

## BIOC62H 2013 The Role of Zoos in Conservation

<b>Lecturers:</b>	Staff of the Toronto Zoo
<b>Course coordinator:</b>	Professor Malcolm Campbell ( <a href="mailto:malcolm.campbell@utoronto.ca">malcolm.campbell@utoronto.ca</a> )
<b>Tutorial assistant:</b>	Ms Rebecca Paul ( <a href="mailto:rebecca.paul@utoronto.ca">rebecca.paul@utoronto.ca</a> )
<b>Lectures:</b>	Wednesdays 11:00 - 1:00 in BV 260
<b>Tutorials (4 total):</b>	Thursdays 4:00 - 6:00 in AA 208 Fridays 10:00 - noon in AC 332
<b>Office hours:</b>	By appointment
<b>Exclusions:</b>	None
<b>Prerequisites:</b>	BIOB50H (Ecology) & BIOB51H (Evolutionary Biology)
<b>Required text:</b>	Hosey G, Melfi V, and Pankhurst S. 2009. <u>Zoo Animals: Behaviour, Management &amp; Welfare</u> . Oxford University Press, Oxford. 661 pp. ISBN 978-0-19-923306-9.

### Course Description

A lecture/discussion course that examines the role of zoos in conservation, with an emphasis on contemporary topics such as: the involvement of zoos in *in situ* and *ex situ* conservation; captive breeding and re-introduction of species; new technologies to assist reproduction in wild populations; the importance of nutrition and behavioural enrichment in captive animals; zoos and animal health and welfare; zoos and public involvement/education; and the role of zoos in wildlife research.

### Evaluation

<b>Midterm test</b>	<b>25%</b>
(on lecture and tutorial materials, including required readings, <u>up to test date</u> )	
<b>Essay</b>	<b>25%</b>
(due February 25th at noon. Penalty for late submission is 10% per day of maximum mark available for assignment)	
<b>Tutorial participation</b>	<b>15%</b>
<b>Final exam</b>	<b>35%</b>
(cumulative, on all lecture/tutorial materials, but with emphasis on post-midterm material)	

### Essay

The essay topic this year will be defence of the following statement: "Zoos and/or botanical gardens play a crucial role in the conservation of animal and/or plant species". Your essay should be a critical examination of the topic, and should make use of specific examples of animals and/or plants to support your critique. Your essay can focus on one specific animal or plant to support your position, if you would find this easier. Regardless, the essay must have the structure of a peer-reviewed position paper (i.e., published in Trends in Ecology & Evolution), and, as such, must properly reference peer-reviewed literature. Maximum length

is 15 pages, double-spaced, including tables and figures. More details on the essay will be provided on Blackboard. The **submission deadline is 12:00 noon, on February 25<sup>th</sup>, 2013 (in Room SW544).**

### Required reading & background reading

Lecture readings are provided below. You are expected to read this material before the lecture and/or tutorial indicated. Knowledge of the textbook material will be expected for the mid-term and final examinations. The readings will comprise chapters from the following text, which is available from the UTSC Bookstore.

- Hosey G, Melfi V, and Pankhurst S. 2009. *Zoo Animals: Behaviour, Management & Welfare*. Oxford University Press, Oxford. 661 pp. ISBN 978-0-19-923306-9.

Background readings are provided to supplement course material. This material will not be included on mid-terms or exams. These sources include the following list, and other material may be posted on the intranet.

- *Toronto Zoo Conservation, Education and Research Activities Report 2010-2011* (Zoo will provide copies for all students enrolled)
- Toronto Zoo - [www.torontozoo.com/conservation](http://www.torontozoo.com/conservation)
- Association and Zoos and Aquariums - [www.aza.org](http://www.aza.org)
- World Association of Zoos and Aquariums - [www.waza.org](http://www.waza.org)

### Lecture Schedule

(1) Wednesday January 9<sup>th</sup>

**Introduction, including course details**

**Lecturers:** Professor Malcolm Campbell, UTSC; Rebecca Paul, UTSC

**Required Reading:** Chapters 1, 2 & 10

(2) Wednesday January 16<sup>th</sup>

**Conservation, Education and Research at the Toronto Zoo, an overview; an update on the Giant Panda project; and the role of zoos and aquaria in international conservation.**

**Lecturer:** Dr. William A. Rapley, Executive Director, Conservation, Education and Wildlife, Toronto Zoo, and Adjunct Faculty Member, UTSC

**Recommended reading:** Toronto Zoo Conservation, Education and Research Activities Report 2010-2011

**Required reading:** Chapters 3 & 10 (in Chapter 3, focus on “International”, not UK)

(3) Wednesday January 23<sup>th</sup>

**The “visible” zoo: Visit to the Toronto Zoo**

**Bus leaves UTSC at 11:05h sharp, and returns from Zoo to UTSC at 12:45 sharp.**

**Required Reading:** Chapters 5 & 6

- (4) Wednesday January 30<sup>th</sup>  
**Canadian Organization for Tropical Education and Rainforest Conservation (COTERC) – Toronto Zoo in Costa Rica.**  
**Lecturer:** Tom Mason, Curator of Birds and Invertebrates, Toronto Zoo  
**Recommended reading:** Toronto Zoo Conservation, Education and Research Activities Report 2010-2011
- (5) Wednesday February 6<sup>th</sup>  
**Part I: Animal health in zoo collections and conservation programs.**  
**Lecturer:** Dr. Graham Crawshaw, Senior Veterinarian, Toronto Zoo  
**Part II: Wildlife Health Research: Avian bornavirus in waterfowl.**  
**Lecturer:** Dr. Pauline Delnatte, Veterinary Research Fellow, Toronto Zoo  
**Required reading:** Chapter 11
- (6) Wednesday February 13<sup>th</sup>  
**Case studies in amphibian and reptile conservation: integration of biology, culture and community based social marketing.**  
**Lecturer:** Bob Johnson, Curator of Reptiles and Amphibians, Toronto Zoo  
**Required reading:** Chapter 14
- (7) Wednesday February 27<sup>th</sup>  
**Aquatic conservation in practice.**  
**Lecturer:** Cindy Lee, Curator of Fishes and Marine Invertebrates, Toronto Zoo
- (8) Wednesday March 6<sup>th</sup>  
**Reproductive Management in Zoo Species: health, welfare and genetic preservation.**  
**Lecturer:** Dr. Gabriela Mastromonaco, Curator of Reproductive Programs & Research, Toronto Zoo  
**Required reading:** Chapters 7 & 9
- (9) Wednesday March 13<sup>th</sup>  
**Captive breeding and recovery of two critically endangered mammals at the Toronto Zoo.**  
**Lecturer:** Maria Franke, Curator of Mammals, Toronto Zoo  
**Required reading:** Chapters 4 & 9
- (10) Wednesday March 20<sup>th</sup>  
**What do you do with 100,000 endangered species? The conservation challenges facing botanical gardens.**  
**Lecturer:** Dr. David Galbraith, Head of Science, Royal Botanical Gardens
- (11) Wednesday March 27<sup>th</sup>  
**Zoo nutrition programs, and the preservation and feeding of browse to zoo animals.**  
**Lecturer:** Jaap Wensvoort, Nutritionist, Toronto Zoo  
**Required reading:** Chapters 8 & 12

(12) Wednesday April 3<sup>rd</sup>

**Education programming at zoos: inspiring action and changing behaviour.**

Lecturers: Heather House, Manager of Education, Toronto Zoo; Steve Jones, Education Programs Coordinator, Toronto Zoo; and Kelly Bentley, Supervisor of Volunteer Services and Programs, Toronto Zoo

**Required reading:** Chapters 13 & 15

## Tutorials

There will not be a tutorial every week, but it is expected that students will use the tutorial time when there is not a tutorial to read the required readings. Each tutorial that is scheduled will run for up to 2 hours. The tutorial will have a structured format in which ideas, opinions, data, and interpretation of the topic can be aired. Students will be divided into groups, and group members will each present group thinking throughout the term. Each student is expected to contribute, and therefore will be expected to have (minimally) read the required readings. Marks will be assigned for participation in tutorials.

## Tutorial Schedule

**(1) The visible versus “invisible” zoo. Compare and contrast the facets of zoo operations, using the Toronto Zoo as a case study.**

**Section 1:** Thursday, January 31<sup>st</sup> from 4:00-6:00 pm in AA 208

**Section 2:** Friday, February 1<sup>st</sup> from 10:00-noon in AC 332

**Required reading:** Chapters 5 & 6

**(2) Zoos as centres for research & health care for animal conservation**

Section 1: Thursday, February 14<sup>th</sup> from 4:00-6:00 pm in AA 208

Section 2: Friday, February 15<sup>th</sup> from 10:00-noon in AC 332

**Required reading:** Chapters 10, 11 & 14

**(3) Ethical debate tutorial, based on the balance between conservation & animal welfare**

**Section 1:** Thursday, March 7<sup>th</sup>, 4:00-6:00 pm in AA 208

**Section 2:** Friday, March 8<sup>th</sup>, 10:00-noon in AC 332

**Special participants:** Conservation, Education and Wildlife staff, Toronto Zoo

**Required reading:** Chapters 7 & 10

**Required assignment:** You and your group should prepare a 5 minute debate argument around the following resolution: “Be it resolved that benefits conferred by zoos for animal conservation are not negated by issues related to animal welfare”. You and your group should work together to develop two cases: one case in favour of the resolution, and one case against the resolution. Your group will be called upon to present one or the other case in the tutorial.

**(4) Behind the scenes tour of the Toronto Zoo**

**Section 1:** Thursday, March 14<sup>th</sup>. Bus departs at 4:05 pm sharp.

**Section 2:** Friday, March 15<sup>th</sup>. Bus departs at 10:05 sharp.

**(5) Zoos in the press: Contemporary issues related to the role of zoos in conservation**

Section 1: Thursday, March 21<sup>st</sup> from 4:00-6:00 pm in AA 208

Section 2: Friday, March 22<sup>nd</sup> from 10:00-noon in AC 332

**Special participants:** March 21: Maria Franke, Curator of Mammals, Toronto Zoo;  
March 22: Eric Cole, Manager of Wildlife Care, Toronto Zoo

**Required reading:** Chapters 4, 7, 8, & 10

**Required assignment:** You and your group should choose and read 2 popular press articles concerning animal welfare and/or conservation related to zoos. In tutorial your group should make a presentation indicating how these press articles relate to the material you have learned in the course, and how they underscore real or perceived issues related to the role of zoos in conservation.

#### (6) The future of zoos

Section 1: Thursday, April 4<sup>th</sup> from 4:00-6:00 pm in AA 208

Section 2: Friday, April 5<sup>th</sup> from 10:00-noon in AC 332

**Required assignment:** You and your group will make a presentation indicating what zoos will look like in the future. Don't be afraid to think "outside the box".

<b>Special Dates</b>
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February 18<sup>th</sup> – 22<sup>nd</sup> - **READING WEEK** - no lectures

TBA (likely the week following Reading Week) - **MIDTERM EXAMINATION** - based on all material prior to Reading Week

Monday February 25<sup>th</sup>, 12:00 noon, SW544 - **ESSAY DUE**

TBA - **FINAL EXAMINATION** - in examination period and based on material in the entire course.