Developing A Personal Land Ethic:
An Interdisciplinary Course on Aldo Leopold

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Abstract: Herein I describe a multidisciplinary course which I have developed and taught that has successfully enhanced awareness, appreciation and stewardship of the land, a land ethic, in college students.

Keywords: Land ethic, environmental ethics, Aldo Leopold, interdisciplinary courses, outside speakers, field experiences, prairie restoration, oak savannah restoration

Introduction
The fire engine-red cardinal whistled his morning reveille only fifteen feet above the stream of students heading to class on this bright, crisp, January morning. As I tramped along with the crowd I noticed I was the only one with my head up enjoying the “with you, with you, with you, you, you, you.” I wondered if the students were not awake yet, or if they had their next exam on their minds, or maybe they had never heard or learned about a cardinal exclaiming the rights to his domain. I thought of Aldo Leopold and his concern for people who had little if any awareness of natural events or of their connection to the natural world around them. He wrote in the 1940’s, “the problem is how to bring about a striving for harmony with land among people many of whom have forgotten there is any such thing as land, among whom education and culture have become almost synonymous with landlessness. This is the problem of ‘conservation education’ “ (Leopold, 1949). I wondered how I could help students become more aware, more appreciative and better connected to the environment. I needed a plan to battle landlessness. I needed a way to develop a personal land ethic in some of these students. I knew Leopold was part of that plan

“All ethics so far evolved rest upon a single premise: that an individual is a member of a community of interdependent parts.

His instincts prompt him to compete for his place in the community, but his ethics prompt him also to co-operate. The land ethic simply enlarges the boundaries of the community to include soils, waters, plants and animals, or collectively, the land.... In short, a land ethic changes the role of Homo sapiens from conqueror of the land-community to plain member and citizen of it. It implies respect for his fellow-members, and also a respect for the community as such.”

(Leopold, 1949)

Herein I describe a multidisciplinary course which I have developed and taught that has successfully enhanced awareness, appreciation and stewardship of the land, a land ethic, in college students.

Course Objectives
The student objectives of this course are
a) to develop and describe orally and in writing their personal land ethic and describe how they view the present and future status of the natural environment;

b) to criticize and/or empathize with the writings and principles of Aldo Leopold as they apply to past, present and future ecological issues;

c) to understand and give examples of the basic principles of the science of ecology; and

d) to be aware of the simple beauty and mental refreshment of the natural environment in its pure, “unhumanized” form.
**General Course Description**

This course is a 3 credit, sophomore level, Honors course that meets for 80 minutes twice per week. The course has had an average of 20 students, 90% of whom have not been biology majors. There are no formal exams. Points are given a) for 7-10, two-page reaction papers to class activities; b) for 3 oral reports from student teams on various topics; c) for 2 written lab reports in which they collect and interpret data, support their conclusions through references and present the report in front of the class; d) for class participation in discussion; and e) for a final paper. Much of the student work is done in cooperative teams. Through these evaluation techniques, this course enhances the ability of each student to write and speak effectively, interpret data, listen well, argue constructively, work cooperatively with a team, and evaluate several points of view on an issue.

**Figure 1. Questions to include in an introductory class period to create a starting point for personal land ethic development and a set of statements to return to at the end of the course to analyze changes.**

Please briefly answer the questions below as a basis for the following discussion:

1. What is an ethic?
2. What is a land ethic?
3. If you have one, can you explain YOUR personal land ethic, how it got started and how you have strengthened it in the past 5 years.
4. In your own words, what is a wilderness area? Do you think we need more or less wilderness areas?
5. From your experiences regarding the environment, are you an optimist or a pessimist concerning its future and why?

**Course Content**

The course and this article are divided into six sections which are explored in the order presented here. The six sections include:

a) learning about Aldo Leopold, his life, his writings and his impact;
b) learning about the science of ecology and how we fit into the big environmental picture;
c) briefly learning about the history of land use in America and some important people in environmental thought;
d) having guest speakers from other college departments and from occupations who work with the land every day tell about their land ethics;
e) several field trips, including one to Leopold’s Shack, two to local natural areas, and one to a local site where humans have destroyed the landscape; and
f) a final report which includes determining how to use what was learned in the course in the future.

**Learning About Leopold**

A good way to introduce Leopold to a class is to show the first half of a video titled: “Aldo Leopold, A Prophet for All Seasons” (Northword Press: Minocqua, WI). This video describes the life and experiences of Leopold and how he developed his land ethic that is so powerfully described in his epic, A Sand County Almanac (1949). It works well to have the students read some of the monthly essays in the first part of the Almanac that correspond to the time of year in which the course is taught. It is even better to take the class to a nature center, a wetland, or a pine grove to let them experience the sounds, the names, and the activities of the natural inhabitants of these areas. An excellent set of outdoor and indoor activities that have been specifically designed for use with the Almanac are found in Lessons in a Land Ethic, a teacher’s guide (Pheasants Forever, 1995). This guide is one of the materials available to educators as part of a curriculum called the “Leopold Education Project” (see LEP Update in this issue of Bioscience). Through reading parts of the Almanac, using exercises described in the teacher’s guide, and getting students outside to experience current natural events, the awareness and appreciation of Leopold grows, the eagerness to learn more and make more connections increases, and the students begin to ask their own questions. The last 25 pages of A Sand County Almanac bring together Leopold’s land ethic. I have students read this section early in the course, write about their reactions and ask questions about the content so they are exposed to his conclusions and his style of writing. But I always return to this section near the end of the course to have students read it again, reread their initial responses, and then write more about how the experiences in the course have helped or changed their initial thoughts.

**Learning About the Science of Ecology**

Teams of students get parts of ecology textbook chapters chosen by the instructor to summarize and present orally the major concepts of ecology (Ricklefs, 1997; Smith, 1996). Some of these concepts include levels of ecological organization, habitat, niche, adaptations, energy exchange, nutrient cycling, succession, biodiversity, and succession. Specific visual examples of each are required in each report. Students try to understand how ecologists think and do research by summarizing several papers in the journal Ecological Monographs. Research topics that cover current issues
like spotted owl habitat or wolf reintroduction reports and simultaneously illustrate several ecological concepts have been especially enlightening to students. Ecologists who have done research on PCBs or neotropical migrant bird populations have come into the classroom to describe their research experiences but also to describe their land ethics and how they developed. Many of these people mention the role that *A Sand County Almanac* has played in the development of their environmental ethic.

**Learning About the History of Land Use in America**

I have used part of Hargrove’s (1989) *Foundations of Environmental Ethics* to help students understand the progression of land use attitudes and influences that have formed the current landscape of our country. Through these readings in several class periods, the students get a good picture of how German and Saxon Freemen, Thomas Jefferson, John Locke and others formed and reformed the fundamental right of property ownership. Discussions follow about the use and ownership of government public lands and about the role government plays in the regulation of activities on private lands. This brings the realization that now, since our land is limited, we must begin to evaluate how we use the land sustainably and keep it viable for future generations. Each student team chooses an important person in American environmental history - like Muir, Pinchot, Marshall or Zahnisers and summarizes their contribution to the development of our current environmental situation. We also spend a class period discussing Native American land ethics. We read aloud Chief Seattle’s message and mythical stories from Ojibway, Iriquois and Lakota Sioux.

**Learning From Other Disciplines and Occupations**

In an effort to have students hear and question different points of view on various environmental issues, I have brought into the classroom speakers who are asked to share a description of their jobs, their personal land ethics, and their opinions of the present and future of the environment in which they work every day. Iowa farmers who have feedlots and row crops have talked about the challenges, problems, and rewards of working the land on a daily basis. Students ask questions directly and better understand the economics and implications of current technology after farmers visit the classroom. Leopold’s article, “The Farmer As a Conservationist” (1939), has been used as a prelude or postscript to this class session. A director of the local County Conservation Board, a regional state forester, a local rep from the Natural Resources Conservation Service (formerly the US Soil Conservation Service), a hydrologist for the Army Corps of Engineers, a state wildlife biologist, and representatives from the Iowa Natural Heritage Foundation, the Nature Conservancy and the local Bluffland Alliance have come to discuss their jobs and how their personal land ethics have developed over time. I have also asked two of my colleagues from the Philosophy and Economics departments to spend some time in class discussing the interface of ecology, economics and environmental ethics. These two class periods are spent discussing topics like whether future generations have rights, business ethics and environmental ethics, quality of life versus standard of living, and the effect of constant economic growth and “progress” on the environment.

**Learning Outside the Classroom**

One of the highlights of the course is a visit to Leopold’s Shack north of Baraboo, Wisconsin on the Wisconsin River. The land around Leopold’s worn-out farm that he purchased in 1935 is now owned and managed by the Aldo Leopold Foundation. The Shack and the Leopold Memorial Reserve are available for tours and work projects by college and other educational groups. Working groups are especially encouraged to spend several hours during their visit helping in prairie restoration, oak savanna restoration, collecting prairie seeds or other habitat management. Students have enjoyed this active involvement in land stewardship.

Sharing the pictures and descriptions of the Shack in Leopold’s time with my students before they arrive helps them appreciate how time has changed the vegetation (Bradley, 1987). During our Shack visit, I have the students do a species diversity analysis of a 4 ft square woodland plot, an edge plot, and a prairie plot. Students count the number of individuals of each plant...
species in the plot and use these numbers to generate a Shannon species diversity index number (Smith, 1996). Similar species diversity measurements, comparisons, and ensuing discussions on habitat stability or longevity can be made from aquatic samples of macroinvertebrates and phytoplankton from different lakes or streams.

**Final Paper**
The students in this course build a final paper that is due one week before the last class period. The first two thirds of the paper are on an environmental topic of personal interest that they have researched during the semester. Actual past titles of these sections have been “Edward Abbey: Rebel with a Cause,” “Hydroponics: Food for the Future,” “The Environment and Economic Growth: Can They Coexist?”, “Barefoot Foresters Without Diplomas”, “Piggies Stink - What Do We Do About It”, and “Buffalo Commons: A Challenging Proposition.” The last third of the paper is a written expression of their personal land ethic. This section brings together their thoughts from the course and their past experiences, and it tries to address three questions: “What should be DONE next?” How can this developing land ethic be put into action? What do they see as their next step? We spend the last two class periods listening to individual students read their personal land ethic statements and discussing their implications. During this last class period, I leave them with several reminders. One is to read Leopold again. Each time Leopold is read, more of his insights and connections come out. A second reminder is to get out on the land more often. Find a natural place or two to enjoy and return to those places over and over to watch them change with the seasons. Get to know the inhabitants. Try to understand their needs and challenges. Doing this will connect the students with that place and will make them fight for it if it becomes threatened. A third reminder is to become teachers of environmental awareness themselves. Teaching others about what each of us enjoys and why we enjoy it is the essence of environmental education. One of the cornerstone Leopold quotes of the Leopold Education Project says it best:

> “The objective is to teach the student to see the land, to understand what he sees, and enjoy what he understands.”

Hopefully, this course description will spark more ideas about how to better connect our young people with our natural environment. Now, whenever I hear a whistling cardinal, I wonder if anyone else may be hearing him and whether they are sharing his meaning and beauty with those around them.

**Literature Cited**


**Other Leopold Resources and Information**

Leopold Education Project, Pheasants Forever, Inc. P.O. Box 75473, 1783 Buerkle Cir., St. Paul, MN. 55175, 612-773-2000, email: lep@pheasantsforever.org website: http://www.lep.org

The Aldo Leopold Foundation, E12919 Levee Rd., Baraboo, WI 53913-9737; phone: 608-355-0279

Northword Press, Inc. Box 1360, Minocqua, WI 54548 1800-336-5666