that wonderful time, I have been asked to write my recollections of Tulane’s founding and first year of operation. I am eager to do so for several reasons. First, over the last ten years, Green Club has changed quite a lot, and I would like to help today’s members better understand their organization by providing a small bit of historical context for that development. Second, the story of Green Club’s founding is a story about many individuals, and I very much would like to recognize those wonderful people. Most importantly, founding Green Club was a transforming experience for myself and many other folks, several of whom have gone on to pursue professional lives in the environmental arena. I would like to relate the fact that Green Club continues to affect people even years after their

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12 In 1998, the officers of the Club reorganized with committees falling under various VPs.

13 In the spring of 1999, Paul Speck contacted me and visited Tulane for the tenth anniversary celebration of the Green Club and the Center for Bioenvironmental Research. He wrote the following to contribute to this study. I have made only minor formatting changes.
leaving Tulane. The story may be a bit loquacious, but I’m nostalgic, so please bear with me.

**My Motivation for Helping to Found Green Club**

When I began school at Tulane in January 1986, I planned to become a “social psychology” major. As the son of two English teachers, my background always had been in the humanities, so planning to major in a social science discipline represented something of a leap for me. But I loved my introductory psychology class. The course opened up a whole new world to me. And I declared psychology my major.

Then... the next semester, I enrolled in introductory political science, and a whole other world opened up. I declared a double-major. And during my junior year abroad in Spain, I fell in love with Spanish history, literature, and politics. Thus, by the time I returned to Tulane campus for my senior year in 1988, I was most of the way through what would become a triple-major in psychology, international relations, and Spanish. Pretty ridiculous.

More than once, I have been accused of not being able to “focus,” and triple-majoring at Tulane certainly provides evidence of that possibility. Still, I mention my triple-major at Tulane for several reasons. First, if Tulane had not done such a good job of allowing me to explore, and further explore, my interests and my knowledge, all four years, I never would have discovered environmental issues much less founded the Green Club in the latter half of my time on campus. Second, many of the “different” things which I learned in psychology, international relations, and Spanish actually related to one another, and together they provided the background against which I quite consciously imagined Green Club in its first incarnation. I will discuss this fact in my discussion of “Green Club’ the Idea” below. Finally, it was my international relations major that led me to take the course in my sophomore year which first introduced me to environmental issues.

During the spring semester of 1987, I took a political science course entitled “Technology and Public Policy”. It met in what I think was the old education building. There were only about 15 students in the class, we met in a very small room, and it was very hot. But I loved the class. The teacher, a young assistant or visiting professor with a crooked grin and a wry sense of humor, ably introduced us to the “dark side” of technological change. Our texts for the course were very good—one was by Ian Barbour, a well-known environmental writer. But most of the examples which we studied involved issues that seemed far from my reality—perhaps as a function of their having been put into textbooks (which, by their nature, are sanitized) or possibly as a result of their relating to events in the past.

It was not until I was writing my final paper in the course class that I had what I now recognize to be a very transforming experience. I had chosen to write my paper on the unintended consequences of Brazil’s building a large hydroelectric dam and mining complex, and I had requested an “incomplete” grade in the class in order to spend several weeks working on the paper at my parents’ home in Knoxville, Tennessee. It was during these weeks that I first learned that the Amazon rainforest is disappearing. Such a realization may not seem very significant to anyone who is familiar with environmental issues, but in 1987, popular awareness of tropical deforestation was not nearly as keen as it is today, and, in any
case, discovery that the Amazon is disappearing, by any person at any time, is a heartbreaking experience. I immediately began telling people that I wanted to become an environmental lawyer—although I did not even know what environmental lawyers do. I had decided that I wanted to spend the rest of my life fighting environmental destruction.

The next August, I flew to Madrid, Spain with about 12 other students to spend my junior year abroad. One of the first fellow Tulanians who I met there was Matt Silvers, who told me in one of our earliest get-to-know-one-another conversations that he also planned to become an environmental lawyer. I do not recall where Matt had discovered environmental issues, but we quickly bonded over them, and we also began talking about the fact that no forum then existed at Tulane for working to solve environmental problems.

Of course, that year Matt and I had a lot of things to think about besides environmental issues: living in another country, learning a new language, traveling, and—in my case—falling in love. Thus, Matt and I did not see each other very often, and we hardly spoke about environmental issues. Still, both of us definitely had environmental plans in our heads. To this day, I distinctly remember standing in front of a terribly small and dilapidated animal exhibit in the Barcelona (or Vienna or Budapest) zoo with my then-girlfriend, Erica Kisch, talking about what each of us wanted to do with ourselves after Spain. Erica said she wanted to study social work and then run a homeless agency. She graduated from the University of California, Berkeley’s School of Social Work in [1990] and now directs San Francisco’s main homeless family shelter. I said I wanted to pursue a life of environmental advocacy—and so far I have been able to do just that.

Officially Founding Green Club

For senior year, Matt and I had decided to get an apartment together with another JYA-Spain student, Ignaccio Arrazola. (Actually, Matt and “Nacho” first decided to get an apartment together, and then I asked to join them.) We lived on the second floor of a house on Adams Street, one block north of St. Charles, and one block from one of the original PJ’s coffee shops—which will turn out to be relevant. By or during the beginning of fall semester of senior year, I had told Matt that I was interested in founding an environmental group at Tulane, and he had said that he was too.

We nearly didn’t do it. Senior year, both Matt and I had to complete a lot of coursework, in addition to figuring out where we were going to go after Tulane. Matt, Ignaccio and I all planned to take the Law School Admissions Test or “LSAT” in the spring. I was working part-time. And I was writing an honors thesis on the “Motivational Challenges of Teaching Foreign Languages,” something which absorbed a lot of my own “motivation.” Certainly, Matt and I both were thinking about environmental issues and about the need for an environmental group at Tulane. We both were enrolled in our first biology class, “Introductory Ecology,” with Dr. Julie Denslow, Green Club’s future first faculty advisor, and the course was so enjoyable that, if I had not already been a senior, I probably would have declared biology my fourth major. Also, sometime in the fall, Tulane hosted Dr. Thomas Lovejoy to speak at Rogers Chapel. Lovejoy, who now is a vice president of the Smithsonian Institution, was one of the first people to sound alarm bells about tropical
deforestation, and his speech captivated me. But Matt and I were doing nothing concrete to form the club.

Then, around late October or early November, Matt and I had a conversation which both of us clearly remember. Standing in front of the architecture building on our ways to class, we realized that the clock was ticking and that the time to start our organization, if we really wanted to do that, was now. Matt said that he was very busy and that he would not start an organization if I did not also want to, but he added that he would support me as much as possible if I wanted to start something with him. And I did. I told Matt that I would begin looking into what was required to form our environmental group, and that, one might say, is how Green Club was founded.

I don’t remember all of the details about what happened next, much less their chronological order. However, over the next few months, all of the following “founding-related” things occurred: we named the organization, we found out how to officially incorporate the group, and we started finding out about related organizations and resources on campus. Actually, some or even all of the following may have occurred after the time that Green Club began meeting. In particular, a lot of the “networking” which I describe probably occurred later. But I will present it here, since it seems more related to getting the club off the ground, than to our actually doing anything.

I think that we named Green Club pretty early on. I thought of the name, and, after doing so, pretty stubbornly insisted that it be adopted over any and all alternatives. Matt put up with me. Recently, he reminded me that “Green Club” was not his top choice (although I don’t remember any other alternatives that we might seriously have considered)—but he said (thank goodness) that he likes the name now. My reason for choosing “Green Club” was simple. Green is the color of environmental issues. It is the color of Tulane. And I wanted our group to be proudly and distinctly a Tulane environmental organization.

At some point, I had a meeting with a female staff person who was director of student organizations, or something like that—in an office across from WTUL on the second floor of the University Center. She explained both how and why student organizations at Tulane incorporate under her office’s auspices. She said that, in exchange for adopting bylaws following certain guidelines, and satisfying a few other requirements such as having a faculty advisor, Green Club could become eligible to receive student activity funds in its second year of operation. This led me to begin drafting Green Club’s first bylaws, a process which prompted me to begin thinking seriously about my “idea” of Green Club (which I discuss below).

During a subsequent meeting with the director of student organizations, I explained that I wanted Green Club to be organized in the form of issue- or project-based “coalitions” of students, each interested in a particular challenge. Partially, I think I had been inspired by the model of C.A.C.T.U.S., an umbrella social service organization on campus at that time (but see more in the “idea” section). Either in response to this idea, or in response to a more general interest of mine in finding out about other environmental organizations on campus, the director suggested that I talk with the Vice President for Student Affairs (Martha [Sullivan]). A meeting was set up, and I did meet the Vice President, possibly with Matt.
Either in that meeting, or simply on the phone before hand, she told me of another student, Laura Hall, who had been setting up a recycling program on campus since the year before, and I think that is how I came to know Laura, an important founding member of Green Club. There would be at least one meeting with Laura, me and the Vice President to talk about recycling and other issues.

Matt and I asked Julie Denslow to be our faculty advisor one day after ecology class. Julie is an eminently approachable and supporting person, who knows and cares a lot about environmental problems. She began attending all of our meetings, saying “It’s my duty as your faculty advisor.” (I hope the truth is that she enjoyed them.) And she became my mentor, the person against whose judgment I began measuring all of Green Club’s accomplishments. Julie rarely took positions about anything that Green Club proposed, and never to my knowledge criticized us, but garnering her approval was very important to me and something I strove for almost consciously.

Incidentally, although Matt and I always sat together in the back row of Julie’s ecology class, we often waited to speak with Julie after class, and I think that is how I first met Jeff Parrish, one of Green Club’s more prominent founding members. He was a smart kid who always sat in the front row, a real biology major who went on to get a Ph.D. in biology at Brown. (As a social science major with no obvious future, I was kind-of jealous.) I’m pretty sure that Julie introduced Jeff and me, telling Jeff that I was interested in forming an environmental group. Jeff was a very friendly guy and immediately expressed interest.

I began finding out about other environmental resources on campus largely by setting up a series of meetings with folks that I thought might know something about the environment. One of my first meetings was with ethicist Dr. Michael Zimmerman in the Philosophy Department, an incredibly nice, articulate, and supportive individual. I understand that part of his career has focused on women’s issues, as well as on environmental matters. We met in his office in Newcomb Hall, and I think we mainly talked about philosophy—my very vague recollection is that we discussed sociobiology and/or the relationship of environmental ethics to “natural rights” philosophy, but that may be completely wrong. We ended up meeting at least twice, and, when Julie became Green Club’s official faculty advisor, Dr. Zimmerman offered to be, and did become, another “interested observer,” someone whose support and approval also were very important to me.

Around this time, I think I also met with my old “Technology and Public Policy” professor, but I don’t remember much about that meeting (if it even occurred) except that he did not think he could provide very much help. I also met with a professor in the engineering school who, I had determined through a few cold calls, was the only person on campus with any possible interest in global warming. Meeting with him gave me my first opportunity to go into the newly constructed Lindy Boggs engineering building. He had an office on some upper floor, toward the front of the building. We ended up talking about alternative energy issues, focusing a lot on his ideas for generating electricity using ocean tides, and I remember thinking at the time that our discussion was slightly far afield from anything Green Club might soon contemplate doing, but I also remember appreciating how, in just a 45-minute meeting, the professor—like so many before him—had opened up my eyes to a whole new
world. I consciously saw it as my responsibility as one of Green Club’s leaders to remain open to new information, and to look for ways to translate that information into an integrated vision for students in the Club.

I became aware of several resources in the law school, including the Environmental Law Society, the Environmental Law Clinic, and Professor Oliver Houck. That year, the society was being run by a great guy whose name, like so many, I can’t immediately recall—he was from Alabama, and I believe that his name is (with mine) on the letters which Green Club later sent to various parties asking them to stop using Styrofoam on campus. I have a vague memory of first meeting him in person with Matt, possibly in the University Center. We stayed in regular contact over the rest of the year, and organized a few joint activities, which I’ll mention below.

There was a very friendly, relatively young man (apparently in his mid- to late-thirties) who ran the law clinic. I met with him in their small office (a restored house on Freret Street) at least a couple of times over the course of the year to discuss ways for Green Club and the law clinic to possibly work together. He did not see anything for us to cooperate on at that point, but he said that we should remain in regular contact, which I think we did. The last time I saw him was months later, just before I was about to leave New Orleans. I was walking down Freret, and he stopped me to say hello.

Finally, there was Professor Houck. Somehow everyone on campus who knew anything about environmental issues in 1989 knew about Professor Houck, and so he seemed like an obvious person for Green Club to work with. But I rarely got to talk to him, and he did not seem very interested in Green Club. I am almost certain that my first introduction to Professor Houck came in a meeting in his office. I think Matt and I both came in to see him. And for Matt (assuming he was there), that meeting may be quite memorable, for Matt went on to attend Tulane Law School and to become close friends with Professor Houck. In my own memory, Professor Houck seemed a little unsure about what to do with these young undergraduates.

At some point, there was a meeting, which the Vice President for Student Affairs, or someone else, called to get all the campus’ environmental types in one room. I have a vague recollection, possibly inaccurate, that the meeting was my idea but that someone more senior offered to “call” it in order to ensure that everyone would show up. I suppose the purpose was for everyone to meet each other and to look for areas where we could possibly work together. The meeting took place in a cramped upstairs room of the University Center. Most if not all of the following people would have attended: myself, Matt Silvers (probably), Laura Hall, Oliver Houck, the president of Environmental Law Society, the director of the Environmental Law Clinic, Julie Denslow, and the Vice President for Student Affairs. I don’t remember any concrete results.
“Green Club” the Activities

Green Club stopped being a Paul and Matt thing and started being a Tulane thing with the announcement of our first meeting. The meeting took place either at the end of the fall semester or at the beginning of the spring semester—probably the former. I asked Michael Zimmerman to make a short presentation on something like “Our ethical responsibility for protecting the environment.” And I posted flyers for the meeting around campus, including in the automated teller kiosk outside the University Center and in most of the academic buildings. Along with the official kiosks, these places would become our regular posting sites.

By chance, posting our flyers led to one of the most fortuitous events of my senior year. One night, I was visiting a friend, Karl Anderson, in his Monroe Hall dorm room. Karl was a smart biochemistry major with an interest in literature and writing. Kathryn Rogers, a friend of his from some English class, came into the room, and Karl introduced us mentioning that I was starting an environmental group. Kathryn said something like “Oh, you’re the person who put up all those flyers.” She said that she’d been planning to come to our meeting. She did come, and she quickly became one of our most active members, not to mention a very close friend of mine.

Green Club’s first meeting was pretty small. Only about 12 people came, including, I think, Matt, Kathryn, Jeff Parrish, Julie Denslow, Dr. Zimmerman, and myself. Kathryn probably brought her good friend Lisa Lala, who also would become one of our most active supporters. Certainly, I met Lisa through Kathryn around this time, for Lisa and I soon began dating. Dr. Zimmerman started the meeting by telling everyone that he would prefer to lead a conversation than to give a presentation. Then we sat around a single table, and he spoke about his topic in a very accessible way for about thirty minutes. Either before or following his talk, the “club” conducted a little bit of “business,” which probably included scheduling our next meeting. I remember feeling very proud after the meeting and also excited about everything that there was to do.

Thus, Green Club began meeting regularly. Initially, Matt and I may have announced the gatherings on a meeting-by-meeting basis, but at some point, we decided to meet every week or every other week at some fixed time. Before every meeting, we posted flyers in all of the regular places and called everyone on the list of people who had come to previous meetings inviting them to come. At the beginning, Matt and I hung up all the flyers ourselves. I remember having to get approval for each flyer from a student activities office in the University Center, and I remember trying to ensure that all our flyers always looked as attractive as possible. Several times, Matt and I went to Julie’s lab to copy silhouettes of plants to use as backgrounds. Later, Kathryn, Lisa and others took over much of the posting effort, and our first Secretary, Uchenna Chukwu, took over the responsibility of calling people. Inviting meeting participants by phone was not very glamorous, but it certainly guaranteed good turn-out and, at some level, it probably was a major contributor to Green Club’s early success.

As soon as the organization began meeting regularly, I developed a strong need to begin announcing activities at every meeting, and this meant organizing the activities
themselves. In retrospect, I realize that I mainly viewed meetings as organizing events for activities which would occur outside of the meetings, not as times to undertake those activities themselves. And in our first year, virtually all of the ideas for activities came out of my head. Thus, I’m afraid, I viewed meetings mainly as a time for delegating responsibilities and for announcing when people should “show up.” This process was helped quite a bit by the election of officers at some point. Today I no longer recall exactly who was elected and to what positions, but Matt was Vice President and/or Treasurer, Uchenna Chukwu was Secretary and possibly Treasurer, Kathryn Rogers was Director of Public Relations I think, Jeff Parrish may have been something, and I was President. It probably happened at an early meeting right after we approved our first bylaws. I still have a copy of the bylaws.

Actually, I did not organize what, I think, was Green Club’s first activity, the presentation by some Louisiana state congressman about restoring Atchafalaya River basin. The event was organized and mainly attended by the Environmental Law Society. Green Club nominally “co-sponsored” the gathering and sent a handful of members, including myself, Matt, and a few other folks.

But Green Club came into its own with the organization of “Green Week” which took place from Friday February 24 to Thursday, March 2, 1989. The event involved several projects, took about a month to prepare, and garnered the assistance of everyone in the club. I will recollect the week by describing each of the individual projects which it involved.

To publicize and prepare people around campus for Green Week, I first thought that the Hullabaloo should do a special environmental “insert” with a schedule of events and background stories about environmental issues which we wished to feature. After initially inquiring about this possibility in Hullabaloo’s offices on the second floor of the University Center, I was invited to a meeting of the paper’s editors to discuss the idea. I had the impression that Hullabaloo was a very professional student organization, and so I borrowed Matt’s leather jacket for the occasion, because I had so few good clothes (in fact, I borrowed Matt’s a lot) and wanted to “dress up.” I spoke for a few minutes about the general importance of environmental problems. Then I proposed that Green Club do most of the work for an insert that Hullabaloo could print and distribute with one of its weekly issues. I remember that there was one woman in the meeting who rolled her eyes a bit, but most of the other folks seemed to listen with interest. I left after my presentation. They subsequently informed me that Hullabaloo would not print our insert (they had never done anything like that before) but that they would write a story about Green Week for the paper, a very wonderful consolation. The resulting piece was well done and ran on the front page with a detailed schedule for Green Week. I still have copies of the issue.

Around this time, I became aware of the campaign to elect student body representatives. The campaign must have started earlier in the year, and I learned about it when one of the two candidates for president, a male, called me asking to speak at a Green Club meeting. I thought that having such a candidate ask for Green Club’s endorsement would usefully make our members more aware of their political power, but I did not want to necessarily endorse the guy. So I found out who else was running—it was some
woman—and I invited both of them. I clearly remember the meeting in which they came to speak. As usual, the club was meeting in the University Center. This time we had planned to use a room on the second floor, just above the doors to McAllister Drive, and another group was occupying that space right up to the time our meeting was supposed to start. Quite a number of people arrived for Green Club’s meeting ahead of time, including a few new faces such as Hullabaloo’s editor; thus, I could tell that it was going to be a big crowd, and, as soon as the first group adjourned, several of us began moving chairs and other furniture into the meeting room to create more sitting space. The two candidates presented first. The guy who had called me was much less impressive than the woman, who I think subsequently won the election. But, I remember asking facetiously afterwards for someone to open up a window (to let out all the “hot air,” ha ha), and I don’t think Green Club ended up endorsing either candidate. My view probably was that members should make their own voting decisions based on the best information we could give them. Still, I think the meeting established Green Club as an important constituency on campus. After the meeting, while I was moving furniture back out of the meeting room, I remember the editor of Hullabaloo indicating that he was very impressed with the club. I don’t remember if that was before or after Hullabaloo wrote its story.

Once it was decided that Hullabaloo would not be printing our insert, I decided that the club should publish something of its own, so we decided to “launch” a newsletter, which I named “Eco.” Green Club only would publish one issue of Eco that year (I have a vague memory of someone telling me that one more issue was published later on), but it was a proud effort. I developed most of the story ideas, with suggestions from Julie Denslow, I think. In addition, Tim Wise, a star writer for Tulane’s underground newsletter “Avante,” proposed a cover story on toxic waste, which I think he had been covering for “Avante.” And a woman in the club who recently had won some fresh(wo)man writing contest for an essay on environmental education offered to adapt her piece on that topic. I distinctly remember the meeting in which I handed out writing assignments. It was not an easy chore, but after my pestering people and looking pathetic long enough, finally Karl Anderson agreed to write the piece on wetlands, and Kathryn offered to write the piece on population. I wrote a story proposing that Tulane set-up a campus-wide recycling program, and my efforts for developing that proposal are described in the article. I still have copies of Eco.

Unfortunately, writing our stories was just the first step. Next, Uchenna had to type them, a Herculean task. Then I needed to publish and print the newsletter, a process which I knew nothing about. That is where J.D. Melish came to the rescue. J.D. was the funny British editor of “Avante.” I think Tim Wise introduced us. J.D. ended up giving me the PageMaker software which I needed to lay out the newsletter, a design prototype in the form of Avante, and a connection to an affordable printer—everything we needed. Of course, this was in the early days of computers. At that time, there was only one student computer lab on campus, a small room in one of the engineering buildings, which contained about 12 Apples and 8 or 10 IBMs. The entire PageMaker program fit on just 3 or 4 floppy disks and ran on an Apple—it was not very fancy. And the computer lab had just one laser printer, which only staff could access. Because of my inexperience with design and with the
software, and because of the inefficiency of the software and equipment, it took me most of a week to lay-out *Eco*, during which time I skipped most of my classes and barely ate.

We printed about 1000 copies of *Eco* at a small, left-leaning printing company, the Institute of Human Relations, which I think was loosely associated with Loyola University. The company gave us a good price ($200, I think) because Green Club was a poor progressive organization, because J.D. Melish had referred us (the company also published *Avante*), and because—at J.D.’s suggestion—I offered to bring over some students to do some work for the company in exchange for a discount (I think J.D. sometimes did the same thing). I felt very proud when Lisa Lala (or Bahar Rowhani?) and I went to pick up the finished newsletters. I was surprised that the four-page documents fit in only two stationery boxes—I would have expected them to take up more space. But I was impressed by how professional they looked. They were even green!

Later, as Lisa and I were walking proudly into the University Center with the boxes to begin distributing the newsletters, I ran into an old friend, Frances Balding, who asked to have a copy. Subsequently, I heard from Frances’ and my mutual friend Karl Anderson that Frances’ only comment was “They could use more white space.” She meant that my design for the newsletters was too crowded, and she definitely was right, but at the time, I felt a little hurt by her statement. After all, I thought, hadn’t I just worked very hard to deliver something to her, and wasn’t something better than nothing? The experience taught me two things. First, most people never will know or appreciate the hard work that many volunteers put into their projects—even well meaning folks (like Frances, who is a great person) will sometimes be just as “critical” as they are supportive. Second, I can be too sensitive to such criticism, a horrible trait which I will have to mention again below.

To distribute the newsletters, Lisa (or Bahar) and I first simply placed most of them in several racks which were set up around campus for the *Hullabaloo* and other publications: in the University Center, the cafeteria, etc. But then someone reported that the large stack of newsletters which we had placed in the rack at Bruff Commons (a cafeteria) had been thrown in the trash. After confirming that that was true, I went to the University Center and found several people—Uchenna may have been one of them—and together we stood at the intersection of Freret and McAllister handing out newsletters for about an hour. We got rid of a lot of them, and afterwards I found only two or three copies in a nearby trash can.

As an additional advertisement for Green Week, in addition to *Eco*, Green Club hung a banner across McAllister Drive, in front of the auditorium. Kathryn and I bought canvas for the banner at the bookstore in the University Center. Then she and Lisa and possibly their/our friend Bahar Rowhani worked on it for several hours in the lobby of whatever dorm was next to Monroe Hall—I’m afraid the process ended up taking longer than any of us expected. The banner announced Green Week and included a schedule of speakers. I believe the idea was for us to put the banner up on Friday, the first day of Green Week, but that may not have happened. I think we ended up putting it up the next day, in a process which took several hours. We borrowed a ladder from janitorial staff in the University Center. Then I did most of the climbing. The banner turned out to be smaller than we would have preferred for easy viewing, but it still was heavy and, in the breeze, difficult to string tautly enough to
not block any tall vehicles.

To launch Green Week, we had arranged to “sponsor” a TGIF (Friday afternoon music concert). There wasn’t any problem setting up the “sponsorship”—Laura Hall and/or I simply asked the relevant organization if we could do so, and they said yes. I don’t remember that any of the usual TGIF advertising (such as in *Hullabaloo*) contained any mention of Green Club, but it may have. I think Laura was in charge. As founder of the university’s recycling program, she proposed that people bring aluminum cans for a “can stomp,” but I don’t think this happened. (I could not attend the concert.) Perhaps because of rain, the concert took place downstairs in the University Center at the Rathskeller, rather than on the U.C. quad where it normally would have been. Laura said that, at some point in the concert, she stood up and said a few words about environmental issues before the crowd.

On Friday afternoon, before and while the concert was going on, Green Club also hosted several activities inside the University Center. One of these was a plant and tee-shirt sale which Matt organized. I have no idea where he got the plants. We had ordered the tee-shirts from a popular environmental tee-shirt company, Jim somebody, in Colorado several weeks before. There were at least three designs: Save the Wetlands (relating to a local issue), something about tropical deforestation I think (relating to a global issue), and (my favorite) Save the Earth (relating to environmental issues in general). For the rest of the year, these shirts would serve as uniforms for many Green Club members. Matt did a great job with the sale. He had been afraid when he paid money up front for the plants and shirts that he might not be paid back. But over the course of the afternoon and succeeding days, his lock box did fill up with money, and we profited enough to pay for the newsletter printing.

There also had been plans to organize a booth for passers-by to get information about environmental issues and to sign petitions. Jeff Parrish was to be in charge, but this did not completely work out. I probably asked Jeff to be in charge of this project because, much earlier in the year, possibly just after we met, he had generously given me a stack of old “Conservation” newsletters from National Wildlife Federation in Washington, D.C. The newsletters, which he had started receiving in high school, were specifically designed to inform NWF members about pending environmental decisions and opportunities for citizens to take political action. (One year later, I would end up writing stories for “Conservation” as an intern at NWF.) As a result of receiving Jeff’s gift, I had made my first calls as a constituent to political offices to talk about environmental issues.

In the last couple of days before Green Week was to begin, I found out that Jeff had not organized the information/petitions booth. He apologized and explained that school obligations had gotten in his way, but I still expressed frustration with him, thinking that he was not living up to his Green Club commitment. Lisa Lala strongly and correctly castigated me for my action afterwards, and I learned an important lesson. Volunteers are volunteers, not employees...or worse. They do what they do for their organizations, such as Green Club, out of a sense of goodwill, not compulsion, and they have other obligations which they sometimes must place first. I hope that I never will treat anyone as generous as Jeff with the kind of ungratefulness which I expressed that day.

After finding out that Jeff would not be able to organize his booth, I sort-of took over
his project by organizing a petition to stop Styrofoam use on campus. Possibly on the same
trip to the bookstore in which Kathryn and I bought supplies for her banner, I got some
canvas or butcher paper, and then I made a banner for our table which said, in very large
letters: “Styrofoam Kills”—too dramatic probably, but it got people’s attention. The issue
in those days was not only that Styrofoam is a nonbiodegradable contributor to solid waste,
but also that it might contain chemicals that deplete the stratospheric ozone layer. I spent
several hours on Friday and possibly over the succeeding days “manning” the table, which
we placed in front of the cafeteria in the University Center. And Mike somebody—the
boyfriend of my close freshman year friend Molly Hutton—did the most work, single-
handedly collecting almost 1000 signatures over several days. Mike was great. He would
not allow anyone to walk by the booth without signing the petition.

Over the weekend, Green Club also launched two litter awareness projects. I don’t
think that there was a major problem with litter on campus at that time, but by undertaking
these projects, I hoped to show the Tulane community how even small actions affect the
environment, both positively and negatively. One of the two projects was a Litter Pile-Up,
which I organized with assistance from a gentleman named Tom Graham, Director of
Support Services, the office of Physical Plant responsible for disposing of all trash on
campus. His office was in a trailer behind the new Business School building. I asked him
and he agreed to put all the litter which his crew collected over the course of Green Week
into a pile in front of the University Center. I think I had to get permission from someone,
possibly the Vice President for Student Affairs, to do this and to place the litter where we
did—in a square enclosure next to the sidewalk opposite the backdoor exit from the
University Center. Tom told me that, although his crew picked up litter every weekday
morning, by far their “biggest” day was Monday, following the weekend when no one
worked. Thus, he offered to build a square chicken-wire enclosure by Friday of the week
before Green Week, which enclosure could be used by the Monday morning of Green Week.
I asked someone, I think Laura Hall, to construct a sign for the enclosure. And on Monday,
sure enough, there was a lot of trash in it. Someone who saw Monday’s first deposit before
I did told me that it was a sizable amount, but I was skeptical. Then, when I saw it, I was
impressed by the amount of trash, and I felt like the project actually was a success. I stil
have pictures of the pile-up, which Tom Graham’s crew completely removed the following
weekend.

As another way to increase litter awareness, Green Club also organized a coupon
promotion with Arby’s, the fast food vendor in the University Center. I asked Arby’s to
provide about 100 coupons for free sandwiches, fries and drinks. They did so on small
pieces of colored construction paper. Then in Eco we announced that, during Green Week,
Arby’s coupons would be scattered like litter on all of the major quads around campus for
people to pick up. The idea was to draw people’s attention to litter by making them keep an
eye out for the coupons. I think it was a good idea, but the truth is that we didn’t really pull
it off. Matt was responsible for scattering the coupons, and he did distribute some. But, in
the end, Matt and I and possibly a few other folks, like Laura, also got to enjoy a lot of free
food, and I still feel guilty about that. I should add that Matt did take the litter awareness
campaign seriously. One time during the week when we were standing by the benches
behind the University Center (near the litter pile-up), he saw some guy in a group of students
throw a cigarette butt on the ground. He went over and offered the guy an Arby’s coupon
in exchange for picking up the butt. The guy refused, but Matt didn’t get beat up, and he
began carrying around coupons to offer people for picking up litter—either their own or
someone else’s.

The final events of Green Week which I will describe were actually the most
prominent in our schedule, namely, the speaker presentations held each night on Monday
through Thursday. Here is the schedule, copied out of Eco:

- **Monday, February 27, 7:30:** Dr. Robert Thomas, Director of the Louisiana Nature
  and Science Center, spoke on “Personalizing Environmental Issues” in Rogers
  Chapel.
- **Tuesday, February 28, 7:30:** Phillip Ellender, Representative of the Louisiana Nature
  Conservancy, spoke on that organization’s work in preserving endangered
  ecosystems worldwide. In Rogers Chapel.
- **Wednesday, March 1, 7:30:** Dr. Julie Denslow, Tulane Ecologist, spoke on “Tropical
  Deforestation: The Tragic Loss of Biodiversity” in Rogers Chapel.
- **Thursday, March 2, 7:30:** Dr. David White, Chair, Loyola Department of Biology,
  spoke on “Louisiana Wetlands Erosion” in the Richardson Building Lecture Hall.

I invited all the speakers and arranged for use of the appropriate facilities. I tried hard to hold
all of the events in Rogers Chapel which I think is a beautiful forum, but was unable to do
so. I think that originally I wanted Julie’s presentation about tropical forests to be our
capstone presentation, on Thursday. I say this because I remember calling her at some point
from the U.C. to tell her that she might have to speak at Richardson Auditorium and, for the
one and only time in our Green Club relationship, she said “no”—she really wanted to speak
at Rogers Chapel. I promised to make that happen.

All of the presentations were very good, including Bob Thomas’ talk even though I
had made up his topic and, before he arrived, he had expressed some confusion about what
he should say. I had met Bob on a field trip in Julie’s ecology class the previous semester.
I mainly remember him talking about how he turns off his bathroom sink while brushing his
teeth. He said that his original goal in doing so had been to save water, but that now he
knows the efforts will save virtually no water over the course of his lifetime. He said that
he continues to turn off the water as a way of reminding himself about the importance of
small things.

Someone, possibly Julie, referred me to Ellender, who worked for The Nature
Conservancy’s (only at that time?) Louisiana office, in Baton Rouge. The only time I ever
saw him was that night. I don’t remember much about his speech except that it introduced
me to an important environmental organization about which I previously had known nothing.
When I was setting up the chapel for either Thomas’ or Ellender’s talks, there was a prayer
group meeting in the lobby of the chapel who told me that they had heard of Green Club’s
efforts and were praying for us. I was grateful.

Julie referred me to David White, who I met in his office at Loyola. White’s
presentation was top-notch but not quite as well attended as the other three talks—probably because he spoke last and possibly because his presentation was not in the chapel. The Monday, Tuesday, and Thursday presentations all probably had at least 30 people in attendance.

Julie’s presentation brought down the house. She presented a lot of slides, slowly—scientifically—introducing us to the workings of the tropical forest around La Selva field station in Costa Rica where she often has done research. She did not over dramatize any of her statements regarding forest loss. And people were enchanted. After she said her last word, then flipped on her last slide—a red-eyed tree frog, I think, then flipped off the projector, there was a very long pause...after which the place erupted in a long applause. I noticed that even the normally cool Julie smiled slightly at how long everyone clapped. Many people who did not normally participate in Green Club activities (for example, Frances Balding and possibly my boss, ex-A&S provost Frank Birtel) were in the chapel that night, which was completely packed. And I felt very happy about Julie’s being able to reach them.

As a final event of Green Week, I had asked Tom Graham in Support Services whether it would be possible to plant a tree. He said that his crew already had been planning to plant a “dawn redwood” in a particular place on campus, and he asked whether Green Club would like to “sponsor” that tree. He explained that, along with California redwoods and sequoias, dawn redwoods are the only kind of redwood tree still living in the world. He also said that the species had been considered extinct until only a few decades ago when a small surviving grove was discovered in China. I said that the Club definitely would like to sponsor the tree, and in Eco, we announced that we were planting it as a symbol of the club’s belief in the value of biodiversity. Noelle Netherland, one of our members—a friend of Kathryn and Lisa’s from high school—offered to ask her father, whose New Orleans company makes metal plaques, to design a marker. The marker never was installed, but the tree indeed was planted, exactly where it is standing today in front of the building to the right of Gibson as one enters campus.

There were a few follow-up activities to Green Week. I took down the banner on McAllister, which a truck had ripped at the very end of the week. I remember saying hello to the woman running for student body president while I was standing on top of a twelve-foot ladder in middle of McAllister.

As pay-back for the discount which the Institute of Human Relations had given us for printing Eco, several Green Club members went over to help collate or staple publications for a few hours. I am sure that Kathryn Rogers, Lisa Lala, and I were there, and I think Noelle Netherland was as well, as I clearly remember calling her boyfriend during the course of the afternoon to see if he could come join us—we were trying to come up with a few more hands, but nobody would come. It is irrelevant to say, but I remember that Noelle’s boyfriend had the funniest answering machine message I have ever heard.

Finally, as follow-up to our Styrofoam petition, I made several copies of our 1400 signatures, drafted a cover letter for the Environmental Law Society president and I to sign, and sent copies of everything to the heads of Arby’s, Marriott, PJ’s, campus dining services (which was in the process of renewing Marriott’s contract), and possibly some other
administration representatives such as the President of the university. I don’t recall receiving any immediate feedback from those letters. However, friends informed me that the next year Marriott stopped using Styrofoam on campus. In addition, the next year PJ’s stopped using Styrofoam at all of its New Orleans locations. I found out about this latter move from a New Orleans Times Picayune reporter who called me at my new home in Washington, D.C. for an article she was writing about PJ’s decision in fall 1989. The decision might have been helped along by Molly Hutton’s boyfriend, who was a neighbor of Phyllis Jordan, the owner of PJ’s. He claims he used to bug Ms. Jordan about the issue sometimes when she went outside to retrieve her newspaper. Still, Green Club got all the credit. I still have copies of the article.

Besides Green Week, Green Club undertook two other major activities during the spring semester of 1989. First, we invited our members to participate in the Louisiana Toxics March organized by Greenpeace (a national environmental organization) and other grassroots groups (not including Green Club). I have no idea when the Toxics March occurred, although that information easily could be obtained. Greenpeace was protesting the incredibly high pollution in “Cancer Corridor” along River Road between Baton Rouge and New Orleans by leading a march all the way from Baton Rouge to New Orleans. Several of us from Green Club, including Matt, Kathryn, Lisa and I, joined the march on its last day as it wound its way across the Mississippi River Bridge into downtown New Orleans.

All of the protesters, several hundred of us, gathered early in the morning at some church opposite the river from downtown, and there may have been food. Then leaders from Greenpeace began educating everyone about what was about to happen—there was the danger of arrest. Not surprisingly in the city of Mardi Gras, protesters are supposed to obtain parade permits in order to take over streets, and Greenpeace had not done so. They claimed that the nominal fee was really just a bureaucratic obstacle to free speech; in truth, I think Greenpeace probably wanted a few people to be arrested. In any case, our march over the bridge was going to be illegal, and the leaders wanted anyone not wanting to be arrested to remain in the interior of the crowd. Matt and I wondered what impact being arrested might have on our prospects of getting into law school.

There were quite a number of people dressed up in costumes, and various people led chants as we moved along. But I think all of us were a little nervous as we approached some magic line which the protest wasn’t supposed to cross. There were police everywhere. When we reached the line, there may have been a slight pause as the leaders spoke to police, but then everyone just kept moving. And, pretty quickly, the police went from defending the bridge to escorting us across. I don’t think anyone was arrested. Several of us went home with tee-shirts. And “cancer corridor” is still highly polluted.

The only other major activity which Green Club undertook in spring 1989 was a protest of Exxon following the crash of their Exxon Valdez oil tanker in Prince William Sound, Alaska. That crash occurred in early April. I remember watching news about the crash over several days on the little black-and-white kitchen TV in my apartment, wondering how much oil eventually was going to be released and with what effects, but I cannot claim credit for deciding to organize Green Club’s protest. Some young couple in a house on St.
Charles (I believe he was a doctor; neither was associated with the university) had the protest idea first and called Tulane wondering what student organization “was planning to do something about the spill.” They were directed to me, and I asked them to come to Green Club’s next meeting.

In a dark corner of the second floor lobby of the University Center, the couple proposed that Green Club do something to express our concern about the Valdez spill, and everyone in the club agreed that we should—even Kathryn Rogers, whose dad was a former executive of Exxon. Somehow we found a few relevant statistics—such as that over the past few years in Louisiana, Exxon had spilled a total quantity of oil comparable to that spilled in Alaska, and we used these statistics to put together some flyers. Then someone, probably myself or Kathryn, called around looking for a prominently located and company-owned Exxon station in New Orleans; we did want not to put pressure on privately owned stations. And over the course of one or two days, several of us, including Kathryn, Lisa, Matt and myself, stood in front of that station at the corner of St. Charles and Napoleon(?) handing out flyers and asking people not to buy gas. I do not know how much business the station normally does, but during our protest, very few people pulled in, and we did not block or heckle those that did (although we may have offered them flyers). Matt recently reminded me that one of the local TV stations stopped to film us during the protest. I do not remember that happening, but I do now remember Kathryn worrying in her own very cool way about the possibility of her Exxon executive dad seeing her on TV. Personally, I think he would have had every reason to be proud.

Also around early April, on April 1 precisely, the Hullabaloo published its annual April Fools Day issue. The cover story was a fake piece about “some” environmental group on campus and all the crazy stuff “they” were doing. One might have expected someone like me to be proud of the article, since it proved that Green Club already had made a small splash on campus. Instead, I was angry, in the same way that I was angry when Frances innocently pointed out the lack of white space in our newsletter. After our next club meeting, Molly’s Mike whatever-his-name-was and I even cornered the Hullabaloo editor and expressed our dismay. This is the other example—which I promised earlier to mention—in which I acted too sensitive to (perceived) criticism. I’m sorry for my behavior now, and hope future Green Club members will not follow my example. Being able to laugh at one’s self seems to be critical for anyone wishing to change the world.

I had a lot of other plans for Green Club which I never got to follow-up, some of which are conveniently documented in Tulane’s 1989 yearbook. I believe my fellow JYA-Spain student Mark was editor of the yearbook that year (I don’t have a copy), and I believe that Mark asked Matt to write something about Green Club’s accomplishments for two yearbook pages which were reserved for Green Club. Because of publication deadlines, Matt and I ended up writing the blurb before the semester had concluded, and so we included not only things which the club already had accomplished but also things which we planned to accomplish. Do not be misled! Anything that is described in Tulane’s 1989 yearbook, which is not described here, is a big lie, except in the sense that it represents our true aspirations from that time. There is a photo of the club in the 1989 yearbook, possibly the only photo
of us anywhere, and in it I remember choosing to sit next to Uchenna, a very nice person whom I miss.

One of Green Club’s “fake” accomplishments described in the yearbook may be an assessment of the university’s energy and waste patterns with recommendations for improvement. I wanted very much for the club to prepare such a report, and, as the semester drew toward a close, I began trying to find people to do the project after I left. An obvious choice for writing the report was junior Tim Wise, a smart and irreverent person who enjoyed raising political ruckus. But Tim kept saying that he might be too busy, so I also began talking to one of our sophomore members, a female friend of Laura Hall’s I think. Toward the end of the semester, the three of us had a meeting about the project on the wooden stage in newly constructed Pocket Park, and I took a photo of them. I don’t think that either Tim or the woman ever followed up the project. But at least, I now have their photo.

We elected new officers in Green Club’s last meeting of spring 1989. The new President turned out to be someone who I barely knew, and, at the time, I was feeling a little bit insecure about Tulane’s future. All of the club’s most active members either were graduating (Matt and I) or going to spend their junior years abroad (Kathryn in Scotland and Lisa in France). But I knew that the new President was someone who had been to all of our meetings and who seemed to have a quiet excitement about environmental issues. And I later learned from Matt, who saw this person when Matt was attending Tulane Law, and from the history on Green Club’s current website, that the person did a very good job. Proof that everyone is expendable.

As a final good-bye to Green Club’s first members, Molly Hutton’s boyfriend, the guy who gathered all those Styrofoam signatures, threw a party at his beautiful house somewhere south of St. Charles. I don’t think that I was able to attend most of the party—why, I have no idea—but most of Green Club’s most active members were there, and I have a few photos.

That summer, I spent three of the hottest months of my life, first, in the apartment I had shared with Matt and Ignaccio, and then with Ignaccio in the new shot-gun apartment of Matt and his fiancee Suzi. I secured an internship working in the office of Senator Al Gore. Earlier in the spring, Tim Wise had advised me to look in the career center for “internships,” something I never had even heard of, and I remember applying for one with the Environmental and Energy Study Institute, an organization I would work for professionally in 1994 and 1995. Then my dad suggested that I call his senator, Al Gore, who had an interest in environmental issues, and that’s how I ended up moving to D.C. Over the summer, I discovered the New York Times, hung out with good friends (Ignaccio, Kathryn, and Bahar) as much as possible, and finally finished my thesis while listening to some Handel CD over and over.

After moving to Washington, I followed up my Tulane environmental activism in one last effort, writing letters to the heads of the economics department, the dean of Arts and Sciences, the provost I think, and the president of the university asking them to incorporate environmental questions much more into Tulane curricula. All sent back thoughtful and mostly positive responses, all of which I still have copies of. Nevertheless, by fall 1989,
Green Club was basically part of my past, and I only received a few reminders about the club over the coming years. The *Times Picayune* columnist called me regarding our Styrofoam campaign in fall 1989. Soon after, in response to her story I think, Michael Zimmerman called to say hi. In fall 1990, Molly Hutton’s (by then, ex-) boyfriend called me in the international program of National Wildlife Federation to tell me that Green Club was doing well. He said that the club had just built a very nice recycling center, and that he had written some kind of report about environmental problems on campus—possibly along the lines which I had been imagining with Tim Wise. He sent me a copy of the report.

Over the years I have remained in regular contact with Matt and with Julie Denslow, both of whom remained at Tulane for several years after I left. But all of us have been gone from New Orleans now for a number of years. Thus, I had heard virtually nothing new about Green Club for ten years—until last month. That is when Matt and I were talking on the phone for the first time in several years, and I began wondering how Green Club was doing. Through a quick search, I found the club’s fantastic world wide web site and discovered that the club is doing well. Next week I am flying to New Orleans with my fiancee to celebrate Green Club’s 10th anniversary, along with the opening of Tulane’s new environmental studies building, on Earth Day.

*“Green Club” the People*

Having just described Green Club’s accomplishments in its first academic year of operation, I now would like to introduce several of Green Club’s first members, without whom none of those accomplishments would have been possible. In a quick search of the above text, I just counted over 300 instances of the word “I,” and perhaps that is inevitable given that this is one person’s account of events. But Green Club was very much a “we” organization, and the people I met through Green Club are just as important as anything we accomplished together. I want to tell a little bit about who they were as whole people, not just as Green Club members. Here is a sample.

**Matt Silvers:** Although I already have mentioned Matt a few times, I want it to emphasize strongly that Matt’s support for Green Club was critical from the beginning, more critical to me than that of anyone else. Unlike me, Matt is a very punctual and organized person. This fact, combined with his extremely friendly and accommodating demeanor, made him a very effective leader of many club projects, not to mention a vital partner to me in planning club activities.

Matt was a friend from the day we met, something I appreciated then and appreciate now, and I think that by describing his treatment of me as a friend, I might be able to give some impression of his involvement with Green Club:

* ●* Sortly after we met in Spain, Matt and I discovered a common interest in playing guitar (Matt’s wife Suzi is a great musician), and, for the rest of the time we were in Spain, Matt looked for and tried to buy me an instrument.

* ●* Upon our return to New Orleans senior year, Matt discovered that I suck at all sports. Being a terrific athlete himself, he patiently tried to teach me how to throw balls, and how to like it, obtaining success on the latter objective.
On the night before Matt, Ignaccio, and I were to take the LSAT, Matt carted the three of us out for a big Italian food dinner, and the next morning he woke us all up at the crack of dawn for a jog (!) and breakfast.

The point of these examples is that Matt plans ahead to do good things, and then he does them: buying me a guitar (or at least trying), founding the Green Club, teaching me to play ball, and—for the past decade—dedicating his career to environmental protection. After graduating from Tulane Law School, where he focused on environmental issues, Matt has worked for a series of companies and law firms in Chicago, quitting one after the other when they threatened to remove worthwhile environmental work from his portfolio. Most recently, with a family and a mortgage, he has taken a 40 percent pay cut to help found a company whose sole purpose will be cleaning up old industrial sites in the Chicago area. Need I say more?

Kathryn Rogers: From the day we met in Karl Anderson’s dorm room, Kathryn was a close friend of mine. In fact, looking back on college, I’d say she was my best friend. She was a smart cookie: an English major and national merit scholar who had graduated from one of New Orleans’ “magnet” high schools, who made straight As, and who never seemed to have any homework to do. Although she lived with her folks across the river, Kathryn always was around campus, at my apartment, or at the PJ’s coffee shop near my house, where a small group of us regularly order iced coffee (“in a glass cup”—not Styrofoam) and hung out—partially to plan Green Club events, partially to do homework, and mostly to be together. Everyone liked Kathryn. She is a very relaxed, intelligent person with a genuine interest in new things and new people. And that probably is partly why she did such a great job of bringing new blood into Green Club. She attended every meeting and participated in every event—but always with a friend. In fact, she is the person largely responsible for making the first Green Club a group of friends, not just an “organization.” After spending her junior year in Scotland and then graduating, I believe she went on to get a Ph.D. in English at the University of Texas, Austin.

Lisa Lala: Lisa was Kathryn’s best friend from high school, and at Tulane—another “dummy” who attended that New Orleans magnet high school and then got “bought” with a scholarship from Tulane. We met when Lisa became the first person for Kathryn to cart to a Green Club meeting, and we dated for most of my senior year. Lisa’s dad was a great jazz drummer for many years in New Orleans who died during Mardis Gras in 1987 or 1988. Lisa missed her father terribly, but she was a strong person, and she spent as much time supporting her widowed mom as most college kids spend trying to escape their parents. Lisa was, above all, a very kind person, who hugged everyone, and, although she generously pitched in on every Green Club activity, it was Lisa’s smile and laugh, even more than her energy, which made her a major resource for the first Green Club.

Laura Hall: Although I did not know Laura as well as I knew Matt, Kathryn and Lisa, I liked Laura a lot and always was grateful for her work setting up Tulane’s first recycling program, long before Matt and I founded Green Club. I always knew that she supported Green Club, even as she independently thought of and pursued her own projects. Like Kathryn, Laura was very good at bringing friends to Green Club events, something which
boosted our support, and success, significantly.

Jeff Parrish: Besides Matt and myself, Jeff probably was Green Club’s first member. He attended as many meetings as he could, often with a pet parrot on his shoulder. (Unfortunately, the parrot flew away at one point in a rain storm.) In addition to working on Green Club stuff, he was an avid biology student who, as I mentioned above, went on to pursue a professional life in the discipline by studying at Brown University.

Uchenna Chukwu: Uchenna was the very kind first Secretary of Green Club, a biology major who was exuberant the day she got elected to the biology honors society (none of the rest of us were surprised). She grew up in Louisiana and loved crayfish, which she regularly bought by the pound from a small shop near Freret, just west of campus. She worked hard behind the scenes, keeping minutes (which I no longer have copies of) and making phone calls, among other things. This work was just as critical to Green Club’s success as anything else which I have discussed above.

Julie Denslow: Julie was Green Club’s first faculty advisor, a great teacher, and a great friend. She inspired me through her courses (in addition to “Introductory Ecology,” I also took “Forest Ecology” from her), her mentoring, and her friendship, partially by helping me to slowly see things (e.g., how ecosystems work, why the Amazon is important), and partially by then “shutting up” (in a symbolic sense) and trusting that I might do something with my new knowledge. Her trust made me want to do great things.

Julie has spent an entire career studying forest ecosystems, with one of her major areas of focus being “tree gap” analysis. Tree gaps are those tiny areas of light that open up in rainforest canopies occasionally when a tree falls. By allowing light to reach the rainforest floor, they create opportunities for plants and animals to move in which previously could not have survived in the tree gap area. Through her work, Julie has concluded that, under certain circumstances, it may be possible for denuded tropical forest regions to recover—an exhilarating idea. Of course, she’s trusting us to follow through...

Others students: There were many other members of the first Green Club, many of whom I remember fondly. In addition to the folks I already have mentioned, they included my roommate Ignaccio Arrazola, who started out making fun of Green Club and ended up making fun of (and strongly supporting) Green Club—one of the funniest guys I have ever known; junior Bahar Rowhani, a friend of Lisa’s who became a good friend of mine and who I have seen occasionally in Washington, D.C. over the years; freshwoman Tania Tetlow, another graduate of that New Orleans magnet school, who wants to represent Louisiana in Congress one day (probably will) and who I saw a few times during an internship she served in Washington, D.C. in summer 1990; Bernadette “Bernie” somebody, another biology major who often joined our meetings, in addition to regularly giving Ignaccio and me free rides to the grocery store; and junior Mike somebody, Molly Hutton’s gregarious (ex)boyfriend, who I did not get to know as well as I would have liked, but who always treated me well, and impressed everybody.

Everyone else: Finally, I would like to remember the non-students who contributed so much to Green Club. In my description of Green Club’s official founding, I described the series of meetings I had with various faculty and staff around campus. It should now be
apparent that very few of those meetings translated directly into Green Club activities; indeed, Matt Silvers probably was the only person who ever knew that I had the meetings at all. Still the meetings were important. Why? To a person, the people I met with were as supportive of me as possible. Not all of them were in a position to help Green Club in the sense of participating in or even advising our group activities. But all of them opened up their offices and their ears to my, probably naive, articulation of Green Club’s concerns and goals, and all of them taught me something, even if it wasn’t the thing I thought I was going to learn.

As someone who now runs a nonprofit environmental organization, I understand the importance of all support. There is an understandable tendency sometimes for people to think of volunteer and nonprofit organizations only in terms of the people who “do” things. In our case, most of the “doers” were students, so it would be easy just to remember them. But the people who support that action, whether with money, advise or just encouragement, are just as vital to a group’s success. That is why I wish to thank all of the following individuals: Julie Denslow, Michael Zimmerman, the director of student organizations, the Vice President for Student Affairs, Tom Graham, my “Technology and Public Policy Professor,” that unknown engineering professor, the director of Tulane’s Environmental Law Clinic, and Professor Oliver Houck.

“Green Club” the Idea

As I have described above, Green Club was partially everything that the Green Club did, and partially all the people who participated in and supported Green Club activities. But Green Club also was an idea, a continually evolving image which all of us saw—albeit in different ways—and tried to turn into reality. Here I would like to briefly describe my own image of how, I thought, Green Club should be.

In writing my honors thesis, I read several books by and about John Atkinson, a prominent psychologist who studied motivation in the 1960s and 1970s. Motivation is just that “something” inside a person which makes them do what they do. Realizing that Green Club was in the business of getting people to do things, I very consciously incorporated my understanding of Atkinson’s work into Green Club’s design. In particular, I tried to incorporate my understanding of a famous experiment in which Atkinson asked participants to throw horseshoes from any distance between 1 and 100 feet from a target. Most people chose to throw from a middle distance. Atkinson explained that, at middle distances, participants perceived both that they had a realistic chance of hitting the target and that hitting the target was worthwhile.

I found Atkinson’s overarching insight highly relevant to Green Club: most people choose goals which they consider worthwhile and achievable; they avoid goals whose outcomes are worthy but not achievable, as well as goals which are achievable but worthless. The implications for Green Club were obvious. First, and most obviously, the organization had to increase the “worthwhileness” which people around Tulane attached to environmental goals; we had to teach people to care about tropical deforestation, etc. But just as importantly, Green Club had to make people believe that reaching environmental goals was
possible. Today, I think this is one thing which the environmental movement does not do very well. Most citizens think that protecting the environment is worthwhile, but most citizens also think that they can’t do anything to help.

In order to teach people at Tulane that solving environmental problems is feasible, I decided that Green Club should refrain from focusing exclusively on “major” issues like Amazonian deforestation and depletion of the ozone layer. Although I clearly thought that such problems were important, I also understood that the club’s direct impact on them probably would be small. I decided that it would be preferable to offer a range of issues for people to work on or, better yet, to let Green Club members create that range themselves. Thus, when I was drafting the Bylaws, I decided to create a “coalition structure” which would allow members to create and choose to work on those issues which were most important to them and on which they felt they could have the greatest impact. Overarching the coalitions, I saw Green Club’s main responsibility eventually becoming that of providing information, resources and motivation for coalition members to draw upon.

To clarify: I did (and do) believe that Tulane students—properly motivated—can put a dent in huge problems like tropical deforestation, but I realized senior year that people see the world differently from one another. Thus, I never thought that solving the world’s environmental problems should be Green Club’s primary objective. We probably would not have succeeded. Instead, I always thought that Green Club’s mission should be to educate students and other members of the Tulane community, from groundskeeper Tom Graham to the university President, not only that environmental protection is important but also that everyone affects the world’s environment, whether positively or negatively.

Recognizing that Tulane is a community of faculty, staff and neighbors—as well as students—I purposefully wrote Green Club’s first bylaws in a way that allowed non-students to become members. Still, I always thought that educating students should be Green Club’s primary mission, and my reasoning for this also was very specific. Going to one of the southern United States’ best universities, in the middle of troubled New Orleans, I was well aware of my privileged educational status and, specifically, of the likelihood that many of my classmates and I—for better or worse—might go on to become some of the country’s future political, business, and nonprofit leaders/elite. I also was impressed by and appreciated that Tulane students represent such a wide range of interests and skills, as indicated by their diverse majors and pass-times.

Thus, to be more specific, I decided that Green Club’s mission should be to help future leaders of society integrate environmental protection into their lives by showing them that they can use their unique talents and interests to achieve worthwhile environmental change. For example, in the year following my departure, when Green Club apparently built a recycling center on campus, I think kids from the architecture school drew up a design, students from landscape architecture decorated the center, and volunteers from the radio station publicized the place. Green Club helped the environment (a little bit) by establishing recycling on campus. But, even more importantly, the club helped some of tomorrow’s leaders learn that they can do environmental good, in their own home, using their own unique talents and interests.
“Green Club” the Memory

These have been the recollections of one person. As such, they are necessarily biased and incomplete. Other people who participated in Green Club’s founding and first year of operation will have different memories and perceptions of that year, and I want to emphasize that all of those memories are important—but not just for aspiring “Green Club historians.”

Ten years after leaving Tulane, it is the memory of Green Club which continues to transform me, and possibly other people as well. I lost touch with the “real” Green Club shortly after leaving Tulane ten years ago, but my memory of the Green Club from 1988 and 1989 lives on and continues to bring me happiness, motivation, and hope. For years, my participation in Green Club has helped fuel continuing work in environmental advocacy, most recently by providing a model for my founding a nonprofit environmental organization. Founding Green Club was the beginning of a lifetime of professional environmental law work for Matt Silvers. And getting dragged to Green Club meetings may have helped motivate my ex-roommate Ignaccio to become an environmental lawyer for the U.S. Environmental Protection Agency.

I want to emphasize to today’s Green Club members that, in a very real sense, you are in the business of making memories, for yourselves and others. Of course, everything you do directly benefits the environment, but that is not the only reason that your activities are worth pursuing. The fact is that probably, somewhere further back in history than 1988, other students—whose names we don’t even know—probably formed their own version of Green Club, that is, their own environmental organization of individuals eager to save the planet. We might never know who those students were or what they accomplished, but they know those things, and that is what is most important. For in the process of changing the world, those students also must have changed themselves. And then, maybe afterwards, they went on to continue changing the world—as professionals, volunteers, and parents.

It does not matter that there is not a plaque in front of that dawn redwood which “my” Green Club planted during Green Week. It only matters that the tree continues to grow. And the same is true for Green Club.
**Appendix D**

**Graddcard from the *Green Gradecard for the Green Wave: Environmental Sociology Audit Project, April 22, 1997.***

<table>
<thead>
<tr>
<th>AREA</th>
<th>GRADE</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>CURRICULUM</td>
<td>A-</td>
<td>Strong, growing, funded</td>
</tr>
<tr>
<td>BUILDINGS</td>
<td>C</td>
<td>New bldgs. OK, old poor; no renov. plans</td>
</tr>
<tr>
<td>ENERGY USE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lights</td>
<td>A-</td>
<td>Upgrading program underway</td>
</tr>
<tr>
<td>Heating/AC</td>
<td>D</td>
<td>Leaky buildings, overuse</td>
</tr>
<tr>
<td>WATER</td>
<td>C</td>
<td>Overuse, poor conservation</td>
</tr>
<tr>
<td>FOOD SERVICES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bruff</td>
<td>B-</td>
<td>Mostly reusable dinnerware, some veggie meals, low food waste, no donation, recycling</td>
</tr>
<tr>
<td>U.C.</td>
<td>C+</td>
<td>Mostly disposable, improving, as Bruff</td>
</tr>
<tr>
<td>RECYCLING</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic Bldgs.</td>
<td>B</td>
<td>Program needs more workers, infrastructure</td>
</tr>
<tr>
<td>Dormitories</td>
<td>C</td>
<td>Need more institutional follow-up</td>
</tr>
<tr>
<td>Campus Grounds</td>
<td>F</td>
<td>Need bins on grounds</td>
</tr>
<tr>
<td>COMPOSTING</td>
<td>F</td>
<td>No composting of yard/food wastes</td>
</tr>
<tr>
<td>PROCUREMENT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paper Purchasing</td>
<td>B</td>
<td>2-sided/recycled policy exists, use varies</td>
</tr>
<tr>
<td>Cleaning/Pesticides</td>
<td>F</td>
<td>No environmental or safety considerations</td>
</tr>
<tr>
<td>HAZARDOUS WASTE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Policies</td>
<td>A-</td>
<td>Good policies exist</td>
</tr>
<tr>
<td>Compliance</td>
<td>C-</td>
<td>Little or no awareness and action</td>
</tr>
<tr>
<td>MEDICAL WASTE</td>
<td>C</td>
<td>Good safety, regs.; poor info. gathering</td>
</tr>
<tr>
<td>CONSCIOUSNESS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge</td>
<td>B</td>
<td>Students aware of needs</td>
</tr>
<tr>
<td>Action</td>
<td>D</td>
<td>Wasteful behaviors abound</td>
</tr>
<tr>
<td>RESEARCH</td>
<td>B</td>
<td>Much positive research, some poor funders</td>
</tr>
<tr>
<td>INVESTMENTS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business Partners</td>
<td>B-</td>
<td>Pepsi, Marriott, BFI</td>
</tr>
<tr>
<td>Endowment</td>
<td>F</td>
<td>No social/environmental screening</td>
</tr>
<tr>
<td>Donors</td>
<td>D</td>
<td>Shell, Freeport-McMoran have poor enviro. records</td>
</tr>
<tr>
<td>GREEN G.P.A.</td>
<td>C</td>
<td>(1.97 Average Overall on 22 items)</td>
</tr>
</tbody>
</table>
Summary of conclusions from It’s Not Easy Being Green: An Environmental Audit of Five New England Schools.

M=Middlebury College - First overall (89/100)
D=Dartmouth College - Second overall (69/100)
T=Tufts University - Third overall (54/100)
R=Brown University - Fourth overall (48/100)
B=Bowdoin College - Fifth overall (36/100)

*High Priority* - scores high both in environmental impact and in the ability of students to effect change. Score = rank (1 thru 5) times 3
- Academics - environmental education, type of program(s), extensiveness of program(s), and inclusion of environmental courses throughout the curriculum.
- Energy and Utilities - fuel sources, usage patterns, and conservation efforts.
- Politics - student activism, administrative stances on environmental issues (e.g., if environmental issues are addressed in the mission statement of the institution).
- Solid Waste Management - garbage disposal, recycling, and composting; amount generated (recycled and disposed), cost avoidance, student involvement.

*Intermediate Priority* - have consequential environmental impacts but somewhat lower that “high priority.” Score = rank (1 thru 5) times 2
- Dining Services - food waste, use of disposables / reusables, energy efficient machinery, non-toxic cleaners, and offering organic goods.
- Landscaping and Grounds - water use, mowing methods, pest control, and preservation of green space.

*Low Priority* - least environmental impact and potential for student involvement. Score = rank (1 thru 5) times 1
- Communication Services - computer energy use, electronic information transfer, mass mailings, printing and photocopier options, and generation of paper waste.
- Hazardous Waste Management - paints and chemicals from art and scientific departments.
- Purchasing - use of disposables, bulk purchasing, recycled / recyclable products, and policies for gauging the environmental impact of the companies with whom the university does business.
- Transportation and Parking - availability and proximity of parking and alternatives to single occupancy vehicle transportation.

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<td>1</td>
<td>M</td>
<td>M D</td>
<td>R</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td>D</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>D T</td>
<td>T</td>
<td>T</td>
<td>B</td>
<td>D T</td>
<td>M</td>
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<td>M</td>
<td>B</td>
<td>B</td>
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<td>3</td>
<td>T</td>
<td>T M</td>
<td>R</td>
<td>D</td>
<td>R D</td>
<td>B R D</td>
<td>B</td>
<td>M</td>
<td>M T</td>
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</tr>
<tr>
<td>4</td>
<td>R</td>
<td>B T</td>
<td>D</td>
<td>R</td>
<td>B RT</td>
<td>R B</td>
<td>T</td>
<td>R B</td>
<td>T</td>
<td>R</td>
<td>T R</td>
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<tr>
<td>5</td>
<td>B</td>
<td>R B</td>
<td>B</td>
<td>B</td>
<td>D</td>
<td>T</td>
<td>B</td>
<td>R</td>
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<td>none</td>
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<td>B</td>
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</tbody>
</table>


<table>
<thead>
<tr>
<th>Conservation Projects</th>
<th>Annual Revenues and Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Transportation</strong></td>
<td></td>
</tr>
<tr>
<td>Getting Students and Staff Out of the Car at Cornell University, NY</td>
<td>$3,123,000</td>
</tr>
<tr>
<td>Creating a Bus-Riding Campus at the University of Colorado-Boulder, CO</td>
<td>1,000,000</td>
</tr>
<tr>
<td><strong>Energy Conservation</strong></td>
<td></td>
</tr>
<tr>
<td>Creative Strategies for Saving Energy at SUNY-Buffalo, NY</td>
<td>9,068,000</td>
</tr>
<tr>
<td>Lighting and Equipment Retrofits at Elizabethtown College, PA</td>
<td>247,000</td>
</tr>
<tr>
<td>A Four-Campus Energy Reduction Strategy at Brevard Community College, FL</td>
<td>2,067,000</td>
</tr>
<tr>
<td>Laboratory Renovations and More at Brown University, RI</td>
<td>15,500</td>
</tr>
<tr>
<td>Burning Better Lights in Dorm Rooms at Dartmouth College, NH</td>
<td>75,000</td>
</tr>
<tr>
<td>Solar Panels Generating Savings at Georgetown University, Washington, DC</td>
<td>45,000</td>
</tr>
<tr>
<td><strong>Water Conservation</strong></td>
<td></td>
</tr>
<tr>
<td>New Toilets and Water Fixtures at Columbia University, NY</td>
<td>235,000</td>
</tr>
<tr>
<td>Cleaning Up with Water-Saving Showerheads at Brown University, RI</td>
<td>45,800</td>
</tr>
<tr>
<td><strong>Dining Services</strong></td>
<td></td>
</tr>
<tr>
<td>Washable Cups in the Freshman Union at Harvard University, MA</td>
<td>186,500</td>
</tr>
<tr>
<td>Saving on Refillable &quot;Red Mugs&quot;at the University of Wisconsin-Madison, WI</td>
<td>11,400</td>
</tr>
<tr>
<td><strong>Re-Use</strong></td>
<td></td>
</tr>
<tr>
<td>Sale of Surplus Property at the University of Wisconsin-Madison, WI</td>
<td>241,800</td>
</tr>
<tr>
<td>Maintaining Vehicles with Re-Refined Motor Oil at Univ. of Illinois-Urbana-Champaign, IL</td>
<td>3,500</td>
</tr>
<tr>
<td>Second Time Around for Chemicals at the University of Washington, WA</td>
<td>14,400</td>
</tr>
<tr>
<td><strong>Management of Hazardous Chemicals</strong></td>
<td></td>
</tr>
<tr>
<td>Cutting Out the Weed-Killers at Seattle University, WA</td>
<td>1,300</td>
</tr>
<tr>
<td>Chemistry Classes with Fewer Chemicals at the University of Minnesota, MN</td>
<td>37,000</td>
</tr>
<tr>
<td><strong>Composting</strong></td>
<td></td>
</tr>
<tr>
<td>Creating Fertilizer with Kitchen Food Waste at Dartmouth College, NH</td>
<td>10,000</td>
</tr>
<tr>
<td>Composting Landscape Waste and Scrap Wood at the University of Colorado-Boulder, CO</td>
<td>1,300</td>
</tr>
<tr>
<td><strong>Recycling</strong></td>
<td></td>
</tr>
<tr>
<td>Award-Winning Materials-Recovery Program at the University of Colorado-Boulder, CO</td>
<td>107,000</td>
</tr>
<tr>
<td>Dining Services Recycling at Harvard University, MA</td>
<td>79,000</td>
</tr>
<tr>
<td>Getting Top Dollar from Paper Recycling at the University of Wisconsin-Madison, WI</td>
<td>120,000</td>
</tr>
<tr>
<td>Analyzing Wastes to Cut Costs at the University of Wisconsin-Madison, WI</td>
<td>21,000</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>$16,755,500</td>
</tr>
</tbody>
</table>
Appendix E

List of Interviewees.

Superscripts denote the following:
- a = no first-hand involvement in institutional environmental issues
- b = indirect professional (and/or personal) involvement in institutional environmental issues
- c = direct professional involvement with institutional environmental issues

Administrators (9)
- a Honorable John G. Weinmann, Chairman of the Tulane Board of Directors
- b Dr. Eamon Kelly, President, Professor of Economics
- c Dr. Mary Konovsky, Associate Provost, Professor of Business
- d Dr. Daniel Nadler, Assistant Dean of Student Programs
- e Mrs. Penny Wyatt, Director of Housing and Residence Life
- f Dr. Martha Gilliland, Provost, Professor of Civil and Environmental Engineering
- g Dr. Theresa Soufas, LAS Dean of Faculty and Staff, Professor of Spanish
- h Mrs. Yvette Jones, Vice President for Finance and Operations
- i Dr. John McLachlan, Director of the Tulane / Xavier Center for Bioenvironmental Research, Professor of Pharmacology

Faculty (6)
- a Dr. Amy Koritz, Associate Professor of English
- b Dr. Oliver Houck, Professor of Environmental Law, Chair of the Tulane Environmental Project
- c Dr. Joan Bennett, Professor of Cell Biology (and Environmental Studies), Co-Chair of Environmental Studies
- d Dr. Ernest Edmunson, Adjunct Professor of Business
- e Dr. Charles Reith, Adjunct Professor of Business (and Environmental Studies)
- f Dr. Michael Zimmerman, Professor of Philosophy (and Environmental Studies), Co-Chair of Environmental Studies

Staff (5)
- a Ms. Jennifer Casebere, Director of Orientation, Leadership, and Community Service, Student Programs
- b Mrs. Dionne Picard, Manager, Marriott Dining Services
- c Mrs. Judith Zwolak, Editor, University Publications
- d Mr. Keith Hook, Recycling Coordinator, Physical Plant Department
- e Mr. Sylvester Johnson, Director of Facilities, Physical Plant Department

Students (4)
- a Mr. Jeremy Shaffer, President of the Associated Student Body
- b Mr. Brian Fink, Vice-President of the Tulane Green Club
- c Ms. Alicia Lyttle, Recycle Tulane Chair of the Tulane Green Club
- d Ms. Emery Myers, Secretary of the Tulane Green Club

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1 Chairman Weinmann’s term ended June 31, 1998.
2 President Kelly’s term ended June 31, 1998.
3 Mr. Hook left his position in early March of 1998.
4 Mr. Shaffer’s term ended in March of 1998.
Passage Provided to Interviewees.

The Blueprint for a Green Campus from the Campus Earth Summit outlines ten recommendations for a campus to be “green.” The Summit was held at Yale University in February 1994. There were 450 attendees from 22 countries, 6 continents, and all 50 states. Together they crafted a set of recommendations for higher education institutions to work towards an environmentally sustainable future. Many use the Blueprint as a core for helping to define a green campus. I too will use the outline, expanding upon it in later chapters. A “green” campus as outlined by the Blueprint is one that:

- integrates environmental knowledge into all relevant disciplines;
- improves undergraduate environmental course offerings;
- provides opportunities for students to study campus and local environmental issues;
- conducts a campus environmental audit;
- institutes environmentally responsible purchasing practices;
- reduces campus waste;
- maximizes energy efficiency;
- makes environmental sustainability a top priority in campus land-use, transportation, and building planning;
- establishes a student environmental center; and
- supports students who seek environmentally responsible careers.

Greening the campus, then, is working towards some or all of these goals in addition to the others that a particular campus outlines: increasing environmental awareness and / or action on campus. Although it appears to be a massive undertaking, greening ranks about midway on a scale of depth and breadth of institutional change. It is certainly no minor task to change a campus to a green one. But it is not about “reinventing the wheel” and completely shifting the direction of the institution. One primary difficulty is that greening involves not just changing operations or offering environmental opportunities but rather a change in values.

Discussion and Map of Campuses in the Making a Difference College Guide.5

Significant about this map (which lists the number of schools in the Making a Difference College Guide by state) is that the majority of the institutions are in the Northeast or West coast, and the South is virtually barren. Although the choice of the colleges that were included in the book were the author’s opinion and the geographic representation appears to coincide with population densities, Weinstein’s rigorous examination and the reputability of the publisher (Random House) gives credibility to the selection. (Note: The map is my own development; Weinstein simply presents information about the colleges in alphabetic order with an index by state in addition to the alphabetic index.)

From a sociological viewpoint, this phenomenon could be compared with demographic data to examine correlations (for example, comparing civic involvement rates or membership in environmental organizations); such a study would further explore the “cultural” barriers to change, especially at Tulane and other Southern institutions. Interestingly, approximately 58.6% of the Tulane 1997 freshman class was from places other than the South,6 and though demographics are not available, I would guess that at least that many faculty come from areas other than the South. Thus,

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6 Office of Admissions (1998). The Tulane 1997 freshman class by region was: Northeast - 29.7%, Midwest - 15%, West - 10.4%, Southeast - 9.5%, Midsouth - 4.4%, Other areas (including international) - 3.5%, Louisiana - 12.2%, Texas - 7.5%, and Florida - 7.8%.
because so much of the campus population is from outside the South, Tulane is not really a Southern campus, it is just located in the South. (A few interviewees also noted this.) It follows that the “Southern culture” or “New Orleans culture” that the interviewees so frequently mentioned must be either perceived (by the interviewees) or absorbed (by the non-Southerners at Tulane). No firm conclusions can be drawn, however, and further research would be necessary to do so.

Regardless of the sociological or cultural implications of the map and this study, Tulane is faced with an excellent opportunity to become a “college that makes a difference” in the South. In the spring of 1998, Tulane requested to be considered for inclusion in the guide. The author denied the request for the undergraduate portion of the University (which is done by taking the entire institution into account) but will consider the graduate environmental programs (which are done by program).
Graphs of Statistics from the Interviews.

**Barriers to greening the campus.**

<table>
<thead>
<tr>
<th>Barrier</th>
<th>Number of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inst'l / Org'l</td>
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<tr>
<td>Fin.</td>
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<tr>
<td>Cult.</td>
<td>16</td>
</tr>
<tr>
<td>Edu.</td>
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**Bureaucracy as a barrier to greening.**

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<tr>
<td>Bureaucracy does not cause barriers</td>
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**Lack of communication as a barrier to greening.**

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<tr>
<td>Fac.</td>
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<tr>
<td>Staff</td>
<td>1</td>
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<tr>
<td>Stu.</td>
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**Lack of advocacy as a barrier to greening.**

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**Lack of policy as a barrier to greening.**

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**Financial barriers . . .**

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<td>. . . are not barriers.</td>
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<td>. . . are barriers and harbingers.</td>
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<tr>
<td>. . . are uncertain (more research needed).</td>
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</tr>
<tr>
<td>. . . for research, not operations.</td>
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**Cultural barrier: Students are apathetic.**

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<td>Fac.</td>
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<td>Staff</td>
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<tr>
<td>Stu.</td>
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**Lack of education as a barrier to greening.**

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<tr>
<td>Fac.</td>
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<tr>
<td>Staff</td>
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<tr>
<td>Stu.</td>
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</tbody>
</table>
Administrative operations are an important greening target.

Physical operations are an important greening target.

Out-of-class (community) learning is important for greening.

In-class (individual) learning is important for greening.

Students should be advocates and activists for greening issues.

Students should get educated (passively/actively) on greening issues.

Students should take active roles in greening projects.

Staff should do what they are told regarding greening initiatives.
Staff should get educated on environmental issues.

Faculty should include more environmental issues in research and education.

Faculty should act as role models for greening issues.

Faculty should act as greening advocates.

Administrators should establish greening policies.

Administrators should increase their leaderships roles on greening issues.

Administrators should support and fund environmental issues.

Administrators need to be pressured about greening issues.
Appendix F

Original “Platform for Making Tulane the Environmental University in the South.”
by Aaron Allen

A Summary of the Recommendations:

1. Publish a statement that Tulane will be “The Environmental University in the South” and get comments from the University community about it before finalizing it.

2. Support the above statement by signing onto various national and internationally recognized environmental declarations, and include the statement in Tulane news releases and publications, even after the initial release it should periodically be restated.

3. Establish an Office of Environmental Affairs with one full-time graduate-degree-holding staff person (and one administrative assistant or a full-time allotment of work-study students).

4. Re-establish / reinvigorate the Tulane Environmental Project (TEP) and establish them as a joint faculty / staff / student committee with decision making power.

5. Environmental education, research, and careers should be emphasized, encouraged, and supported.

6. Continue to improve the environmental quality and performance of the university by enacting the suggestions offered by the “Green Gradecard for the Greenwave.” This audit of the University should be performed annually.

7. Hold a seminar to train students, faculty, staff, and administrators responsible for bringing about the change to making Tulane the Environmental University in the South.

The Recommendations:

1. Publish a statement that Tulane will be “The Environmental University in the South.” The statement should be disseminated to every member of the University community through email; alumni, faculty, staff, and student newsletters; campus television; posting in public places; and campus mail memos. To prevent the proclamation from being too “top-down” a series of comment sessions (or publicized meetings of the Tulane Environmental Project [see below]) should be held, in addition to other forms of community input (i.e., a web page, email address, phone line, and mailing address for comments). This proclamation should be drafted by:

- Dr. John McLachlan (Center for Bioenvironmental Research Director),
- Dr. Martha Gilliland (Provost),
- Dr. Eamon Kelly (President),
- Dr. Michael Zimmerman (Environmental Education Committee and Environmental Studies Co-Chairs),
- Dr. Joan Bennett (Environmental Education Committee and Environmental Studies Co-Chairs),
- Dr. Stuart Bamforth (Environmental Studies Co-Chair),
- Dr. Timmons Roberts (Associate Professor of Sociology, Latin American Studies, and Environmental Studies)
- Aaron Allen (Green Club President)
- Alicia Lyttle (Green Club Recycle Tulane Chair)
- Jeremy Shaffer (Associated Student Body President)
- (Chairman of the Tulane Board of Directors)

2. Support the above statement by signing onto (and announcing publicly by means similar to the above statement) the Tallarin Declaration (University Leaders for a Sustainable Future), the Valdez Principles (and insisting on doing with business with companies that are also signatories to the Valdez Principles), and other national and internationally recognized environmental declarations. Additionally, news of Tulane’s commitment to being the Environmental University in the South...
should be included in all University publications (such as the *Tulanian*, *The Hullabaloo*, and *Inside Tulane*) and extensive press releases should make the non-University community aware of Tulane’s chosen standard. Even after the initial release it should periodically be restated so that the community does not forget about it.

3. Establish an Office of Environmental Affairs and Information with one full-time graduate-degree-holding staff person (and one administrative assistant or a full-time allotment of work-study students). *This recommendation is the key to “greening” Tulane because there is a lack of continual oversight, community educational efforts, tracking, implementation of new programs, and communication.* This office should be located in Alcee Fortier Hall along with the other campus environmental offices (such as the CBR and the Environmental Studies Program), and the position will be a division of the Provost’s Office. Ideally, the office staff will grow to support new programs. This position will be responsible for:

- moving the university to compliance with the above signed statements;
- maintaining and improving campus environmental programs (such as recycling, energy efficiency, and environmental procurement initiatives) by grant writing, market awareness, and research on other environmental programs across the country;
- establishing new environmental programs on campus;
- acting as a source of information for environmental issues;
- working closely with the Green Club, the student environmental group, and serving as their staff advisor;
- cooperating with the Environmental Studies Program (ENST) on campus programming, and as an educational resource;
- working with the ENST to improve the environmental curriculum;
- leading (co-chairing) the Tulane Environmental Project (TEP);
- continually educating the campus on environmental issues and how to participate in environmental improvement activities (such as recycling and energy efficiency) by publishing a “Guide to Treading Lightly” or some similar project.
- and publicizing campus environmental initiatives to the University community and across the country (via email, newsletters, journals, conferences, etc.).

4. Re-establish / reinvigorate the Tulane Environmental Project (TEP) and establish them as a joint faculty / staff / student committee that is:

- made up by at least one student and one faculty / staff member from every division of the University;
- co-chaired by the Office of Environmental Affairs, the President of the Green Club, and one faculty member;
- reports to the University Senates (faculty and student), President, and Provost;
- and has decision making powers.

5. Environmental education, research, and careers should be emphasized, encouraged, and supported.

- Tulane should adopt an “Environmental Literacy” proficiency requirement. This can be accommodated by either requiring an additional Liberal Arts and Sciences distribution fulfillment, a requirement for every degree granting department to have at least one environmental class that all students must take to graduate within that department, or can be done by requiring one of the established requirements to be an environmental class (as listed in the *Enviro Counter Culture Catalog: A guide to environmental classes at Tulane*). The latter arrangement is similar to requiring Non-Western and Western distributions in the Humanities.
- Researchers at Tulane should be encouraged and incentivized to pursue research and teaching
that is multi-disciplinary, cross-disciplinary, and often outside of their traditional departmental / degree field, i.e., faculty shall receive equal weight for work outside their disciplines in tenure and promotions decisions and those relating to compensation (pay).

- The Tulane Career Resource Center (CRC) should provide ample job market information on all facets of environmental careers. Staff in the CRC should become aware of and literate in the information leading to jobs for students not only in traditional environmental fields of study (the life sciences: environmental studies and biology) but also in physical sciences, engineering, the arts, the humanities, and the social sciences. Additionally, the CRC should update and increase its holdings on information on the environmental job market. Finally, the University should support students who choose an environmental career path by offering alumni networking, job interviews, job fairs, recruitment opportunities, and career guidance.

- A permanent class on “The Campus and the Biosphere” should be developed and taught regularly so that students can draw the connection between their life on-campus with life after college and off campus. This course might be run by an interdisciplinary team from the Architecture, Business, Engineering, and Liberal Arts Environmental Studies programs. The course should include the study and updating of the Green Gradecard and could be the practicum for “service learning” in the Tulane community.

6. Continue to improve the environmental quality and performance of the university by enacting the suggestions offered by the “Green Gradecard for the Greenwave.” This audit of the University should be performed annually, preferably by a professional but alternatively by the above-mentioned class on “The Campus and the Biosphere.”

7. Hold a seminar to train students, faculty, staff, and administrators responsible for bringing about the change to making Tulane the Environmental University in the South. Such seminars are offered by a number of national organizations (such as the National Wildlife Federation’s Campus Ecology Program and George Washington University’s Green University Initiative) and private individuals. The seminar should be a cooperative program utilizing outside expertise and internal experience and familiarity. The seminar should focus on training the campus to think and act ecologically.

Sources:

Recommendations are from a variety of sources but stem mostly from experience and campus field research. However, the Blueprint for a Green Campus: The Campus Earth Summit, Initiatives for Higher Education, has proven to be an exceptional framework. The Summit was held at Yale University in February 1994 (with two Tulane delegates in attendance). There were 450 attendees from 22 countries, 6 continents, and all 50 states. Together they crafted a set of recommendations for higher education institutions to work toward an environmentally sustainable future. The definition of a “green” campus as outlined by the Blueprint is on that:

- Integrates Environmental Knowledge into all Relevant Disciplines (see 5 above).
- Improves Undergraduate Environmental Course Offerings (this has been done exceptionally well; see also 5 above).
- Provides Opportunities for Students to Study Campus and Local Environmental Issues (see 5 above).
- Conducting a Campus Environmental Audit (this has been done but needs to continue; see 6 above).
- Institutes Environmentally Responsible Purchasing Practices (this has been initiated but should be carried further, as per the recommendations in the “Green Gradecard for the Green Wave; see also 6 above).
- Reduces Campus Waste (this has been initiated but should be carried further, as per the recommendations in the “Green Gradecard for the Green Wave; see also 6 above).
• Maximizes Energy Efficiency (this has been initiated but should be carried further, as per the recommendations in the “Green Gradecard for the Green Wave; see also 6 above).
• Makes Environmental Sustainability a Top Priority in Campus Land-Use, Transportation, and Building Planning (there has been no such broad-based initiative, however some suggestions are offered in the “Gradecard”; see 6 above).
• Establishes a Student Environmental Center (this has been done and plans are set to improve it).
• Supports Students Who Seek Environmentally Responsible Careers (this has been initiated by the Environmental Studies Program but should be carried further; see 5 above).

Other resources include the following publications and on-line sources:
* Campus Ecology. April Smith
* Blueprint for a Green Campus: http://www.cgv.org/cgv/grncampus.html
* EcoWeb at the University of Virginia: http://ecosys.drdr.virginia.edu/
* George Washington University’s Green University Initiative: http://www.gwu.edu/~greenu/
* Brown Is Green (BIG) Program: http://www.brown.edu/Departments/Brown_Is_Green/
* The Institute for International Sustainable Development: http://iisd1.iisd.ca/iisdnet/educate/
* The Association of University Leaders for a Sustainable Future: http://www.ulsf.org/

**Important Points for Student Activists Trying to Green the University.**
(Originally prepared for student activists at the summer 1997 Free the Planet! Regional Coordinators Training Conference, Boston; revised for the National Wildlife Federation’s Campus Ecology Program Clinic in the Fall of 1997, “The Campus in the Watershed” at Xavier University, New Orleans, LA.)

1.) Decide: Are you going for an entire campus greening or are you focusing on individual projects (e.g., recycling or energy efficiency)? Taking it all on is not a bad idea, just look far into the future before doing that and ask: Will you be around for a few more years (say, 3) to follow up on everything? Is there someone that will if you won’t (a younger student or a dedicated staff or faculty member)? Would you be willing to stay and work for the university implementing some of your suggested green programs (as is often the natural succession of events)?
2.) Use consensus, not compromise. Get all parties involved from the beginning. You do the work to get them there.
3.) Work on the top (administration - policy) and the grassroots (students - demand). Converge the two onto the middle (administrators, physical plant - where things actually get done middle ). Work with the middle always - they need to feel they have a stake in the whole process so that they’re willing and able to implement change. The administration will usually listen to their customers - the students. Depending on the university, the faculty and / or staff senate(s) may be either at the “top” (respected and in a decision making capacity) or the “grassroots” (not as powerful or organized and with little to no decision making power); the senate(s) should be used as a support / backing (i.e., a statement of commitment to environmental goals).
4.) Use financial motivations to start projects; focus on savings, not revenue; i.e., energy efficiency savings & tip fee savings, not revenue from recycling (that’s too variable). Savings can justify other programs that may not be as “fiscally responsible.”
5.) Justify “greening” by making it a way to improve the quality of the school: get more and better
students, more grants (which mean more overhead income for the university), more P.R., and a niche for the future. (Students leave, but administrators will want to keep their jobs.) Social responsibility - to the local community and to the environment - is also important.

6.) Don’t only use the notion that being green is “just the right thing to do.” Administrators (may) know that; their job is to make it possible working within political and mostly financial constraints. Use financial and “just” arguments.

7.) If it doesn’t cost or it saves money (and it’s the “right” thing to do), that’s good; if it makes money and / or increases the quality of the university (and it’s the “right” thing to do), that’s even better.

8.) Be professional, mature, responsible, and organized, especially when working with administrators. Wear nice clothes, be respectful (know when to use first names and when not to), set up meetings (i.e., the “schlep” work), always come prepared, run meetings very efficiently (have an agenda, outline, time limit, and goals for each meeting).

9.) Try to always have an “adult” (either a dedicated faculty or staff member) at all meetings with administrators. Administrators are notorious for telling people what they want to hear and then pretending they never said it or never said “that exactly.”

10.) Work with faculty and get them involved but respect their other responsibilities. Use their time wisely: don’t have them at every working meeting, use them for the bigger, more important ones.

11.) Be wary of appointed committees. Sometimes informal groups work better. Try to keep it voluntary.

12.) Do an audit (not in depth) as a baseline assessment. Follow up with projects that focus on improvement (more in-depth research, prioritized recommendations for improvements, and implementation of workable improvements). Continually monitor and update certain aspects of the audit.

13.) Know your university, its strengths, weaknesses, resources, and programs. Something wonderful may be there waiting for you to use. A good plan is to compile all the environmental information at your university: the environmental classes, the enrollment in those classes, faculty teaching those classes, faculty doing environmental research, an environmental survey (from a sociology class, for example). That information can be used to backup any kind of environmental initiatives.

14.) Lead by example: carry and use your reusable mug always, use alternative and / or very high recycled paper content for all printing, take the stairs, recycle at all functions (go the extra mile if necessary and if no recycling is readily available, take it home), use recyclable / recycled goods at all functions (don’t use styrofoam), and spread the word everywhere (in the bathroom, the gym, the bar, etc.). In other words . . . be green: walk the talk!

15.) Some possible goals to institutionalize the greening process: Establish an “Office of Environmental Affairs” or some similar entity that is funded by the university. Use student workers for continual projects (i.e., recycling crew labor), student volunteers for occasional projects (i.e., a big waste-stream analysis), and student academics (a thesis or semester project) for highly specific research projects (i.e., a lighting feasibility study for a few buildings or composting program).

16.) Stick out your nose, not your neck. The former grows back, the latter . . .
Suggestions for Greening the Campus from *Campus Ecology* (Smith, 1993).

1. Solid Waste
   - Find new ways to promote source reduction and reuse. In food service, encourage the sale of reusable mugs, allowing a discount on beverages for customers who bring their own mugs. Use permanent dishes and utensils or reusable plastic when possible. In offices, reuse corrugated cardboard, interdepartmental envelopes, and other office supplies. Establish photocopying guidelines that encourage the use of half-sheets and double-sided copies. In student stores, train employees to ask customers, “Do you need a bag?”
   - Establish a campus-wide recycling program. The program should be supported and managed by the administration and should include a practical means of separating a variety of materials (white and colored bond paper, computer paper, glass, aluminum cans, various types of plastics, corrugated cardboard). The program must target student, staff, and faculty.
   - Promote organic composting and mulching. Yard wastes and some kitchen wastes can be composted and used as fertilizer on campus or sold to markets off-campus. Woody yard wastes can be simply chipped for use as a mulching ground cover.
   - Establish food recovery programs. Unused food from school cafeterias can be donated to local community centers and homeless shelters, providing food for those in need and diverting tons of food waste from landfills. Another alternative is “pulping” food (grinding and drying it) for sale to local farmers.
   - Start “buy recycled” programs and encourage the purchase of nontoxic paper products. Policies and programs that create a market for recycled and nontoxic products are critical to the success of recycling efforts and more responsible manufacturing methods.
   - Purchase office equipment that helps reduce waste, such as copy machines with double-sided capacity and fax machines that use recyclable bond paper.

2. Hazardous Substances
   - Implement an ongoing program to educate students and staff about proper handling of hazardous substances and proper waste-disposal procedures.
   - Make sure there is a clear and comprehensive system for tracking all hazardous wastes generated on campus and filling the required RCRA manifests.
   - Redesign the laboratory section of the chemistry courses to reduce the amount of chemicals used. Where possible, use microsale techniques to reduce chemical amounts by a factor of a hundred or a thousand.
   - Establish a surplus chemical exchange program to collect hazardous materials from researchers that no longer need them and make them available to other users so that they are not discarded. Educate researchers to buy only as much of a chemical as they need, rather than buying in bulk and ending up with a lot of waste.
   - Improve practices to ensure proper disposal and waste reduction of toxic art supplies, such as paints, thinners, and photographic chemicals -- for example, use settling tanks to recapture turpentine.

3. Radioactive Waste
   - Establish a comprehensive safety program dealing with use, handling, and disposal of radioactive materials. The faculty’s licence requires certain safety procedures. The safety committee’s task will be to ensure that these measures are being carried out. Stricter measures may be appropriate under certain circumstances.
   - Develop a campus policy to reduce radioactive waste generation. One simple waste-reduction measure is to use smaller vials for scintillation fluids or to identify nonhazardous scintillation fluids.
   - Conduct a study to compile all nonradioactive methodologies that could be used to
accomplish the same results as those now using radioactive materials.

4. Medical Waste
- Improve the way medical waste is handled and tracked.
- Reduce the use of disposable medical materials, and provide for proper handling of reusables.
- Reduce the incineration of plastic, especially PVC waste.
- Separate noninfectious waste from other medical wastes and recycling, if possible.

5. Wastewater and Storm Runoff
- Establish water conservation programs to reduce wastewater generation.
- Promote policies which encourage the campus to pay the full charge for wastewater treatment. Your school may be partially exempt from such charges if it is a state university. These measures will act as incentives to reduce flows.
- Explore the possibility of constructing on-site wastewater treatment plants for new campus facilities.
- Construct gray water systems which capture water from acceptable sources and divert it for subsurface landscape irrigation. Because all hazardous substances need to be kept out of gray water systems, managers will need to select grey-water sources carefully.
- Explore the possibility of using local reclaimed wastewater on campus for landscaping and other nonpotable water uses.
- Educate the campus community to minimize drain disposal of chemicals and the use of toxic substances in automotive shops, in research labs, in the classroom, and in the janitorial services.
- Wash campus vehicles in a central location with catch basins to capture dirt and grease for proper disposal.
- Reduce the amount of impermeable surface on campus (asphalt and concrete) by planting trees and increasing green space.
- Use dry “vacuum” machines to clean sidewalks and plazas.

6. Pest Control
- Reduce the use of chemical pesticides and explore the use of organic, biological, and other new technologies instead.
- Eliminate the use of all pesticides listed by the EPA and your cooperative extension as carcinogenic.
- Educate the campus community about keeping areas clean to avoid attracting pests.
- Keep landscaped areas healthy, by organic means, to increase their natural resistance to disease and pests.
- Follow recommended guidelines for proper protection of pesticide applicators and proper warnings to those who use them.
- Encourage Integrated Pest Management (IPM) strategies, which rely on biological and cultural controls and minimize synthetic chemical use.

7. Air Quality
- Improve the monitoring of emissions of stationary sources of pollution, and help design control strategies.
- Improve the control technology of stationary pollution sources.
- Use cleaner fuels, such as natural gas, in steam plants and water coolers and chillers.
- Encourage the use of alternative-fuel and electric service vehicles on campus.
- Explore the use of renewable energy, such as solar and wind energy, to supply campus power needs, thus reducing air emissions caused by fuel-burning energy plants.
- Reduce vehicle use in general.
- Reduce the use of toxic substances throughout campus.
● Install CFC-recycling and recovery equipment for use in vehicles, air conditioning, and refrigerator maintenance.
● Encourage the use of alternatives for ozone-depleting compounds used on campus.

8. The Workplace Environment
● Survey student and employee safety concerns to identify problem areas that require special attention.
● Appoint safety officers for each building and/or department to coordinate safety information and training.
● Expand training programs and explore ways to create or strengthen health and safety policies to govern the handling of materials not normally considered hazardous, such as art, architecture supplies, cleaning products, etc.
● Identify individual staff members, students, or create a committee to serve as a liaison to unions on your campus and help them improve their workplace environment.
● Establish no-smoking policies in all buildings. These policies should be building-wide. Even if one department or floor prohibits smoking, tobacco smoke can be circulated to other offices through ventilation systems.
● Duplicate effective safety programs already in place in one department for use in other departments.
● Encourage the creation of art safety classes which link environmental issues with art and design and train the users of art, photography, and crafts materials.
● Properly maintain and regularly monitor heating, ventilation, and air-conditioning (HVAC) systems campus-wide.
● Test for and mitigate pollutants such as radon, asbestos, and drinking water contaminants.
● Reduce the use of substances which may contribute to poor indoor air quality, such as pesticides and cleaning products.
● Use nontoxic building materials wherever possible in new building construction and renovation.
● Develop policies and procedures for VDT use that identify ergonomic design features, specify frequency of breaks, etc.

9. Water
● Install water-conserving plumbing features (shower heads, toilets, and faucets) in all new buildings. Retrofit older buildings.
● Install a water-conservation irrigation system, such as drip irrigation.
● Landscape with drought-tolerant plants ("xeriscaping") and planting native species wherever possible.
● Modify irrigation schedules to reduce water use (by watering in the early morning and late evening, when evaporation is lowest, for example). Check irrigation systems regularly for malfunctions.
● Explore the feasibility of billing individual departments for water use in order to encourage conservation and discourage waste.
● Implement comprehensive leak-detection and maintenance programs.
● Educate the campus community about water-conservation measures. Post "Save Water" stickers in all restrooms and kitchenettes.
● Eliminate or severely curtail the washing of fleet vehicles.
● Explore the feasibility of using reclaimed water for irrigation and other nondrinking water uses.

10. Energy
● Improve lighting efficiency (by using compact fluorescent bulbs, reflectors, efficient ballasts,
and room occupancy sensors, for example). Although compact florescent lighting is more expensive than incandescent, the cost will pay off in the savings in energy.

- Incorporate passive solar building design and energy efficiency into the future building plans, such as the use of “daylighting,” a means of maximizing the use of natural light in the design of a building. In addition, planners may be encouraged to incorporate safe and renewable energy sources such as photovoltaics, cogeneration, wind, and fuel cells into campus energy plans.

- Increase the efficiency of heating and cooling systems. Look at heating- and cooling-season temperature policies (a change by only a few degrees can create tremendous savings). Report overheating and overcooling of buildings to the physical plant manager.

- Tighten “building envelopes” through improved insulation, more efficient windowpanes, and weatherstripping.

- Develop a computerized energy management system to automatically regulate heating and cooling and maintain constant temperature.

- Increase the efficiency of building scheduling for evening, weekends, and holidays, so that heating, cooling, and lighting are needed in a minimum number of areas.

- Encourage students, faculty, and staff to use alternative transportation to campus, including bicycling, walking, and public transportation.

- Promote campus community awareness and encourage participation in energy-conservation programs. Place “Turn Off Lights” stickers above switches. Establish competitions between residence halls to promote efficiency.

- Plant trees strategically to improve the natural cooling of buildings in summer and provide windbreaks in winter.

11. Food

- Conduct a food service inventory to determine types, volumes, costs, and origins of food purchased.

- Conduct a local agriculture inventory to determine the feasibility of purchasing regionally-produced food.

- Conduct a workshop to bring together local growers, food service personnel, and agricultural specialists.

- Organize “health weeks” or a “Great American Meat Out” to feature and promote vegetarian foods and to educate the campus community. Bring experts to campus to discuss how food choices impact the environment.

- Purchase organically-grown and locally-produced foods for campus facilities whenever possible.

- Place flyers or table tents in the dining halls to explain the benefits of organically-grown and local products, and labeling menu items that incorporate these foods.

- Offer more vegetarian and vegan menu items in all campus dining halls. The Vegetarian Resource Group provides “Vegetarian Quality Recipes” for institutional menu-planning.

- Place suggestion boards or boxes in campus dining halls. Contact your student government office and inquire if they have a food service committee. If none exists, create one and use committee meetings to discuss ways to incorporate student suggestions into food buying and menu-planning policies.

- Conduct a survey to determine the demand for vegetarian and vegan food and the extent of knowledge on your campus concerning the ecological effects of food production.

- Support purchases of food products by companies that are ecologically sensitive, such as certified “dolphin safe” tuna and preservative-free packaged foods.

- Invest in the possibility of composting food waste for use as mulch or soil amendments.
Initiating a food recovery program in which unused food is donated to a local homeless shelter or food bank.

12. Procurement Policies

- Purchase reusable, recyclable, and nontoxic products and those made from recycled materials. These products include nontoxic cleaning supplies, recycled and unbleached janitorial and office supplies, recycled oil, reprocessed chemicals, remanufactured parts, building materials, and food-service products.

- Establish procurement guidelines for recycled paper which give 5 percent to 10 percent pricing preference. Request recycled paper for departmental uses. Recycled paper should be at least 10 percent post-consumer content.

- Encourage the purchase of nonchlorine-bleached paper products. These include printing, writing, copier and computer paper, letterhead stationary and envelopes, newspapers, magazines, brochures, toilet paper, and coffee filters.

- Use recycled newsgprint in all campus newspapers and publications. Use white paper in preference to colored paper, which is harder to recycle.

- Use reusable dishes and utensils when possible in food service. Where disposable must be used, chose paperware made from recycled fibers. Use unbleached paper products where possible.

- Start a reusable mug program allowing campus patrons to receive a discount on beverages if they bring their own mugs.

- Establish a policy prohibiting the purchase of tropical hardwood products, such as furniture, trellises, and construction materials. Encourage the purchase of domestic and temperate wood alternatives and sustainably harvested rainforest products.

- Start a “Buy Recycled” program in student stores, selling notepads, gift cards, and other items made from recycled materials. Do not recommend the use of “biodegradable” plastic bags (they aren’t really biodegradable) and opt for reusable or paper bags (preferably made with recycled fibers).

- Purchase energy-efficient appliances and lighting.

- Purchase copy machines with double-sided capability and fax machines that use bond paper instead of fax paper.

13. Transportation

- Offer reduced-price and preferential parking for car pools.

- Provide matching services and other promotional events to encourage ride-sharing, and helping to form vanpools.

- Subsidize transit (bus and train) passes.

- Impose parking surcharges to discourage driving alone. Revenues can be used for ride-sharing programs.

- Converting fleet vehicles to clean fuels (methanol or compressed natural gas, for example).

- Purchase or lease electric and alternative-fuel vehicles for use in fleet services.

- Inspect and maintain auto emissions control devices on fleet vehicles.

- Make fuel efficiency a high priority in the purchase of new vehicles.

- Reduce hazardous wastes and properly dispose of materials from the servicing of university vehicles, recycle waste oil, used batteries, and solvents. Locate the closest recycling service. Also consider purchasing retreaded tires and recycled oil to help develop markets for these products.

- Provide bike lanes, bike racks, as well as shower facilities, and lockers for commuters willing to burn off some calories on the way to campus. Ask for these facilities to be included in any forthcoming campus and community development plans.
14. Campus Design and Growth

- Review the environmental and health impacts of building construction. Consider the health hazards that may be imposed by carpets, paints, compressed wood products, and other building materials. Also consider the environmental impacts of product extraction, production, and disposal.
- Incorporate energy efficiency into building design and renovation. Systems, technologies, and products include solar power, daylighting, compact fluorescent bulbs, room occupancy sensors, energy efficient appliances, and computerized energy-management systems.
- Use renewable and recycled materials in building construction. Examples include recycled carpet padding, “good wood” (wood not harvested from rainforests or ancient forests), recycled steel, “glassphalt” (asphalt made with recycled glass), and insulation made with recycled paper.
- Use nontoxic building materials and supplies whenever possible. Examples include nonsynthetic carpets, nontoxic paints and adhesives.
- Make use of the long-range development planning process to integrate environmental concerns into campus design. Encourage growth, renovation, and mitigation measures which are compatible with strong environmental standards. Promote student, faculty, and staff participation in the public hearing process for review of campus EISs.
- Establish student housing cooperatives. If your school doesn’t already have one, recommend establishing student housing cooperatives that serve as models for sustainable living. Buildings can incorporate solar collectors, passive solar architecture, energy-efficient appliances and lighting, and water-reclamation systems. Residents can participate in recycling, composting, gardening, gray water systems, and “green consuming.”
- Preserve and enhance green space. Support tree-planting programs and cooperative campus gardens. Landscape with native species and, if your school is in a region where drought is a concern, use drought-tolerant species. Trees and green spaces act as buffers against noise, provide shade and wildlife habitats, protect against erosion, reduce city temperatures, reduce building energy consumption, add natural beauty, and act as a natural control against global warming.
- Analyze the environmental impacts of campus expansion projects. Specifically, review the potential impact on traffic congestion, wildlife habitats and historic buildings, noise and air pollution.

15. Research Activities

- Encourage research that has environmentally beneficial objectives, such as pollution prevention, toxic-use reduction, recycling technologies, renewable energy, xeriscaping (drought-resistant landscaping), water conservation technologies, and energy efficiency.
- Discourage research that promotes environmentally destructive activities, such as research into broad-spectrum pesticides or nuclear power. Promote pollution prevention as well as pollution control and clean-up strategies.
- Reduce or eliminate research into weaponry, biological and chemical warfare, and other military technologies.
- Establish an advisory committee for oversight of research conducted at the university, if none already exists. A broad cross-section of the campus should be represented, including students.
- Set up a board consisting of faculty, students, and community members for the specific purpose of targeting sources of funding for environmentally beneficial research.

16. Investment Policies

- Establish an environmental responsibility policy allowing the campus community to scrutinize the practices of companies with whom your school does business. A committee should be
established to review those companies violating the policy. This policy should include recognition for companies with excellent environmental records.

- Develop environmental criteria for campus suppliers and vendors. Examples include recommending that suppliers use recycled packaging, use recycled paper for correspondence, and refrain from using Styrofoam “peanuts”or nonrecyclable plastic-window envelopes. Suppliers will need to be informed about these campus policies.
- Encourage vendors to adopts the Valdez Principles. Your Student Association and University Board of Trustees can adopt these principles as well.
- Insist that your school cease doing business with environmentally irresponsible companies until reforms have been made. To accomplish this objective, you can organize a petition drive and/or call a meeting with the appropriate campus administrators. Presenting a list of alternative products and companies will help your efforts.
- Educate the campus community about avoiding certain targeted products in student stores, and offering alternatives. Explain why you are asking patrons to select alternative products. List the alternatives that your store offers.

17. Business Ties
- Develop an environmentally responsible investment policy. The goal is to reform current policy to reflect environmental considerations. Some companies may have an excellent track record in one area and poor in another. Selecting which companies to invest in or divest from requires extensive research and depends on the priorities of the institution and the process of evaluating a company’s products and business practices. You may wish to expand the investment policy to include other social and ethical criteria.
- Network with people from other campuses in developing an environmentally responsible investment movement, especially if your school is part of a state-wide campus system.
- Ethical Investment Strategies: The Avoidance Approach: Refuse to invest in companies whose products, services, or business practices are not supported by your institution. Divest from companies that corporate monitoring organizations have targeted as environmentally irresponsible, such as those on Environmental Action’s annual “Filthy Five” corporate polluter list, companies targeted by the EPA as serious polluters or repeat violators of environmental standards, or the U.S. Department of Defense Top 100 Contracts list.
- Ethical Investment Strategies: The Positive Approach: Actively buy stocks and bonds in companies whose products, services, and business practices demonstrate respect for the environment or other social goals. Encourage investments in companies that have signed the Valdez Principles. Encourage investments in companies involved in renewable and safe energy development, sustainable agriculture and forestry, environmentally sound waste-reduction technologies, manufacturing of products made from recycled materials, and other environmentally beneficial activities.
- Ethical Investment Strategies: The Activist Approach: Invest in objectionable companies whose practices your institution wants to change and use shareholders rights and resolutions to educate and influence corporate policy. Although this approach may seem merely symbolic, many corporations do take proxy votes seriously, initiating positive reforms as a result. Introduce proxy resolutions and use university proxy votes to support resolutions designed to create environmental reforms. Encourage corporations to adopt the Valdez Principles.

18. Environmental Education and Literacy
- Establish introductory environmental studies courses.
- Promote environmental literacy by encouraging instructors in all disciplines to incorporate environmental themes into their courses.
- Conduct an “environmental audit” of your campus for course credit. This could range from
an undergraduate or graduate course project targeting one or several issue areas to a group or
individual master thesis. Your recommendations can be written up as a formal proposal or
faculty/student petition upon completion of your research.

- Design an independent study or student-initiated course in environmental studies.
- Establish an ongoing “Campus and the Biosphere” course, based on the Oberlin College
model (request from their Environmental Studies Program).
- Consider establishing a major or minor in environmental studies.

19. Job Placement and Environmental Careers

- Consider a career for yourself in an environmental field. There are environmental
opportunities in a great variety of fields, including waste management, environmental
education, urban planning, environmental engineering, air and water quality, and natural
resource management. Jobs are available in government, private firms, and the nonprofit
sector.
- Encourage your career placement office to invite recruiters that offer jobs in a variety of
environmental fields. One contact is the Alternative Chamber of Commerce, an organization
created by the Social Venture Network.
- Request (in writing) that the placement office send a letter to all interviewing companies,
inquiring if they have signed or plan to sign the Valdez Principles. Invite a broad coalition of
student groups and leaders to sign the letter.
- Organize an Environmental Jobs Fair to expose students to a variety of environmental career
opportunities in both the public and private sectors.
- Volunteer or intern with a public-interest organization, a government agency, or a private
company to gain experience and learn skills in the environmental field.
- Organize a “Graduate Pledge Campaign” in which students are asked to consider the
environmental consequences of their job choices (request information from The Graduation
Pledge Alliance).
- Promote environmental policies and programs on the job. You can promote environmentally
responsible business practices at any job you take during the summer months or after college.
Encouraging management to start an environmental committee is a good place to start. Many
of the recommendations and strategies presented in Campus Ecology can be applied to your
future workplace.

20. Creating Strategies for Change

- Put it in writing. Compile the findings of your research into a concise document.
- Get a commitment from the top. A pledge to campus environmental responsibility from your
school’s president or chancellor will help create the momentum needed to meet environmental
goals.
- Create a planning process. If given policy-making authority, an environmental steering
committee can help ensure a systematic approach to environmental planning and
implementation.
- Fiscal planning. Project and document cost savings and other economic benefits to help
support your recommendations. Establish economic incentives as a strategy to ensure program
effectiveness.
- Work with campus administrators. Be sensitive to administrative concerns and constraints.
Listen first, then meet each objection with a solution. If the administration is continually
unresponsive to requests for environmental change, you may wish to use more assertive
tactics.
- Campus outreach. A diversity of support for your projects will help legitimize them in the
eyes of the administration. Include a variety of campus constituents and organizations in your
organizing efforts to build ownership and provide a natural vehicle for educating the campus community about environmental issues.

- Get students appointed to decision-making positions. Getting supportive representatives elected or appointed to decision-making positions is an important democratic strategy for voicing concerns and influencing policies. These positions include seats on student government councils, statewide student associations, the president’s or chancellor’s advisory committees, student association board of directors and the board of trustees or regents. If such bodies lack student positions, organize a campaign to create them.
- Monitor your progress. Monitoring allows you to evaluate program effectiveness and compliance with policies and procedures as well as measure cost savings and changes in resource flows. If an environmental audit of your campus has been completed in the past, compare your most recent findings with the original data as a strategy for evaluating your school’s progress toward meeting environmental goals.
- Get the word out. Maintaining a high level of enthusiasm for and participation in environmental programs requires ongoing education and publicity, especially since new students arrive on the campus every year. Communication strategies include using the campus newspapers, creating newsletters, organizing publicity events, holding press conferences, and developing orientation and training programs.
- Use your network. Share you information with other campuses, local environmental organizations, and national student environmental groups.

21. Working for Environmental Justice

- Build a broad environmental coalition that includes representatives from special interest and people of color organizations on campus.
- Develop a common agenda with these organizations. Think of the social, economic, and health implications of each campus environmental project and campaign, as well as the ecological dimensions. Here are some examples:
  - Pesticides disproportionately affect farm workers, many of whom are people of color or live in low-income communities. Work with community groups, unions, and other groups on campus to get your school to offer organically grown food to protect the workers.
  - Hazardous-waste sites, landfills, and incinerators threaten low-income and communities of color disproportionately. Networking with these groups will strengthen their work to clean up their neighborhoods as well as assist with campus waste-reduction and pollution-prevention efforts.
  - The construction of additional power-generating facilities can be prevented with creative conservation measures. Energy efficiency on campus is especially important since construction of power facilities, especially hydroelectric plants, are extremely harmful to the environment and people living near them.
  - Organize lectures and forums on environmental justice that emphasize the connection between race, poverty, and the environment.
  - Encourage the recruitment of women and people of color faculty in the environmental studies programs and other departments, and in the administration of you university.
  - Increase institutional support for people of color, low-income and women students by encouraging additional funding for education and support centers on campus. Work with these constituencies to keep forms of assistance like minority scholarships fully funded.
  - Involve your campus environmental group in issues affecting local communities. For example, attend hearings on the siting of toxic waste landfills or incinerators planned for low-income or minority communities, talk with immigrant workers in agricultural communities about pesticide issues, and fight to stop the construction of new power plants.
Contact Cool It! And SEAC. Through “Cool It!”’s Cultural Diversity” campaign and SEAC’s People of Color Caucus, both of these networks actively promote environmental justice throughout their program work. Contact them for resources and organizing assistance.

53 Simple Things Colleges and Universities Can Do to Reduce Waste.
(Resources Integration Systems, 1991)

1. Reduce/ Reuse
   - Purchase durable, standardized, repairable, and reusable products
   - Reduce the amount of food waste generated
   - Reduce landscape waste
   - Encourage double-sided copying and the purchase of duplex copiers
   - Reduce the amount of junk mail sent to campus
   - Reduce junk mail generated on campus
   - Increase the use of electronic mail and voice mail
   - Avoid the purchase of disposables in kitchens, cafeterias, and offices
   - Provide incentives to use reusables
   - Operate an on-campus waste exchange
   - Reuse or remanufacture wooden shipping pallets
   - Reuse student furniture and loft wood
   - Sponsor collection of clothing, appliances, and other items for reuse
   - Reuse/ remanufacture laser printer toner cartridges
   - Reuse boxes, envelopes, and packing materials
   - Use food service buckets as collection containers

2. Recycle
   - Make recycling as or more convenient than garbage disposal
   - Recycle office paper from all offices on campus
   - Recycle cardboard boxes
   - Recycle multiple materials from dormitories
   - Recycle at fraternity and sorority residences
   - Recycle at campus apartments
   - Provide recycling services for the surrounding community
   - Recycle containers from food preparation areas
   - Recycle plastic disposables from food service when possible
   - Recycle glass from laboratories
   - Provide outdoor collection containers
   - Recycle polystyrene foam if used in food service
   - Recycle phone books
   - Recycle motor oil
   - Recycle batteries
   - Automate the collection of recyclables
   - Use garbage trucks for handling recyclables
   - Sort recyclables from trash
   - Design recycling into buildings through codes and plans
   - Buy recycled products

3. Organic Wastes
   - Reduce landscape debris by chipping and mulching
● Develop centralized composting operations
● Use anaerobic composting for energy recovery
● Reuse leftover servings of food
● Collect food waste for composting
● Collect food waste for animal feed

4. Promotion and Education
● Develop a consistent program theme
● Use building contact people to promote the program
● Provide a cash incentive to recycle
● Publish articles in campus newsletters and local newspapers
● Develop multilingual campaigns to reach all campus groups
● Orient new students to recycling programs as soon as possible
● Use creative promotion activities and publicity stunts

5. Campus Involvement
● Secure visible support from university administration
● Support and encourage recycling-related university research projects
● Cultivate the support of maintenance/custodial staff
● Encourage participation by students

**Project Suggestions for the ENST / OEA.**
(In no particular order.)
● Educate all new hires (administrators, faculty and staff); provide environmental handbook (post on-line).
● Recommended schools for examination of environmental programs (educational and operational): Tulane competitors (Emory, Vanderbilt, Duke, Boston University, Rice, Georgetown, Washington University, Northwestern, Boston College, University of Pennsylvania, Cornell, Sanford), George Washington University, Tufts, Princeton, Harvard, Brown, University of Michigan.
● Network with alumni in environmental and related fields for advice, jobs, internships, and funding.
● A free store; listings on-line.
● Develop “tracks” in the Environmental Studies Program (e.g., Environmental Science, Environmental Studies, Environmental Policy). Have a capstone program in each.
● Develop cooperative graduate environmental programs in each of the tracts and with all the schools of the University. (PhD’s can further disseminate environmental literacy.)
● List of all environmentally related research and publications; use Departmental chairs to coordinate the list.
● Get “loans” from the University to be paid back with savings on environmental upgrades. “Invest” in green improvements.
● Provide resources for and work with the local community; cooperate with the Environmental Law Program’s community organizer.
● Review all construction plans and cooperate with architects.
● “Unfreeze” campus thinking and doing patterns; incorporate environmental issues; then “refreeze” them.
● An “environment” site on the main Tulane web page.
● Environmental position in student, staff and faculty governmental bodies.
• High energy / popularized environmental block in orientation on local, global, regional
and campus environmental issues and what students can do (don’t just complain about
them). Also offer work and educational opportunities. Get them excited to get involved.
• Do administrative, faculty, staff and student surveys to assess broad-based needs, gather
ideas and measure progress.
• For ecological literacy: coordinate at least a single lecture in most classes. If the professor
cannot / will not do it, get a visitor.
• Offer short courses on environmental topics for the campus (free), the community (cheap)
and industry (more expensive) to raise money and awareness.
• Establish an endowed speaker series.
• Develop student environmental leadership (providing travel opportunities to participate in
conferences etc.).
• Work with the Development Office to raise funding, endow chairs etc.
• Work with local and national environmental organizations (such as Second Nature and the
Campus Ecology Program of the National Wildlife Federation) to develop programs and
disseminate information about Tulane’s programs.
• Run articles (and editorials) in staff and student newspapers.
• Those articles and editorials should not always be “explicitly environmental,” i.e. they
should address pertinent issues (such as parking) with titles that are not environmental and
develop and argument that is environmental.
• Sponsor (with grants) a public radio environmental show from National Public Radio.
• “Environmental Literacy” component on University course evaluations.
• “Environmental Knowledge Quizzes” (not hard science or theory, but basics) adminis-
tered by environmental faculty (perhaps graded and written by Green Club students) to
gauge environmental literacy.
• Combat excessive waste, such as that by the Development Office (which uses dividers to
separate single pages of unnecessarily detailed schedules that are distributed to all people
involved in the program; this excessive use wastes money and resources) and all depart-
ments (increasing double-sided use and decreasing unnecessary mailings by putting them
on-line etc.)
• Work with library to allow notification of fines / book arrivals by email; perhaps have stu-
dents register to be notified by email or regular mail.
• Improve signage on copiers for double-sided copying and size-reduction copying to save
money and use fewer sheets of paper.
• Environmental job fairs to show usefulness of liberal arts / environmental degree. (With
alumni.)
• Endowed speaker series.
• Advise the students in the ENST and the Green Club.
• Have dedicated student workers / volunteers to work with recycling, Marriott and grounds
(et al.).
• Eliminate the need for a Recycling Coordinator in Physical Plant who does paper work
and education; instead, have just couriers (and a supervisor), and let students and the En-
vironmental Coordinator maintain records and run educational programs.
• Have a part in employee training.
• Publicize Tulane environmental and campus greening research, education and operations
to the broader public and academia. (Work with the Tulane Public Relations Office.)
Develop a comprehensive web site for Tulane environmental programs (with links to other national and international environmental sites). Develop a recycling web page along with pages for materials and chemicals reuse etc. This would effectively centralize all the environmental information about the University. Get a link from the main Tulane site.

Develop community service projects with the ENST, the Green Club, the CBR and the HUD / HANO urban studies initiative (and any other appropriate Tulane programs / departments, such as the Environmental Law Clinic and Environmental Health Sciences).

Maintain and continually improve the Green Club and Environmental Studies Student Center.

Develop (educational) environmental programs for the Tulane and broader New Orleans community.

Develop a program to diminish chemical waste in laboratories; develop a chemicals reuse program.

Implement energy and water efficiency programs to earn savings. Work in the dorms to reduce “energy hog” appliances. “Charge” for energy waste in the dorms. Work with the Louisiana Alliance for Affordable Energy.

Run Green Club leadership and training seminars at the beginning of each academic year to train and educate the students on campus environmental initiatives and on the ENST (so that they can act as advocates and student-student advisors).

Assist faculty in obtaining environmental research grants.

Do surveys of incoming and outgoing students to assess environmental literacy (especially in the dormitories).

Survey faculty research interests and environmental / community service involvement.

Present relevant environmental lectures (on various subject matter, from campus greening initiatives to materials in that class to personal research interests) to classes as desired by faculty.

Develop the Green Club as more of a social organization in order to attract and retain more students; their present status as a “serious” activist group is intimidating to many.

Continue to assist the library with environmental holdings; act as an “environmental librarian” to assist in research.

Continue the Environmental Faculty Enrichment Seminars, hold Tufts Environmental Literacy Institute trainings, work with national environmental organizations (such as the Student Environmental Action Coalition, the National Wildlife Federation and Second Nature), and include non-environmental faculty in the trainings to further environmental literacy on campus. Educate on global and local issues. Do EFES’s for each department as requested. Increase departmental cooperation, green operations and green education.

Hold campus greening seminars, because not even the environmental faculty know how to be green (and many need to learn that a green campus comprises more than recycling).

Coordinate the reinvigorated Tulane Environmental Project (TEP).

Hold “town meetings” on environmental initiatives to include the community.

Approach student, staff, faculty and administrator legislative bodies for support; make specific recommendations to them.

Address junk mail on campus.

Address the fact that the University sells lists of students to marketing agencies; allow students to be removed from the list if they desire so they are not repeatedly solicited and sent junk mail.
● Develop building sustainability projects (beginning with Gibson, the administrative hall).
● Establish departmental / building liaisons for issues such as energy, recycling and waste.
● Establish and maintain city-wide (and state-wide) environmental liaisons with the New Orleans Mayor’s Office of Environmental Affairs and all the institutions of higher education. Tulane could develop as the leader of such a coalition.
● Procure various sources of funding.
● Include environmental language in service contracts (e.g., for copiers) that specify environmental concerns (e.g., that recyclable materials will be used in the machines and that they should copy double-sided as well as single-sided).
● Assist in the development of environmental graduate programs.
● Develop new environmental classes in literature, geography, psychology, theater arts and math.
● Run regular ads and columns in the *Hullabaloo, Inside Tulane*, and *Tulanian*.
● Improve the system of sending campus mail (less junk mail; less mail to terminated positions, especially with newsletters; allow subscriptions or desubscriptions to them).
● Work with a student government “green” officer.
● Coordinate environmental alumni outreach.
● Investigate the “workplace environment” (e.g., worker safety in places like the copy center). This is a way to include more staff and faculty, and to reach out to a broader subject base.
● Develop an “Eco-Preferential Budgeting” program.¹
● Assist in the design of all new buildings to incorporate effective, appropriate and economical environmental considerations, especially in lighting, recycling, water use, local materials use and heating / cooling.
● Develop waste reduction initiatives: pre-cycle pads to departments of already used paper for scrap printing, less paper for library notices (use email notices of fines, book availability etc.), reduce number of posting bulletin -boards and kiosks, and more email notices.

¹ A budget increase to specific, environmentally oriented departments so that all their purchases may be done in a way that (1) reduces waste, (2) increases environmental awareness to staff, faculty, students and outside parties having affairs with the department, (3) encourages recycling, energy efficiency and other environmentally responsible practices, (4) mandates environmentally and socially responsible purchasing, and (5) provides a market for environmentally safe products. Such products include, but are not limited to: envelopes, paper (copying, letterhead, notepads, etc.), equipment (such as copiers, faxes, computers, etc.), pens and pencils, teaching and advertising materials, and office furniture and supplies.

Departments are chosen on their proximity to environmental fields and subjects, and they could be invited to “compete” for the money. The initial departments could be: Environmental Studies (LAS), Environmental Health Sciences (SPHTM), Civil and Environmental Engineering (ENGR), Environmental Law and Advocacy (LAW), Center for Bioenvironmental Research (CBR), Environmental Medicine (MED), the National Institute for Global Environmental Change (NIGEC), Latin American Studies (LAS), EEO Biology (LAS), Geology (LAS), and Cell and Molecular Biology (LAS).

This program is not a budget increase for extra materials in excess of what other comparable departments purchase, but rather an increase so that the department can purchase only products that are environmentally responsible. If anything, it may result in less actual purchasing for the above departments.

The goal of this project is to judge the relative merits of purchasing on social and environmental standards in addition to price competitiveness with the present system of purchasing strictly on price competitiveness. Additionally, it aims to educate and encourage environmental decision making, and it acts as a publicity campaign to show people and businesses outside the University community that Tulane really is an Environmental University, and that greening is economically sound.
● Develop campus and the biosphere class(es) and independent studies.
● Develop a class on the four strategic initiatives of the University.
● Stay one step ahead of regulations and impending problems (e.g., tip fees / landfill space and regulations, and the nuclear power plant and the electric utility deregulations).
● Green University printing (soy inks, recycled paper, less waste, more recycling).
● Help theater / music productions become greener (use extra labor to deconstruct, take nails out and reuse sets as opposed to using less labor and having to buy wood all over again).
● Implement programs (or work with the new “Lagniappe” program) to help students have a better semblance of place: ecologically, socially, historically. Use the Mississippi River and New Orleans themes and relate them to stewardship. Develops students who still feel that the campus is “home” even after leaving.
● Assist with campus conferences (green them).
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