

## Conservation Biology - Proposed Syllabus

**Instructor:** Dr. Peter Quinby, Pymatuning Laboratory of Ecology, (814) 683-5813,  
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**Lectures:** Monday through Friday, 8:30am to 4pm

**Textbook:** Primack, R. B. 2002. *Essentials of Conservation Biology*. Sinauer Assoc.,  
Sunderland, MA

### **Other Readings:**

D'Antonio, C., L. A. Meyerson, and J. S. Denslow. 2001. *Exotic species and conservation: Research needs*. In: *Conservation Biology: Research Priorities for the Next Decade*, ed. by M. E. Soule and G. H. Orians, Island Press, Washington, DC. Pp. 59-80.

Dobson et al. 1999. *Corridors: Reconnecting fragmented landscapes*. In: *Continental Conservation: Scientific Foundations of Regional Reserve Networks*, ed. by M. E. Soule and J. Terborgh, Island Press, Washington DC. Pp. 129-170.

Haila, Y. 1999. *Islands and fragments*. In: *Maintaining Biodiversity in Forest Ecosystems*, ed. by M. L. Hunter, Jr. Cambridge University Press, New York, NY. Pp 234-264.

Mack, N. R. 2000. *Assessing the extent, status, and dynamism of plant invasions: Current and emerging approaches*. In: *Invasive Species in a Changing World*, ed. by H. A. Mooney, Island Press, Washington, DC. Pp. 141-170.

Matlack, G. R. and J. A. Litvaitis. 1999. *Forest edges*. In: *Maintaining Biodiversity in Forest Ecosystems*, ed. by M. L. Hunter, Jr. Cambridge University Press, New York, NY. Pp 210-233.

Owen, O. S., D. D. Chiras and J. P. Reganold. 2001. *Soil conservation and sustainable agriculture*. In: *Natural Resource Conservation*, Prentice-Hall, New York, NY. Pp. 123-148.

Seymour, R. S. and M. L. Hunter. 1999. *Principles of ecological forestry*. In: *Maintaining Biodiversity in Forest Ecosystems*, ed. by M. L. Hunter, Jr. Cambridge University Press, New York, NY. Pp 22-61.

### **Course Objectives**

- Upon successful completion of this course students will be able to
- describe the major approaches to conservation, including their differences and common threads,
  - demonstrate an understanding of the ecological principles upon which conservation are based,
  - demonstrate how ecological principles are currently applied to the conservation, and cite examples,
  - demonstrate an appreciation for, and some understanding of, the social, political, and economic factors that affect conservation, and
  - demonstrate an understanding of basic conservation biology issues.

### **Grading Policy**

Lecture and Field Notes (20%)  
Group Project (30%)

Mid-Term Exam (25%)

Final Exam (25%)

Attendance is expected. Excess absences may result in a 25 point penalty.

Make-up exams should be cleared in advance or at earliest possible time. Late work will result in grade deductions.

***Students with Disabilities***

If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both your instructor and the Office of Disability Resources and Services, 216 William Pitt Union (412) 624-7890 as early as possible in the term.

***Academic Integrity***

Cheating, plagiarism, and other forms of academic dishonesty are not tolerated. A zero grade is assigned for the work in question and University sanctions may result in suspension or expulsion.

*The integrity of the academic process requires fair and impartial evaluation on the part of faculty and honest academic conduct on the part of students. To this end, students are expected to conduct themselves at a high level of responsibility in the fulfillment of the course of their study. It is the corresponding responsibility of faculty to make clear to students those standards by which students will be evaluated, and the resources permissible for use by students during the course of their study and evaluation. The educational process is perceived as a joint faculty-student enterprise which will perforce involve professional judgment by faculty and may involve – without penalty- reasoned exception by students to the data or views offered by faculty. Senate Committee on Tenure and Academic Freedom, February 1974.*

## Course Schedule

<b>Day</b>	<b>Topic</b>	<b>Reading</b>
1	<b>Introduction to Conservation Biology</b> <i>what is conservation biology? what is biological diversity? global pattern of biological diversity</i>	Text 1-3
2	<b>Valuing Biological Diversity – economics and ethics</b>	Text 4-6
3	<b>Threats to Biological Diversity I – habitat degradation, fragmentation and destruction; extinction</b>	Text 7-9
4	<b>Threats to Biological Diversity II – global climate change, overexploitation, overabundance, alien species, disease</b>	Text 9-10
5	<b>Threats to Biological Diversity III – forestry case study</b>	Seymour & Hunter 1999
6	<b>Threats to Biological Diversity IV – agriculture case study</b>	Owen et al. 2001
7	<b>Threats to Biological Diversity VI – alien species case study</b>	D’Antonio et al. 2001
8	<b>Threats to Biological Diversity VII – overabundant species case study</b>	Mack 2000
9	<b>Threats to Biological Diversity VII – habitat fragmentation case study</b>	Matlack & Livaitis 1999 Haila 1999
10	<b>Protected Areas I – parks, nature reserves and wildlife refuges</b>	Text 15-17
11	<b>Protected Areas II – wildlife corridors</b>	Dobson et al. 1999
12	<b>Restoration Ecology</b>	Text 19
13	<b>Ex situ Conservation Strategies – Erie Zoo case study</b>	Text 14
14	<b>Regional Conservation Case Study – French Creek Project</b>	WPC & FCP 2002
15	<b>Student Presentations &amp; Final Exam</b>	

### **BIOSC 1610 Conservation Biology - Course Description**

*This field course will focus primarily on the applied aspects of conservation biology by examining the degradation and loss of species populations and ecosystems due to human activities and by considering alternatives for avoiding and/or mitigating these impacts. The perspectives of science, management, and policy will be elucidated in the context of historical, current, and future strategies designed to conserve the diversity of life. **There is a \$50 lab fee.***

*Prerequisites: Grade of C or better in BIOSC 0150 and 0160*

*Recitation: None*

*Expected class size: 15-20 students*

*Terms: Occasionally during the Summer Term*

