

Project Summary-Ecological Restoration

In 2002, Rollins faculty joined with the Morse-Genius Foundation to develop a management plan for the Genius Reserve, a largely undeveloped 50-acre site near campus. Utilizing the University of Wisconsin Arboretum (the nation's longest on-going ecological restoration project) as a model, faculty drafted a conceptual restoration plan. An interdisciplinary team then inventoried and "envisioned" the reserve, incorporating this exercise into 5 Environmental & Growth Management courses. A management plan was produced, with the goal of *providing a working laboratory in ecological restoration*.

The plan delineated areas dominated by exotic canopies, which were slated for restoration over a 10-year period. This project was integrated into the Environmental Studies curriculum, with a capstone class. This grant will integrate this project into other disciplines, fund the creation of a student-driven *Genius Reserve Field Guide*, advance the liberal arts beyond campus, and fund a website portal. Finally, Rollins will host an ACS workshop in the future to disseminate results, discuss transference opportunities, tour the Genius Reserve, and serve as a catalyst for introducing Florida Studies at Rollins.

A common focus for this endeavor is Aldo Leopold's notion of a "land ethic" and a "natural esthetic;" integral not only to ecological restoration but a wide range of disciplines. The ACS grant will improve faculty's ability to reveal the ties between ethical behavior and ecological processes by helping students see the world anew, and working with them to develop an eye to restore a degraded landscape. For a generation suffering from "Environmental Deficit Disorder," getting undergraduates to understand the integrity of nature's evolutionary heritage and the makeup of a healthy natural system offers a tested antidote to an increasingly common affliction.

Project Description, Goals (bold italics) and Objectives

At the 1934 dedication of the University of Wisconsin's Arboretum (UWA), Aldo Leopold presented the concept of an arboretum that would be "a sample of original Wisconsin, a starting point in the long and laborious job of building a permanent and mutually beneficial relationship between civilized men and a civilized landscape." Joining Leopold on stage was John Nolen. In 1911, he authored a city plan for Madison recommending an arboretum "on the border of open country, farmland and forest." He had returned both to receive an honorary degree and, in his acceptance speech, Nolen seconded Leopold: The nation needed a laboratory for conducting experiments "to repair the physical, biological, and aesthetic wastes [fomented] since...our stern Puritan forbears landed at Plymouth and began to subdue nature to their needs for liberty."

Leopold and Nolen spent their careers redefining traditional American ideals to procure a "civilized landscape." Educators as well as professionals, they worked to create places that promoted, Leopold wrote, "lifelong opportunities for study and even experimentation." In 1932, Rollins President Hamilton Holt invited Nolen to visit Winter Park and partake in "our great experiment in common sense education." Holt had recently hosted a conference, *The Curriculum for the Liberal Arts College*, which John Dewey had chaired (and Rollins will celebrate this spring). This grant will ***invigorate an earlier generation's pragmatic vision by integrating ecological restoration into the liberal arts.***

Rollins College is located in the heart one of the nation's most rapidly urbanizing areas. By 2050 central Florida's population is expected to more than double from 3.2 to 7 million, and if present development pattern continue, according to the Orlando Region 2050 Study, the supply of land and water will give out in 20 years. Fortunately,

alternative transportation systems are coming on line and Florida leads the nation in preserving natural lands. As the region transitions to a new growth paradigm, the need to *train students in ecological restoration and land management* has intensified.

In 2002, Environmental and Growth Management Studies (EGMS) faculty joined with the Morse Genius Foundation to restore the Genius Reserve. The Reserve's urban location and diverse landscape made the UWA a logical model for restoration efforts. After analyzing the UWA, faculty drafted a conceptual restoration plan with the goal of "providing a working laboratory in ecological restoration." Implementing this goal was integrated into EGMS and Environmental Studies (ES) curricula, and since 2003 five acres have been restored and a student managed, native nursery established. This grant will *expand the project's scope to include the disciplines of Biology, English, and Philosophy and serve as the catalyst for creating a Florida Studies concentration.*

The grant will *allow faculty to plan and execute the teaching of ten linked courses for the 2007 Winter and Spring terms.* The Genius Reserve will be the medium for this effort, with on-site courses addressing Ecological Restoration, Environmental Ethics, and Natural Esthetics. The works of Leopold and Marjorie Rawlings will also be utilized, as their notion of a "land ethic" and a "natural esthetic" is integral not only to ecological restoration but to a range of disciplines. This grant will *improve faculty's ability to reveal the ties between ethical behavior and ecological processes by helping students see the world anew, and working with them to develop an eye to restore.*

Funds will also be used to compile the *Genius Reserve Field Guide (GRFG)*, which will require student-faculty collaboration. It will provide a common future text and the context for the website portal. The *GRFG* will include: Genius Reserve as a Cultural

Landscape, Analysis of Native Habitats, Description of Flora and Fauna found on site, Restoration Plans and a Comprehensive Management Plan. The *Portal* will bring together the project's research documents and in an institutional repository and, hopefully, form the core of a multi-institutional environmental studies institutional repository.

Detailed Interdisciplinary Plan

During Winter Term (WT), four linked classes will meet for an opening day presentation on the Genius Reserve, the screening of *Sunshine State*, and a restoration work day. WT and Spring Term (ST) courses will utilize common texts including: Rawlings, *Cross Creek*; Bill Bellville *Losing it all to Sprawl, Naturally Central Florida*, and Aldo Leopold essays. In ST there will be three common events; 1. Planting Day(s): Implementing Restoration Plans; 2. Screening of yet to be released Marjorie Rawlings Documentary and Panel with filmmakers; 3. Preview of *GRFG* and Web Portal.

The linked courses are as follows: Stephenson (EGMS/ES), *Icons of Paradise* (WT): The idyllic beauty of Rollins College and Winter Park is no accident. They were both carefully planned, the last vestiges of a design style initiated during the Italian Renaissance. Charles Morse, Winter Park's town founder, implemented a Renaissance style plan, even setting aside land for a *sacro bosco* (sacred grove) that became the Genius Reserve. Students will be introduced to the tenets of Renaissance design that linked college, town, and landscape in the hope of advancing the liberal arts beyond campus. In ST students in *Nature in the City* will utilize Frederick Law Olmsted's landscape categories (pastoral, picturesque and sublime) to analyze the Genius Reserve. They will perform the same exercise in two adjacent planned communities. *Senior Seminar* students will travel to Florida's top restored sites before designing restoration

plans on the Genius reserve. They will also lead the implementation of 2006 senior restoration plan on Planting Days.

Phelan (English) will teach *Exploring Wild Florida* in WT. After reading William Bartram's *Travels*, students will explore wild central Florida focusing on the Wekiva River basin. This course will dovetail with his ST class *The Poetry of Earth and the Songs of Florida*, which introduces Whitman and builds to the concepts of Leopold. The last half of the course will focus entirely on the poetry of Florida as it engages the flora and fauna, the people and habitats of the Wekiva River Basin. Using Raven software from Cornell's Ornithology Lab, students will make bioacoustic recordings of a variety of birds (at the Reserve) and learn to identify them by their songs. This project gathered into a cd and launched on the web site will be for each student a "Song of Myself" and presented to residential neighbors of the Reserve and the Morse-Genius Foundation.

Schmalstig and Paul Stephenson (both Biology) will offer *Introduction to Wild Florida* in WT, to provide primarily non-science majors with an introduction to the diversity of Florida's natural environments. Students will weigh the pros and cons of conservation efforts in the region and answer the question "Is it worth preserving Florida's natural environment?" The Genius Reserve will provide an example of what can be done to preserve Florida's natural landscape. Students will also visit 4-5 areas in the region that are currently threatened by development and analyze different aspects of the particular ecosystem and the challenges it faces.

Stephenson will transition this experience into his ST *Wild Florida*, which focuses more heavily on the biology of Florida's natural habitats. The Genius Reserve will be an integral part of the course, as the partially restored property provides a window into the

recent past, allowing students to visualize the landscape as it appeared 100 years ago and interact with students in other disciplines studying the site. Through this process, students will make predictions on the effect habitat loss will have on future Florida residents.

Schmalstig will utilize the Genius Reserve in *Medicinal Botany* (Spring 2007). The course focuses on the chemistry of plant derived medicines, ethnobotany, and plant conservation. Students will read a selection from *Cross Creek* to understand the gardens common to Floridians in the 1930's and 1940's, visit the Genius site and other local natural areas. The students will research medicinal plants that were used both by Native Americans and by early settlers of Florida, and present a proposal to the Morse-Genius Foundation to plant a medicinal garden on the Genius Reserve.

Cummings (English) will teach *Images of Paradise: Florida in Film* during WT. The perception of Florida as a paradise has heavily influenced the state's depiction in film. Utilizing the Genius Reserve for on-site class discussion and reflection, this course will utilize feature films and documentaries that intertwine the natural history of Florida with the larger implications of suburban sprawl. The goal of this course is to help students understand the need to balance Florida's natural systems with human interaction. This theme will carry over into Cummings' *ST Expository Writing*. Writing is an inventive process, one that allows us to develop ideas and express ourselves. To frame these tasks, students will analyze central Florida's varied landscape. The Genius Reserve will be a counterpoint to the region's more intensely developed places and a perspective from which to consider the value of preservation of the land.

Musgrave (Philosophy) will focus her *ST Ethics* course on the Genius Reserve. Classes will be held on site and will include a hands-on experience concerning ethics

and ecological restoration and their relation to public goods and shared resources.

Students will reflect on their shared environmental preservation experiences, and will share their accounts of the ethical relevance of restoration and chosen service projects.

Time Table

WT January 8-18 2007: *Four linked classes with three common experiences:*
January 8 Two-hour presentation and discussion of Genius Reserve Project.
January 9 Screening of *Sunshine State*
January 11 Restoration Work Day on Genius Reserve
Note: A series of field studies will occur throughout central Florida in both WT and ST.

ST January 18-May 8, 2008: *Seven linked classes with three common experiences.*
March (before Spring Break) Screening of Marjorie Rawlings Documentary
March (after Spring Break) Two or three planting days.
Early May Presentation of *GRFG*, Web Portal, and planting project to combined classes.

Summer Term

June-July Completion of Web Site Portal through Rollins Summer Research Program.

\$8500 Budget

Web Portal (Student hours at \$7.40 an hour) overseen by Miller/Zhang	\$1250
<i>GRFC</i> Compilation and stipend for B. Stephenson	\$ 750
Marjorie Rawlings Documentary and Panel Discussion with Filmmakers	\$500
B. Stephenson (Student Travel \$150, Equip.\$200, Travel to UWA \$650)	\$1000
P. Stephenson (Student Travel)	\$1000
J. Schmalstig (Student Travel)	\$ 500
D. Cummings (Student Travel/Filmmaker Speaking Fee)	\$1000
R. Musgrave (\$500 student travel, \$250 student Genius Res. library)	\$750
S. Phelan (bioacoustic equipment and software)	\$1000
Workshop Seed Money	\$500

Anticipated Impact: Rollins' mission statement calls for "environmental stewardship"

and "responsible citizenship." This project will help students understand the interdependence between the liberal arts and citizenship. It will connect them to Rollins' celebrated past and imbue them with the confidence to create, as Leopold envisioned, a "civilized landscape."

Institutional Support: \$8000 for faculty to teach 4 linked courses in WT, \$3000 for student scholarships for study and research implementation on Genius Reserve, \$500 Planting Materials Budget.

Evaluation

The compilation of student work and their efforts in restoring the native landscape on the Genius Reserve site will be the basis for evaluating this project. In addition, we anticipate the *Genius Reserve Field Guide* will be a common text for future classes utilizing the site, and serve as a learning tool which a wide ranges of disciplines could help update. Classroom evaluation could take on a new form as students relate their accomplishments. For instance, in lieu of a final exam, students in the ES *Senior Seminar* present their capstone experience and restoration plans to the Executive Director of the Morse-Genius Foundation. They communicate their accomplishments through the lens of the college mission statement, providing sustenance to Rollins' call for "environmental stewardship" and "responsible citizenship." They also explain how their projects define the liberal arts, which, in turn, leads them to encounter the essential nature of citizenship and advancing social responsibility (a key to the mission statement).

By devoting their time and labor to a project that will benefit future generations more than themselves, students come to realize the classical notion of virtue and what the Greeks called, *techne*. *Techne* involves a higher expression of humanity because it requires taking an idea, some creative thought, and bringing it into being in the world. A timeless unity is enfolded into this act for it both connects students to classical knowledge and illuminates Rollins' celebrated past. More specifically *techne* imbues them with the confidence to create, as Leopold envisioned, a "civilized landscape."

Finally, one can assess this project by analyzing the plans for and the transformation of the Genius Reserve landscape. For example, restoration of the 3-acre "Banana Plantation" site began with an inventory of native species. Professional crews with heavy

equipment then removed a canopy of mature exotic trees. Next, students designed planting schemes for a hydric habitat dominated by red bay and cypress, and for a mesic ecotone dominated by red cedar, southern magnolia, and live oak. After drafting the final plan, students planted species and covered the ground with pine straw to slow weed germination. A regimen of weed pulling and herbicide spraying is underway to reduce exotics until shading is effective. Native plants grown in the nursery will be planted to increase natural diversity and improve areas where original plantings failed to take.

Dissemination

Such accomplishments and the larger scope of the project will be documented in the GRFG. The hope is that this work could be presented at an ACS Workshop to be held at Rollins in January of 2008. Participants will sit in on classes utilizing the Reserve, tour the site, and participate in Rollins faculty lead discussions on the opportunities ecological restoration presents to advance the liberal arts. This proposed workshop (**which will need additional ACS funds**) could link with the ACS Community-Campus Partnership.

Continued Support

The Proposed Workshop would also be a kick-off for a concentration in Florida Studies at Rollins. With ACS funding, the Genius Reserve initiative would serve as a catalyst for Florida Studies, which is becoming more prevalent in undergraduate and graduate programs in the state. By emphasizing the study and restoration of the Florida landscape, Rollins can offer a vital service not only to the local community but to a state that will have 20 million residents by the end of the decade and will face problems much of the South will eventually encounter.

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Curriculum Vitae's Attached

Disclosure Statement

We have applied for no grants or other funding to duplicate this. Each faculty member received a \$200 Book Stipend to prepare for this project and to work towards a Florida Studies initiative.