

# CONSERVATION BIOLOGY & SUSTAINABLE DEVELOPMENT

ENV 3006 / 4900

Baruch College, Spring 2008

Lecture: MW 5:40-7:45

---

<b>Faculty:</b>	Prof. Jason Munshi-South; Dept. of Natural Sciences
<b>Office:</b>	17 Lexington Ave, Room 707
<b>E-mail:</b>	Jason_Munshi-South@baruch.cuny.edu
<b>Phone:</b>	(646) 660-6238
<b>Website:</b>	<a href="http://faculty.baruch.cuny.edu/jmunshi-south/">http://faculty.baruch.cuny.edu/jmunshi-south/</a>
<b>Office Hours:</b>	Mondays and Wednesdays 4:30 PM to 5:30 PM (or by appointment) I also answer e-mail and phone calls promptly.

---

## Course Goals:

At the end of this course, you will understand the theory and practice of conserving biological diversity. As a class, we will seek to define biodiversity, make cogent arguments for why biodiversity is important, understand why biodiversity is under threat from anthropogenic change, and explore strategies for the conservation of biodiversity from genes to entire ecosystems. We will also examine how conservation biology is related to broader efforts for “sustainable development”, including asking under what conditions “sustainability” is a useful concept.

## Required Textbook for ENV 3006:

Groom, M. J., G. K. Meffe, & C. R. Carroll. 2006. *Principles of Conservation Biology, 3<sup>rd</sup> Edition*. Sinauer Associates, Inc. Sunderland, MA.

## Required Textbook for ENV 4900:

Day, L. 2007. *Field Guide to the Natural World of New York City*. Johns Hopkins University Press, Baltimore, MD.

## Required Readings:

Readings will come from the text Principles of Conservation Biology, 3rd Edition (Groom et al., 2006) and the primary literature (posted on BlackBoard). You will need to read the material for class discussions as well as exams. Periodically, we will have in-class discussions focused on other assigned readings from the primary literature (~4 papers per unit).

## Recommended Reading:

Daily reading of the *New York Times*, with special attention paid to articles on ecology, conservation, and sustainability, will increase your enjoyment of this course. The “Science” section published every Tuesday will prove particularly relevant. I will highlight important articles as they appear during the semester. Please also consult the course website for a growing list of online ecological resources.

## Grading:

<u>Assignment</u>	<u>Points</u>
Exam I	200
Exam II	200
Exam III	200
<u>Lab Activities</u>	<u>400</u>
Total	1000

**Assessment of Learning Goals:**

I am working with the American Museum of Natural History to improve conservation education at colleges and universities in the United States and abroad. Part of these efforts will involve assessing your knowledge and interest in conservation biology before and after the entire course, as well as before and after selected individual exercises. At the very beginning of the course, ALL STUDENTS need to complete the Student Assessment of Learning Gains (SALG), a 10-15 minute survey about your attitudes and pre-course knowledge in this field. Everyone will receive extra-credit points if this survey is completed by every student in the class before the end of the first week.

To complete the SALG, go to this website:

<http://www.wcer.wisc.edu/salgains/stu/default.asp>

Course ID: 1676

Course Password: env3006

Pre-survey

Once you log in to the course website, your individual ID is LastnameFirstInitial, e.g. if your name is John Smith, then your ID is SmithJ.

**Sustainable Class Activities:**

- ◆ asking questions before, during, or after class
- ◆ coming to office hours
- ◆ offering *constructive* feedback on the class, positive or negative
- ◆ inquiring about research experiences and other opportunities in environmental science
- ◆ calling me by my first name

**Unsustainable Class Activities:**

- ◆ arriving late or leaving early (unless *absolutely* necessary)
- ◆ talking to classmates during the lecture
- ◆ texting, IM'ing, e-mailing, etc.
- ◆ Cheating / Plagiarism (will be met with swift and harsh punishment)

**Baruch College Attendance Policy (Undergraduate Bulletin, p. 41):**

“All students are required to attend every session of their courses. If a freshman or sophomore is absent in excess of twice the number of class sessions per week, the instructor must give the student a WU grade, which counts as an F. The instructor may give a junior or senior a WU grade (the equivalent of an F) for excessive absences. The WU grade may be given by the instructor at any time.” Absences should only be for serious illnesses and family emergencies.

**Environmental Sciences Minor and Ad Hoc Major:**

The Dept. of Natural Sciences offers a minor in environmental studies for students that wish to pursue general intellectual interests or specific career objectives. For example, business students may improve their marketability with knowledge of current issues in environmental sustainability, and public affairs or pre-law students may gain knowledge for future specialization in environmental law or policy. For the environmental sciences minor, students take two environment courses at the 3000 level or above followed by the capstone course, ENV 4900—Topics in Environmental Science. New environmental studies courses are planned for future semesters. It is also possible to design an ad hoc major that combines ENV courses with additional sciences and courses in other fields. Please inquire for more information.

## Course Schedule:

<b>M/W</b>	<b>Lecture Topics</b>	<b>Ch</b>	<b>Laboratory Topics</b>
<b>M 1/28</b>	Introduction	1	SALG intro. / Where does coffee come from?
W 1/30	What is biodiversity?	1	Pre-test; Comparison of Spider Communities I
<b>M 2/04</b>	History & scope of conservation biology	1	Comparison of Spider Communities II
W 2/06	Conservation values & ethics; Why is biodiversity important?	4	In-class writing; Conservation values: assessing public attitudes (Gibbs et al. 28)
M 2/11	Global patterns of diversity	2	Biodiversity Hotspots Intro.
W 2/13	Island biogeography (theory & evidence)	2	Applying IBT: park size and condition (Gibbs et al. 22)
W 2/20	Threats to biodiversity	3	Why is biodiversity threatened? IUCN Red List
M 2/25	Loss of biodiversity	3	<b>PRESENTATIONS</b> → Conservation values: assessing public attitudes
W 2/27	Catch-up / Review session		Discussion of readings on BlackBoard
<b>M 3/03</b>	<b>EXAM I</b>		
W 3/05	Intro. to conservation genetics	11	Tour of the Conservation Genetics Lab at Baruch; Pre-test; Inbreeding & fluctuating asymmetry
M 3/10	Loss of genetic variation & fitness	11	Inbreeding & fluctuating asymmetry
W 3/12	Populations & metapopulations	12	Pre-test; Parrots & palms: balancing timber production & parrot habitat
M 3/17	Conservation of communities	12	Ecological impacts of high deer densities
W 3/19	Species invasions	9	Cane toads video; Weekend survey
W 3/26	Habitat degradation & loss	6	Ecological consequences of extinctions
M 3/31	Habitat fragmentation	7	Ecosystem fragmentation: patterns & consequences for biodiversity
<b>W 4/02</b>	Catch-up / Review session		Discussion of readings on BlackBoard
M 4/07	<b>EXAM II</b>		
W 4/09	Intro. to marine conservation		Marine Protected Areas (MPA) design
M 4/14	Protected areas & reserve design	14	Systematic conservation planning approach for ecoregions (Gibbs et al. 21)
W 4/16	Conservation medicine		Conservation law: should the polar bear be listed as a threatened species?
M 4/28	Guest Speaker: Dr. David Powell: the role of zoos in conservation biology		You must write down at least 2 questions for Dr. Powell during the talk.
W 4/30	<b>HOTSPOTS POSTER SESSION</b>		<b>HOTSPOTS POSTER SESSION</b>
<b>M 5/05</b>	<b>PELHAM BAY PARK—Restoration Ecology</b>	15	<b>PELHAM BAY PARK—Restoration Ecology</b>
W 5/07	Sustainable development	16	Overconsumption: Who's smarter?
M 5/12	TBD		
W 5/14	TBD		
W 5/21	<b>FINAL EXAM: 10:30 AM-12:30 PM</b>		