

Biology 179 – Freshman Seminar

Conservation Biology

Winter 2005

Course Instructor: Leslie Real, Ph.D.
Candler Professor of Biology
Director, Graduate Program in Population Biology,
Ecology and Evolution.

Office Hours: Tu and Th 9-10:30 AM
By appointment (call Malia Barnett, 404-727-0404)

Office Location: 1001 Rollins Research Building

This class will provide background and research experience in contemporary issues in conservation biology. This specialized branch of ecology and evolutionary biology specifically address the issues associated with populations of species that are threatened or endangered; as well as ecosystems that are demonstrating a decline in function or loss of biological diversity.

Freshman Seminars are, by design, intended to have a non-traditional format, i.e. they are not intended to be primarily lectures accompanied by formal tests. In keeping with the spirit of the Freshman Seminar philosophy, we will adopt a decidedly different style of information gathering, exchange, and dissemination for this class around the topic of conservation biology.

For this class we will break into four groups of four students each. Each group will then select a conservation issue of major national or international importance in consultation with me. Topics might include, for example: the decline of salmon fisheries in the Pacific Northwest; the invasion of species into specific regions of the country; implications of infectious disease evolution in species conservation. We will cover a long list of potential topics during class. Each group will then research the conservation issue and write a series of documents that would follow the steps required for a study to be undertaken by the National Research Council (the research arm

of the National Academies of Science). There are four steps in an NRC study.

First, an federal agency, NGO, or congress will send a letter to the NRC requesting that NRC undertake a study and outlining the specific study charge. For example, when I was on the NRC Board on Environmental Studies we were asked by congress to undertake a study on the “Scientific Basis of the Endangered Species Act.”

Second, NRC responds with a document accepting the charge and outlining the approach they will take in addressing the charge, how the committee will be constituted, and what sorts of research will be covered in the study.

Third, the NRC committee studies the problem and prepares a draft report including a summary of findings and specific recommendations.

Fourth, the draft report is reviewed by peer experts and revised. Then the report is released and oral presentations are given.

Each of the four student groups will follow the above four steps in addressing the conservation issue of their choice. You will (as a group) draft a charge to yourselves, respond with a document describing how you will undertake the charge, do a research report, and then have it reviewed. The set of peer reviewers will be all the other students in the class. After the report is finalized you will presented your recommendations to the class as an oral presentation.

The grade of this class will be determined by your collective performance on each step of the process. The students in a group all get the same grade. You will have to learn to work together!

When you need specific information or intellectual context pertaining to your specific project, I will give a general lecture on the topic for everyone. For example, we might have lectures on how to model diseases in wildlife, how to measure species diversity, how to determine which species are critical for ecosystem function, how do we assign economic value to species, etc. What particular lectures will be included depends upon the topics that the groups select.

This is a fun class and everyone in the past has really gotten into the spirit of thinking big on major environmental and conservation issues.

Text: Andrew Dobson. *Conservation and Biodiversity*. Scientific American Library, Norton Publishers, NY.

We will also have selected readings