# Anth 3407:
# Conservation in a Changing World: Human and Animal Behavior

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**COURSE DESCRIPTION**

The goal of this course is to introduce students to research on how humans and animals interact, in order to understand conservation and policy. Accomplishing scientifically sound, yet socially and economically acceptable conservation of biodiversity will be a key challenge over the next 50 years. People and animals interact in a wide variety of settings, ranging from rural areas in developing countries to urban environments. In this class, we will consider what types of interactions occur, the impact those interactions have on behavior (of animals and people), and how to ensure human and animal welfare in each of these environments. The course will culminate with group research, presentations, and structured discussions on how interactions with humans have influenced a species in recent history, and student recommendations for conservation policies going forward. Major topics covered are:

1. **Principles of Animal Behavior**
   This part of the class is geared towards non-science majors who may not have other exposure to these topics. It is critical, however, that policy makers have a general understanding of the factors that influence behavior in order to anticipate the impact of human activity on a given species. Students will learn the basics of collecting data on animal behavior, and fundamental concepts on animal space use, sociality, and foraging.

2. **Role of Animal Behavior in Conservation**
   After reviewing the basic concepts of conservation biology, we will examine case studies that successfully (and unsuccessfully) link behavior and conservation. Both the biological, sociological, and economic implications of research on conservation and behavior will be discussed. In addition, we will explore barriers to research incorporating both conservation and behavior, and generate recommendations for new avenues of collaboration between the two disciplines.

3. **Wildlife in Developing Countries**
   We will focus on interactions in rural areas, in particular on wildlife in developing countries. Conservation organizations emphasize protecting fauna in developing countries, but successful policy must consider the different pressures faced by people living in those environments. Humans and animals may be competing for the same resources. We can use our knowledge of animal behavior to predict animal response to this competition and create policy.

4. **Urban Wildlife**
   Our world is becoming increasingly urbanized. As a result, humans and animals are now interacting in relatively new ways that can influence species survival, as well as the health

and safety of human and animal populations. Human-wildlife conflict, including animal-vehicle collisions and transmission of zoonotic diseases, continue to increase as wildlife persists, and in some cases increase, in urban areas. With a better understanding of how animals interact with people, we can set better policy that allows for a healthy co-habitation and protection of animals using urbanized areas.

## COURSE MATERIALS

1. **Textbook**
   Blumstein DT and E Fernandez-Juricic**.** 2010. *A Primer of Conservation Behavior*. Sinauer Publishers: Sunderland, MA.
2. **Readings**
   Citations are given below. Students are responsible for downloading the articles themselves through their George Washington University library access.

Additional readings may be assigned as needed in order to create best class possible!

## REQUIREMENTS AND GRADING

1. **Readings**. All readings are required, and will be essential to participation in class discussions and exercises. Readings should be completed BEFORE the Monday class on which they will be discussed.

2. **Class participation** (25%). Regular attendance and participation are required. All students should plan to participate in class discussion every week that is based on class content and readings. This may take the form of open discussion, structured debate, brief team exercises, or other activities. In-class activities will be assigned weekly, and your participation grade will depend upon your participation and content.

3. **Midterm exam** (25%), January 31 2011. A midterm exam will assess student understanding of essential course materials in behavior and conservation. The exam format will be discussed in class in advance of the testing date

4. **Review paper** (15%). You will be given a brief topic on which to write persuasively, with your arguments supported by the primary scientific literature in animal behavior, conservation, and policy. We will discuss the topics in class. Papers should be no more than 3 pages long. **The paper is due on Monday, February 21, 2011 by 3 PM**. (e-mail, double spaced, font 12.)

5. **Collaborative research project** (35%). During the class, students will be assigned to investigate a chosen species of conservation concern. In this project, they will delineate the species' biological and behavioral needs, the nature of their interaction with humans, the economic, social, and cultural aspects of human societies that have contributed to the human-wildlife conflict, in order to evaluate and develop mitigation strategies to allow humans and their species to mutually co-exist. While students will work in teams, each team member will have a clearly defined role, which will ensure useful collaboration and also allows for individual grading. These inquiries will culminate in class presentations but may have a written component as well. Research for this project will be conducted throughout the quarter, with mid-term meetings with the instructors to gauge progress.

## Class Policies

**Attendance**

You are expected to attend each class and lab section. If the absence is planned (e.g. in religious observance), you should write your Teaching Assistant at least one week before the absence. If the absence is un-planned, you should write your Teaching Assistant on the day of the absence. More than one missed session without notification will result in a point deducted from your participation grade.

**Office Hours**
We are here as a resource both in and outside of class! Come see us if you have questions, during our regularly scheduled office hours. If you cannot make them, please write us in advance to schedule another time, but please understand that we all have busy schedules so may not be as flexible as you would like.

**Make-up Exams**
No regular make-up exams will be given. Rescheduling will be considered on an individual basis **prior** to the exam date. The dates for the exams are posted on the course schedule, below. Please make travel plans accordingly. If you miss an exam, documentation verifying a medical or other emergency is required.

**Academic Integrity**
I personally support the GW Code of Academic Integrity. It states: "Academic dishonesty is defined as cheating of any kind, including misrepresenting one's own work, taking credit for the work of others without crediting them and without appropriate authorization, and the fabrication of information." For the remainder of the code, see: http://www.gwu.edu/~ntegrity/code.html.

**Extra credit:** There will be no extra credit assignments.

**Special Needs:** If you require accommodations for learning difficulties or physical disabilities, and you have official University acknowledgement of this condition, please see me as soon as possible to discuss appropriate arrangements. E-mailing/calling the day of an exam to notify me of your needs is NOT acceptable.

Any student who may need an accommodation based on the potential impact of a disability should contact the *Disability Support Services* office at 202-994-8250 in the Marvin Center, Suite 242, to establish eligibility and to coordinate reasonable accommodations. For additional information please refer to: http://gwired.gwu.edu/dss.

**University Policy on Religious Holidays:**

1. Students should notify faculty during the first week of the semester of their intention to be absent from class on their day(s) of religious observance;
2. Faculty should extend to these students the courtesy of absence without penalty on such occasions, including permission to make up examinations;
3. Faculty who intend to observe a religious holiday should arrange at the beginning of the semester to reschedule missed classes or to make other provisions for their course-related activities. [NOTE: for GW policies on teaching, see http://www.gwu.edu/~academic/Teaching/main]

**SCHEDULE**
***Assignments and readings are due in class, unless specified as an 'in class' activity***

**Week 1. Introduction and Principles of Animal Behavior**

- Readings: Chapters 1-4, Primer of Conservation Behavior

**Week 2 and 3. Principles of Animal Behavior**

- Readings: Chapters 11-12, Primer of Conservation Behavior
- Assignment: Find and read primary research article on foraging or space use in one of the following journals: *Animal Behaviour, Behavioral Ecology*, or *Conservation Biology*. Hand-in summary of article, including 2-3 sentence on the methods, results, and interpretation.

**Week 4 and 5. Principles of Conservation Biology**

- Readings:
  1. Chapters 1-3 in Groom et al., Principles of Conservation Biology.
  2. Myers N, Mittermeir RA, Mittermeier CG, da Fonseca GAB, and J Kent. 2000. Biodiversity hotspots for conservation priorities. *Nature*, 403: 853-858
  3. Noss R. 2007. Values are a good thing in conservation biology. *Conservation Biology* 21: 18-20.
  4. Peterson MN, Peterson MJ, and TR Peterson. Conservation and the myth of consensus. *Conservation Biology* 19: 762-767.

**Week 6 and 7. Role of Animal Behavior in Conservation**

- Readings:
  1. Chapters 5-7, Primer of Conservation Biology
  2. Angeloni L, Schlaepfer MA, Lawler JJ, and KR Crooks. A reassessment of the interface between conservation and behavior. *Animal Behaviour* 75: 731-737.
  3. Caro T. 2007. Behavior and conservation: a bridge too far? *Trends in Ecology and Evolution* 22: 394-400.

**Week 8. Case Studies: The Effect of Policy on Wildlife Species**

- **Midterm exam**
- Groups assemble, group projects discussed and initiated
- Readings:
  1. Orr, D. 1991. Politics, conservation, and public education. *Conservation Biology* 5: 10-12.
  2. Beardsley K, Thorne JH, Roth NE, Gao S, and MC McCoy. Assessing the influence of rapid urban growth and regional policies on biological resources. *Landscape and Urban Planning* 93: 172-183.

**Week 9. Wildlife in Developing Countries 1**

- Readings:
  1. Castelletta M, Sodhi NS, and R Subaraj. 2000. Heavy extinctions of forest avifauna in Singapore: Lessons for biodiversity conservation in Southeast Asia. *Conservation Biology*, 6: 1870-1880.
  2. Dobson A, Borner M, Sinclair T, et al. 2010. Road will ruin Serengeti. Nature, 467: 272-273.
  3. de Merode E, Homewood K, and G. Cowlishaw. 2004. The value of bushmeat and other wild foods to rural households living in extreme poverty in Democratic Republic of Congo. *Biological Conservation*, 118: 573-581.
- During week: Students meet with instructors about their group projects.

**Week 10. Wildlife in Developing Countries 2**

- Readings:
    1. Student choice. Read and summarize one IUCN guideline for conservation of a particular species or a conservation plan for a developing country. IUCN guidelines can be found at: http://www.iucn.org/knowledge/publications_doc/publications/

**Week 11. Introduction to Urban Wildlife Issues**

- Readings:
    1. Chapter 10, Primer of Conservation Biology.
    2. Dearborn, DC and S Kark. 2009. Motivations for conserving urban biodiversity. *Conservation Biology* 24: 432-440.
    3. Ditchkoff SS, ST Saalfeld, and CJ Gibson. Animal behavior in urban ecosystems: Modifications due to human-induced stress. *Urban Ecosystems* 9: 5-12.
- **Assignment: Research Paper due by 3 pm on Monday.**

**Week 12. Case Studies in Urban Wildlife**

- In-class activity: We will discuss Chicago's 2040 Green Infrastructure vision and the potential ramifications for urban wildlife and people.
- Readings:
    1. Hu Y and GC Cardoso. Which birds adjust the frequency of vocalizations in urban areas? *Animal Behaviour* 79: 863-867.
    2. Loss SR, Ruiz MO, and JD Brawn. Relationships between avian diversity, neighborhood age, income, and environmental characteristics of an urban landscape. *Biological Conservation* 142: 2578-2585.
    3. Donlan J, et al. 2005. Re-wilding North America. *Nature* 436: 913-914.
    4. Stolzenberg, W. 2006. Where the wild things were. *Conservation in Practice* 7: 28-33.

**Week 13. Group Projects Completion and Presentation**