

Ellie Morris  
Environmental State of the College Report  
ES Senior Seminar  
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## **Environmental Literacy**

### **Introduction**

Environmental literacy is complex to define. It reflects the grasp of a system of knowledge, as implied by the word literacy, but can also include an element of personal action spurred by this knowledge. As defined by the Environmental Literacy Council, environmental literacy is, “a fundamental understanding of the systems of the world, both living and non-living, along with the analytical skills needed to weigh scientific evidence and policy choices.” This definition focuses on knowledge held about the environment, but also highlights the use of this knowledge, this knowledge in action, as it imparts analytical skills for the purpose of decision making.

Although the decision making implied in this definition is related to policy analysis, ecological literacy can inspire personal decision making along environmental lines as well. David Orr writes in his *Ecological Literacy*, “Ecology, like most learning worthy of the effort, is an applied subject. Its goal is not just a comprehension of how the world works, but, in the light of that knowledge, a life lived accordingly.” Environmental literacy takes, not only a knowledge of “pure science” or the ability to manipulate data and numbers, but an interdisciplinary understanding that stresses the interconnectedness of the natural and human worlds. Through a process of learning about both the nature and the value of environmental systems, people may come to the “Knowing, caring, and practical competence (that) constitute the basis of ecological literacy” (David Orr, *Ecological Literacy*).

What does this mean in the college setting? In 2000 Macalester College signed the Talloires Declaration, pledging its commitment to environmental issues both locally and globally in order to graduate environmentally responsible citizens and promote environmental sustainability in the greater society. Action points numbers three and four state as action priorities, to:

“3. Establish programs to produce expertise in environmental management, sustainable economic development, population, and related fields to ensure that all university graduates are environmentally literate, and have the awareness and understanding to be ecologically responsible citizens.

4. Create programs to develop the capability of university faculty to teach environmental literacy to all undergraduate, graduate, and professional students.”

These points highlight a commitment not only to graduate students that have a basic knowledge of the workings of natural systems, but who have internalized this knowledge, formed values, and will act accordingly. It should be noted that these specific actions towards increased environmental literacy should not be understood alone, removed from the context of the entire document. Macalester can only truly teach and foster environmental literacy if the institution and all of its practices reflect a level of environmental consciousness and responsibility.

Macalester succeeds in promoting environmental literacy in some ways, while lagging behind other institutions and our Talloires commitment in others. In the following paper I will present Macalester’s strengths and weaknesses in terms of fostering environmental literacy. I begin with our strengths, specifically, our core values, environmental studies major, student environmental action on campus, commitment to community service, and our invaluable educational resource, Ordway. I will then move to our weaknesses including our general lack of action in regards to our Talloires commitment, our historically faltering support for environmental education on campus and the visibility of campus environmental issues and the

Environmental Studies Department. I will follow this presentation with some examples of best practices in terms of encouraging environmental literacy from other schools as well as possibilities for our own campus.

As I stated in the very beginning of the introduction, environmental literacy is complex to define, and I will now add, to quantify. For this study I refer heavily to the National Wildlife Foundation's, *State of the Campus Environment*. To briefly elucidate their definition of environmental literacy, the president of the NWF writes in his preface letter to the reader of the report, "...ultimately, all institutions of higher learning must produce graduates with the environmental understanding needed to make sound personal, political and business decisions in the decades to come." Environmental literacy, to the NWF, consists both of basic natural systems knowledge and personal commitment based on this knowledge. The NWF report document presents a survey of 891 U.S. higher education institutions, highlighting a number of different campus environmental literacy issues including environmental curricular requirements, the number of environmental studies majors and minors offered in the sample of schools, and the nature of institutional support for faculty to include environmental studies in their coursework. In order to illustrate the level and nature of environmental priority in the student body at Macalester College, I will also refer to parts of a campus audit done in 2002 by Senior Environmental Studies Seminar students.

### **Strengths and Resources**

Macalester's core values, mission statement, and statement of purpose and belief all speak to the importance of fostering environmental literacy on campus (See Appendix A). What is stressed in all of these statements is a dedication to civic responsibility and service. As the statement of purpose and belief states, "We believe that the benefit of the educational experience

at Macalester is the development of individuals who make informed judgments and interpretations of the broader world around them and choose actions or beliefs for which they are willing to be held accountable". These values are all key to the notion of environmental literacy as well, as seen in the introduction. The core values of Macalester are social service, academic excellence, internationalism, and multiculturalism, and environmentalism and environmental literacy are implicated in these values. In order to be more fully aware of the international and the multicultural, some understanding of the environmental forces that shape these discourses and issues is necessary. Therefore, because of its core commitments to service, scholarship, internationalism and multiculturalism, Macalester is well grounded to take on a deeper commitment to environmental literacy.

In the area of curriculum, Macalester College is one of many higher learning institutions that has an Environmental Studies (ES) program. It is important to note that EPAG, the Educational Policy and Guidance body on campus is in the process of recognizing the ES program as a full academic program. This will be an important decision, not only for the future of the program but in demonstrating a level of environmental commitment on the part of the institution. As a full program, the ES department will be afforded more resources; most specifically it will be required to have two full-time equivalent E.S. professors, as opposed to the past and current standard of one. This should open up opportunities for expanding the department's curricular offerings and getting a larger percentage of the student body involved with the ES program. (NOTE: On May 5, 2004, the Macalester faculty voted unanimously to support EPAG's recommendation that Environmental Studies become a full department.)

Currently the ES program offers a major and requires a related internship experience of all of its majors. This compares quite favorably to other schools. This internship requirement has

brought students to, among many other sites: the Green Institute, Minnesotans for an Energy Efficient Economy, The Midtown Public Market, Dodge Nature Center, EcoEducation, and Eureka Recycling. Bringing students out into the community to further their academic work gives them a taste of possible environmental careers and the environmental climate of the community, builds and strengthens ties between the school and the community and reflects Macalester's core value of civic engagement.

For those students that are not majors or minors, the campus is active environmentally, with the E.S. department offering weekly “EnviroThursday” presentations on various environmental issues, and environmentally geared student groups like E-Funk, MULCH, MacCares, and MPIRG offering other forums for environmental action and discussion focused both on campus and in the greater community. These groups have worked on many projects targeting, for example, paper use reduction, disposable cup use reduction, energy saving on campus, food supply/waste changes, and transportation issues. Additionally, a coalition of these groups, along with institutional support organizes Earth Week programs and activities to heighten environmental awareness during the week surrounding April's Earth Day.

With civic engagement as one of its core values, and over 79% of Macalester's 2003 graduates volunteering at some point in their college career, the Community Service Office also offers the student body many opportunities and resources regarding volunteerism in environmental issues in the Twin Cities, from environmental education to restoration. For example, some oft frequented programs and sites include: Discovery Club After School Environmental Education, Dodge Nature Center, Farm in the City, Great River Greening, Humane Society of Ramsey County, The Raptor Center, Science Museum of Minnesota. Also, Macalester's own Katherine Ordway Natural History Study Area offers students the opportunity

to explore prairie, savanna, woodland, and riverine ecosystems. Additionally, the campus participates in the “Graduation Pledge” where seniors pledge upon graduation to explore the enviro-social sustainability of their future endeavors.

In terms of the environmental climate in the student body on campus, the campus audit from 2002 (See Appendix B) reports that the majority of their student respondents see room for other departments to increase their environmental content. It also reports favorably on the visibility of environmentally minded student organizations with 180 out of the 196 respondents identifying at least one campus environmental organization. These notions all contribute to a strong foundation from which environmental literacy on the Macalester campus can be furthered.

### **Weaknesses**

There are two areas on the NWF survey where Macalester falters on its dedication to environmental literacy. The first is the issue whether or not the school requires environmental studies courses of all students for graduation. Macalester does not. There are international and domestic diversity requirements and a foreign language proficiency requirement for graduation, but no environmental studies requirement. It should be noted that not many schools have this sort of requirement in place, only 8% of the 891 colleges surveyed, and none of Macalester’s “peer” institutions end up in NWF’s classification of “Schools that have Taken Lead in Teaching Students About Environment”.

The other area of the survey concerns the institution’s support for faculty to engage in environmental studies, including whether the college has programs to support faculty development on environmental topics, whether the college recognizes or evaluates how faculty integrate environmental issues into coursework, and whether the college houses some sort of research institute in environmental studies. Fifty percent of the schools surveyed have faculty

support programs, 8% recognize or evaluate faculty in terms of environmental content in their courses, and 23%, mostly larger schools, house research institutes. Macalester does claim to support faculty development on environmental topics but does not evaluate faculty on how they integrate environmental studies into their coursework, and has no plans to start a program of this sort. The sort of support that faculty currently receive is presumably through general faculty development programs, not organized on environmentally focused programming.

Besides the terms of the NWF report, in terms of the visibility of campus environmental initiatives, the 2002 campus audit of environmental attitudes found that a vast majority of students have never heard of the Talloires Declaration with over 150 out of the 193 responses negative. The Environmental Studies department itself seems less than visible as well according to this survey with only majors considering themselves positively familiar with the department. Ninety-nine out of the 177 non-major respondents considered themselves somewhat familiar, 74 considered themselves "not really" familiar and 4 asked, "We have E.S.?" The ES department does not offer a minor and offers few "Topics" courses that are open to the wider student body, which may account for these numbers. In terms of concerns on campus, environmental concerns turned out the least number of responses behind the categories of "ideals", "facilities" and concerns about the "institution". It should also be noted that when asked whether or not they would support an "ecological diversity requirement" in their coursework, the responses were about half and half, yes and no, with yes having slightly higher numbers.

Macalester adopted the Talloires Declaration in 2000 but has yet to set or reach many of the goals prescribed in the document itself. Although, there has been a recent surge of effort to demonstrate our commitment to the Talloires, it must be understood that environmental literacy can only expand so far when many of the college's institutional practices do not reflect a level of

environmental responsibility. Without a college environment that clearly demonstrates environmental values, the student, faculty, and staff community cannot be expected to fully internalize these values. Therefore, all of the audits done this spring should be acknowledged together, as influencing one other in the present as well as influencing their potentials for change.

### **Best Practice Examples from Other Colleges**

I would like to continue with a look at steps that other institutions are taking to increase environmental literacy in their campus communities. I have used the NWF report to inform these examples.

In terms of curriculum, locally, The University of Minnesota-Twin Cities has an environmental coursework graduation requirement as a part of their Liberal Education requirements, as well as offering majors and minors in various facets of environmental studies. Other colleges cited by the survey as being exemplary in the curriculum area are Albion College, University of Wisconsin-Stevens Point, and Wilson College. In terms of faculty support and development on environmental topics, the U of MN-Twin Cities and U of W-Stevens Point are again considered exemplary as well as Pitzer College that boasts "The Ecology Center", which "sponsors activities, workshops and lectures, serves as a clearinghouse for environmental information, provides opportunities for community-based internships in environmental fields, acts as a campus watchdog and houses a resource center". Grinnell College in Iowa, one of Macalester's peer schools, is using its location in the North American prairie to develop a Center for Prairie Studies, basing curriculum and research around its cultural and ecological surroundings. Many institutions, besides those mentioned above are taking innovative and creative steps to work the environment in the college experience and curriculum, and Macalester could do the same to further its tradition of academic excellence and social responsibility.

## Summary and Recommendations

As seen in the *Strengths* section of this report, Macalester has a good framework on which to build its commitment to environmental literacy. The following recommendations refer to ES department course offerings and a possible environmental coursework graduation requirement, the invaluable resource of Ordway, and more connections interdisciplinarily.

Pending the EPAG decision and potential allocation of more resources, the ES department could offer a minor, as opposed to only the major currently offered, and offer more "topics" courses which would be open more broadly to the student body. A minor could be a good way for students to work environmental studies into their own dominant course of study. By pursuing their interest in environmental issues through a minor they would become more environmentally literate, and perhaps be more equipped and apt to tie their environmental interests into their major. An expanded number of courses offered in environmental studies would facilitate the emergence of a minor, and in the cases of "topics" courses, would cater better to the interests of the student body. The 2002 survey suggests that the most favorable way that ES could change to meet the needs of the student body is by offering more courses, especially for non-majors, more speakers, more presentations, and heightened visibility.

Along these lines, I would like to see the campus explore the possibility of an environmental coursework graduation requirement. The 2002 Audit shows a positive student response to more environmental content in the coursework and even possibly to the addition of an environmental requirement. This may be an issue to look into further in relation to the restructuring of the introductory environmental studies course. If more than one section of this course were offered, and one were based more in the studies of environmental issues and opposed to the science of environmental issues, I believe more students would be inclined to

work environment into their discipline. With an expanded Environmental Studies Program and more ties with departments as I will write about further, there could emerge enough courses so that students could happily fill their environmental literacy course requirement. As of now there are about 20 courses (See Appendix C) that could potentially fill this requirement while the domestic diversity requirement includes over 60 course offerings, and the international diversity requirement, over 100.

Macalester College is a small institution with limited resources financially and in terms of staff. Therefore, some initiatives would be easier and quicker to implement than others. For example, starting an environmental research institute would be a large undertaking, while implementing some of the plans already agreed upon in the Talloires Declaration would perhaps not be as daunting. Macalester College has a great resource in its Ordway site, however the number of students who have utilized it is low. This area is not being used to its potential, and since the site is already there and ours, I would recommend an initiative to bring more students from various disciplines out to Ordway. Art and creative writing students could use it for study and/or creative inspiration, and geography students may be able to practice GPS/GIS skills in the area. *Greening the College Curriculum* offers ways in which most disciplines can bring environmental studies into their coursework, and Ordway could serve as host to class periods dedicated to a look at the natural environment.

Not all of Macalester's academic departments are connected to the environmental studies program, and understandably, not all faculty have a great interest in the subject matter. Therefore, an important order of business campus-wide would be to facilitate dialogue and interchange between departments to see if more environmental awareness and coursework could be encouraged. The ES program, as an interdisciplinary program, is already supported by faculty

from ten separate departments. (See Appendix D) However, more communication could bring departments not historically related to the program, closer, could spur partnerships between ES and departments and faculty other than those already on the ES coordinating committee, and could heighten the potential for widespread environmental literacy education. One possible way to encourage these connections would be through a faculty workshop, perhaps run through the ES program and/or the Dean of Academics and other offices, on bringing environmental issues into coursework. This would give professors from different disciplines an opportunity not only to think about the possibilities for environmental studies in their classes but also an opportunity to share a space and their ideas. The visibility of the Environmental Studies department on campus has been steadily on the rise, and between this visibility and increased networking, some valuable connections could be made.

## **Conclusion**

Macalester has a good basic structure to foster environmental literacy in students with institutional values statements in line with a commitment to environmental literacy, a more stable ES program that has cross-disciplinary support, a relatively active student community, a stronger institutional body to oversee campus practices in terms of environmental responsibility (CEIC), and the invaluable resource of Ordway. The necessary connections linking students, faculty, staff, and environmental concern and responsibility have not yet been concreted however, in part because until now the ES department has been under served as a free-standing department, and because the overall institutional practices of Macalester do not reflect true commitment to environmental responsibility. We have made a commitment in the Talloires Declaration to environmental literacy and other institutional environmental responsibility that for the most part

has not been honored. By strengthening what we already have and drawing key actors closer, we can come to ensure environmentally literate Macalester graduates.

### **Works Cited and Referenced**

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Pitzer College, Environmental Studies Department  
[www.pitzer.edu/academics/field\\_groups/environmental\\_studies/ecology\\_center.asp](http://www.pitzer.edu/academics/field_groups/environmental_studies/ecology_center.asp)

University of Minnesota, College of Liberal Arts.  
<http://www2.cla.umn.edu/default.html>

### **Appendix A**

#### *Mission*

Macalester is committed to being a preeminent liberal arts college with an educational program known for its high standards for scholarship and its special emphasis on internationalism, multiculturalism, and service to society.  
[approved by the Board of Trustees, May 1992] [www.macalester.edu/academic/catalog/](http://www.macalester.edu/academic/catalog/)

#### *Statement of Purpose and Belief*

At Macalester College we believe that education is a fundamentally transforming experience. As a community of learners, the possibilities for this personal, social, and intellectual transformation extend to us all. We affirm the importance of the intellectual growth of the students, staff and faculty through individual and collaborative endeavor. We believe that this

can best be achieved through an environment that values the diverse cultures of our world and recognizes our responsibility to provide a supportive and respectful environment for students, staff and faculty of all cultures and backgrounds.

We expect students to develop a broad understanding of the liberal arts while they are at Macalester. Students should follow a primary course of study in order to acquire an understanding of disciplinary theory and methodology; they should be able to apply their understanding of theories to address problems in the larger community. Students should develop the ability to use information and communication resources effectively, be adept at critical, analytical and logical thinking, and express themselves well in both oral and written forms. Finally, students should be prepared to take responsibility for their personal, social and intellectual choices.

We believe that the benefit of the educational experience at Macalester is the development of individuals who make informed judgments and interpretations of the broader world around them and choose actions or beliefs for which they are willing to be held accountable. We expect them to develop the ability to seek and use knowledge and experience in contexts that challenge and inform their suppositions about the world. We are committed to helping students grow intellectually and personally within an environment that models and promotes academic excellence and ethical behavior. The education a student begins at Macalester provides the basis for continuous transformation through learning and service.  
[www.macalester.edu/about/purpose.html](http://www.macalester.edu/about/purpose.html)

### *Core Values*

Macalester has a historic commitment to preparing students for lives of engaged and active citizenship and leadership. The college provides an undergraduate education of uncompromising quality, characterized by four historic values:

- \* Academic excellence
- \* International perspectives in academic work and the life of the college
- \* A diverse academic community
- \* Service as an integral part of learning and life

[www.macalester.edu/about/facts.html](http://www.macalester.edu/about/facts.html)

## **Appendix B**

Selected Survey Questions and Results from the 2002 Campus Audit on Environmental Awareness

2002 Environmental Audit

*Question 10:* Are you familiar with the Talloires? (193 total)

Yes: 38

No: 155

*Question 10a:* Has Mac done enough to implement Talloires? (38 total)

No Opinion: 1

Yes: 1

No: 36

*Question 13:* Are you familiar with the ES program? (196 total)

Yes—majors: 19

Somewhat: 99

Not really: 74

We have ES?: 4

*Question 14:* How can ES change? (109 total)

Action/Practical Application: 19

Diversity of Opinions: 3

Environmental Justice: 2

Collaborate with other Departments: 7

More (activities, classes, faculty, funding): 47

Visibility: 28

Many of these included feelings that there should be more courses for non-majors, maybe 1 or 2 credit courses, classes on specific areas such as sustainable agriculture, and that there should be team-taught interdisciplinary classes. Students also mentioned more conferences, speakers, etc. Others felt that the program is geared towards science/social science students. Some felt it was fine, some wanted it to be easier to be a major, and one felt the best way ES could change would be to give the budget to the Biology department.

*Question 15:* Is there room for other departments to increase environmental content? Should they? (176 total)

Yes: 133

No: 17

No opinion/Don't know: 26

*Question 15a:* In what ways? (142 total)

This is difficult to quantify. Several students felt that this was already happening where needed, and most of them felt it should be expanded only where relevant or appropriate, and that it is not appropriate for all departments. In general, there were concerns about the inclusion taking away from the core curriculum of the department. The most frequently mentioned departments for combining/adding classes were Chem, Bio, Physics, PoliSci, Econ, English, History, Sociology, Math, Anthropology, IS, Geography, Geology, Phil. Others suggested that faculty members take a seminar, perhaps especially on the environment in their field. Some students also felt that if we can put multiculturalism or women's issues everywhere, we can do it with environmental issues, and that since they affect all areas this would be a good idea.

*Question 16a:* Would you support an ecological diversity requirement? (196 total)

Yes: 105

No: 81

Don't Know: 10

16b: If 2 of 3 (187 total—of the 10 missing, 8 had said yes the first time)

Yes: 138

No: 43

Don't Know: 6

*Question 17: Can you name any campus environmental groups?*

(302 total answers, taken from 180 surveys which had something written for this question)

No: 28

CEAC: 1

CEIC: 8

Community Garden: 1

CSO: 3

Dodge: 1

EAC: 11

EcoEd: 3

Ecology Group: 1

EIC: 1

Elementary Environmental Outreach: 1

EnviroAction: 1

Environmentalists in Action: 1

EnviroThursday: 6

FOES: 3

Friends of Environment: 1

Garden People: 1

Greening the Campus: 1

Habitat: 6

MACCESS: 1

MacDems: 1

MacGreens: 20

MACRO: 13

MACTION: 3

MECOS: 7

MPIRG: 103

MPJC: 1

MULCH: 57

Ordway: 3

Organic Food Group: 1

Outing Club: 5

SEED: 1

SLAC: 1

Veggie Co-Op: 1

[www.macalester.edu/environmentalstudies/Audits/audit2002\\_survey.htm](http://www.macalester.edu/environmentalstudies/Audits/audit2002_survey.htm)

## **Appendix C**

Courses to Satisfy a Possible Environmental Literacy Requirement

ANTH365 ENVIRONMENTAL ANTHROPOLOGY

ANTH360 THE ANTHROPOLOGY OF TOURISM

BIOL115 GLOBAL DIVERSITY AND THE BIOLOGY OF CONSERVATION

BIOL180 ECOLOGY  
COMM236 RHETORIC AND SOCIAL CHANGE  
ECON231 ENVIRONMENTAL ECONOMICS AND POLICY (Same as Environmental Studies 222)  
EDU270 EDUCATION AND SOCIAL CHANGE  
ENGL3-- ENVIRONMENTAL WRITING  
ENVI133 ENVIRONMENTAL SCIENCE  
ENVI232 PEOPLE AND THE ENVIRONMENT (Same as Geography 232)  
ENVI238 GLOBALIZATION AND THE ENVIRONMENT (Same as International Studies 238)  
ENVI348 MARINE MAMMALS: THEIR BIOLOGY AND PLACE IN THE ENVIRONMENT (Same as Biology 348)  
GEOL150 DYNAMIC EARTH AND GLOBAL CHANGE  
HIST328 THE POLITICS OF FOOD IN LATIN AMERICA  
INTL110 INTRODUCTION TO INTERNATIONAL STUDIES: GLOBALIZATION  
INTL368 SUSTAINABLE DEVELOPMENT AND THE GLOBAL FUTURE (Same as Environmental Studies 368)  
PHIL229 FEMINISM AND ENVIRONMENTAL ETHICS  
POLI205 POLICY ISSUES  
POLI210 SCIENCE, TECHNOLOGY & POLITICS

#### **Appendix D**

Faculty on the ES steering committee

Brett Smith, Acting Director  
Ann Esson, Administrative Assistant  
James Dawes, English  
Janet Ebaugh, Biology  
Chuck Green, Political Science  
Arjun Guneratne, Anthropology  
Lorin Hatch, Biology  
Ruthanne Kurth-Schai, Education  
Keith Kuwata, Chemistry  
Bill Moseley, Geography  
Ray Rogers, Geology  
James Straka, Biology  
Karen Warren, Philosophy  
Sarah E. West, Economics  
[www.macalester.edu/environmentalstudies/faculty.htm](http://www.macalester.edu/environmentalstudies/faculty.htm)