DEPARTMENT OF BIOLOGY

BIOLOGY 346B WILDLIFE ECOLOGY AND MANAGEMENT - 2013

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Co-Instructor: Ted Barney tbarney@longpointwaterfowl.org Phone: 519-586-3531, ext 151

Lab Demonstrators: Everett Hanna ehanna23@uwo.ca
Taylor Finger tfinger@uwo.ca
Katelyn Weaver kweaver@uwo.ca
Philip Wilson pwilso27@uwo.ca
Lena Vanden Elsen lvandene@alumni.uwo.ca

Primary 2012 TA Responsibilities – please contact the appropriate TA for course and lab enquiries

Everett Hanna – Marking LETTER TO THE EDITOR and contact for all LAB-RELATED questions
Lena Vanden Elsen – Marking LAB MIDTERM and LECTURE FINAL
Taylor Finger – Marking LAB FINAL and answering all related questions
Katelyn Weaver – Answering all LECTURE- and WEBSITE-RELATED questions
Philip Wilson – Marking LECTURE MIDTERM and answering all related questions

Lectures: NS 1 Tuesday and Thursday, 1:30-2:30pm

Lab: CHEM 380 Wednesday 2:30 - 5:00 pm (TA: Philip Wilson)
11:00 am – 1:30 pm (TA: Taylor Finger)
Thursday 8:30 - 11:00 am (TA: Katelyn Weaver)
2:30 – 5:00 pm (TA: Everett Hanna)
Friday 9:00 - 11:30 am (TA: Lena Vanden Elsen)

Prerequisite: Biology 283a

Required Texts: Class notes, lab notes, lab schedule, Letter to the Editor instructions, and lecture readings are on the course website:


Optional Texts: Field Guide to the Birds of North America (National Geogr. Society)¹
A Field Guide to the Mammals (Burt and Grossenheider)²
Research & Management Techniques for Wildlife & Habitats (Book-out)
The Birds of Canada (Godfrey)
Birds of North America (Robbins et al.)
A Field Guide to the Birds of Eastern North America (Peterson)

¹ It is recommended that you have one field guide for birds and one for mammals - both can be purchased at the UWO Bookstore. However, excellent photos and information can also be found on the web if you would prefer not to buy field guides. You are also welcome to use a digital camera in lab.
**Lecture Topics:**

1/ Definition and historical development.
2/ Techniques, e.g. censuses, aging/sexing criteria.
3/ Population biology, e.g. reproductive rates, mortality, carrying capacity, population surplus.
4/ Harvest effects and management, e.g. additive vs. compensatory mortality, regulations.
5/ Predation and predator management, e.g. predator/prey relations.
6/ Habitat loss, e.g. agriculture, forestry practices.
7/ Habitat management and conservation, e.g. extensive vs intensive management techniques.
8/ Impacts of exotic species and the re-introduction of native species.
9/ Economics of wildlife, e.g. positive values of wildlife, costs of wildlife.
10/ Current wildlife issues / wildlife in the news
11/ Guest speakers

**Lab:**

See attached lab schedule and species list included in your lab notes. You will not be expected to memorize Scientific Names (Genus or Species) of any of the species but you are required to know the Common Name, Class, Order, and Family for each species. You are also not expected to memorize the clutch sizes of individual species; however, you will be expected to know the range of clutch sizes (and litter size for mammals) for each of the families of birds and mammals presented in the lab. A sample lab exam is provided at the back of the lab notes so that you will be aware of the type of questions that will be asked.

Videos will be shown during select lab sessions -these films provide excellent supplementary information that will be useful for the lab and lecture component of the course. **NB:** there will be bonus questions on lab exams that cover material presented in the videos.

Because of the amount of material covered in labs, it is strongly advised that you make full use of your 2.5 hour lab period. You are also responsible for all information provided during lecture (including guest speakers), as well as all assigned readings (see course website). **However, the purpose of the readings is for you to read through the papers and glean the most important information, e.g., purpose of the study and major conclusions.**

**Letter to the Editor**

Each student will be required to write a “Letters to the Editor” – (refer to attached instructions).

**Evaluation:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Date and Time</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Lecture: Midterm Exam</td>
<td>08 February (7 – 9pm, location TBA)</td>
<td>20%</td>
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<tr>
<td>Final Exam</td>
<td>Date and location TBA</td>
<td>40%</td>
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<tr>
<td>Letter to the Editor</td>
<td>14 March (due in class)</td>
<td>10%</td>
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<tr>
<td>Lab: Midterm Exam</td>
<td>01 March (7 – 9pm, location TBA)</td>
<td>15%</td>
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<tr>
<td>Final Exam</td>
<td>29 March (7 – 9pm, location TBA)</td>
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**NOTE – Lecture and Lab Midterm Exams are OPTIONAL**

If students miss either exam they will be required to write a CUMMULATIVE FINAL. Cumulative class and lab finals will be held on the same date and at the same location as the regularly scheduled finals.
Scholastic offences are taken very seriously and students are directed to read the policy at:

http://www.uwo.ca/univsec/handbook/appeals/scholastic_discipline_undergrad.pdf

Plagiarism is unacceptable and is considered a major offence by the university. All required papers are subject to submission for textual review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between the University of Western Ontario and Turnitin.com (http://www.turnitin.com).

Accessibility Statement
Please contact the course instructor if you require material in an alternate format or if you require any other arrangements to make this course more accessible to you. You may also wish to contact Services for Students with Disabilities (SSD) at 661-2111 x 82147 for any specific question regarding an accommodation.
# BIOLOGY 3446b - 2013 LAB SCHEDULE

<table>
<thead>
<tr>
<th>Date</th>
<th>Lab</th>
<th>Activity</th>
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<tbody>
<tr>
<td>January 9, 10, 11</td>
<td></td>
<td>No lab</td>
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<tr>
<td>January 16, 17, 18</td>
<td>Lab 1</td>
<td>Waterfowl (ducks, geese and swans)</td>
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<tr>
<td>January 23, 24, 25</td>
<td>Lab 2</td>
<td>Waterfowl</td>
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<tr>
<td>Jan 30, 31, Feb 1</td>
<td></td>
<td>No Lab</td>
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<tr>
<td>Feb 6, 7, 8</td>
<td>Lab 3</td>
<td>Gamebirds (grouse, quail, shorebirds and pigeons)</td>
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<td>February 13, 14, 15</td>
<td>Lab 4</td>
<td>Raptors (hawks and owls) and Passerines (songbirds)</td>
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<tr>
<td>February 20, 21, 22</td>
<td></td>
<td>No Lab Reading week</td>
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<tr>
<td>Feb 27, 28, Mar 1</td>
<td>Lab 5</td>
<td>Review (labs 1-4)</td>
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<tr>
<td>March 1</td>
<td></td>
<td>Midterm Exam Midterm Lab Exam (covers labs 1-4)</td>
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<tr>
<td>March 6, 7, 8</td>
<td>Lab 6</td>
<td>Mammals (hares and rabbits, rodents, carnivores-bears, raccoon)</td>
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<tr>
<td>Mar 13, 14, 15</td>
<td>Lab 7</td>
<td>Mammals (carnivores- mustelids, canids, felids) Video</td>
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<tr>
<td>March 20, 21, 22</td>
<td>Lab 8</td>
<td>Mammals (marine and hoofed mammals) and “pests” and problem wildlife species Video</td>
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<tr>
<td>March 27, 28, 29</td>
<td>Lab 9</td>
<td>Review (labs 6-8)</td>
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<tr>
<td>April 5</td>
<td></td>
<td>Final Exam Final lab exam (covers labs 6-8)</td>
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List of Assigned Readings - 3446b - Wildlife Ecology and Management

Politics, History and Responsibilities
1/ Rigor in wildlife education: where the rubber hits the road
2/ What is wildlife management
3/ Evolution of people-wildlife relations
4/ Waterfowl management: yesterday and tomorrow
5/ The relationship of gender to species conservation attitudes

Techniques
1/ Aging white-tailed deer by tooth replacement and wear: A critical evaluation of a time-honored technique
2/ Tooth extractions from live-captured white-tailed deer
3/ Observer bias and analysis of gray wolf diets from scat
4/ Evaluation of deterrent techniques and dogs to alter behavior of “nuisance” black bears.
5/ Comparison of VHF and satellite telemetry for estimating sizes of wolf territories in Alaska
6/ Evaluating line transects to monitor gray squirrel populations
7/ Use of satellite telemetry for monitoring movements of coyotes: a pilot study
8/ Scent-station indices as measures of population abundance for bobcats, raccoons, gray foxes, and opossums
9/ Stable isotopes in elephant hair document migration patterns and diet changes

Population Biology
1/ Morphological responses of white-tailed deer to a severe population reduction
2/ Female survival rates in a declining white-tailed deer population
3/ Effects of jet aircraft overflights on parental care of Peregrine Falcons
4/ Reproductive strategies, success, and mating systems of Northern Bobwhite in Missouri
5/ Waterfowl response to zebra mussels on the Lower Great Lakes
6/ Dynamics of the Double-crested Cormorant on Lake Ontario

Harvest
1/ Effect of hunting and trapping on wildlife damage
2/ A controlled archery deer hunt in a residential community: cost, effectiveness, and deer recovery rates
3/ Nontraditional techniques for management of overabundant deer populations
4/ Urban deer contraception: the seven stages of grief
5/ Effects of short duration, high intensity hunting on elk wariness in Michigan

Predation
1/ Lynx response to changing snowshoe hare densities in central Alberta
2/ Duck nest success in the Prairie Pothole Region
3/ Effect of coyote predation on early fawn survival in sympatric deer species
Habitat Loss
1/ Migratory movements of the Nelchina caribou herd in relation to the trans-Alaska pipeline
2/ Deer-moose relationships on a burn in northeastern Minnesota
3/ Farming intensity of waterfowl breeding grounds in Saskatchewan parklands
4/ Effects of clear-cutting on gray squirrels
5/ An embarrassment of riches: Too many geese
6/ The early bear gets the goose: climate change, polar bears and lesser snow geese in western Hudson Bay

Habitat Management
1/ Effects of forest management on density, survival, and population growth of Wood Thrushes
2/ Response of Northern Harriers and Short-eared Owls to grassland management in Illinois
3/ Effects of corn food plots on Wild Turkeys in the Upper Mississippi Valley
4/ Manipulation of grazing to improve or maintain wildlife habitat
5/ Management of deer wintering areas in New Brunswick
6/ Problems facing wildlife habitat management on Canadian forest lands
7/ Principles for management of aquatic breeding amphibians

Stocking and Introductions
1/ Status of gray wolf restoration in Montana, Idaho, and Wyoming
2/ Reintroduction and post-release movements of Red-cockaded Woodpecker groups in eastern Texas
3/ Potential dangers of exotic waterfowl introductions
4/ Comparative post-release behavior and survival of wild, semi-wild, and game farm Northern Bobwhites
5/ Mute Swans make noise: Lower Great Lakes population scrutinized

Economics of Wildlife
1/ Understanding wildlife constituents: birders and waterfowl hunters
2/ Perception of American agricultural producers about wildlife on their farms and ranches
3/ Review of human injuries, illnesses, and economic losses caused by wildlife in the United States
4/ Using economics in defense of wildlife
5/ Compensation programs for wildlife damage in North America
6/ Monetary and intangible valuation of deer in the United States
Public opinion pertaining to wildlife-related issues is generally formulated from non-peer-reviewed media such as newspaper and magazine articles. While the media is one of the most effective and efficient ways of informing the public about important issues, these articles can be contentious and sometimes ill-informed and somewhat biased. One of the purposes of this course is to spark your interest in wildlife-related issues and to have you form your own opinion about key issues pertaining to wildlife management. Therefore, we strongly suggest that you begin to read newspaper and magazine articles pertaining to wildlife related issues, and in doing so, develop your own opinions. The ultimate purpose of this exercise is to have you write a “Letter to the Editor” of a major newspaper and/or magazine in response to an issue that has recently been addressed. For instance, you could write a letter of rebuttal pertaining to a management action (or lack thereof) that has been proposed for a certain species, population or habitat. Alternatively, you could write a letter of support for an issue that you feel you have substantial information to add. Your letter should include a brief review of what is known about the topic you have chosen. You should then address the controversies and dilemmas associated with the situation and then provide a strong argument (with supporting evidence) for your opinion on the topic. Letters should be based on fact and not on emotion! Your letter should present your informed OPINION (i.e., take a ‘yes’ or ‘no’ stance and support it with pertinent information).

We suggest that you select an issue that has been recently addressed in one of the following major papers or popular magazines (but you are not limited to these papers or magazines), and then write a letter (refute or support) to the editor on your chosen issue:

The National Post
The Globe and Mail
The Toronto Star
The London Free Press
Ontario Out of Doors Magazine
FON Magazine (publication of The Federation of Ontario Naturalists)

Your letter could be of local or provincial importance (such as the management of ‘nuisance’ black bears in northern Ontario) or of national or international importance (such as the spread of Chronic Wasting Disease in North America). Once you have selected a topic, you should read a number of pertinent articles (newspaper and journal articles) to ensure that you are fully informed of the issue at hand and to develop the framework for your argument. You should not cite these references in your letter, but you must include a reference list on a separate page. There are many wildlife-related issues occurring right now and many of them could affect you directly. Consequently, we suggest you chose one that is of particular personal interest to you. This project should help you to become more aware of how wildlife-related issues influence society and how difficult (actually impossible) it is to achieve consensus when addressing contentious issues.

Due Date: 14 March (hardcopy in class and electronic copy to Turnitin.com)
Value: 10% - you will lose one mark out of 10 (or 1% of your final course grade) for each day that letters are late (includes weekend days).
Length: 400 to 800 words (less is more)
Style & Structure: Must be written in letter format (i.e., “Dear Editor,” and “Sincerely,”) and double spaced. Must include a copy of the original article (recent web-based articles are acceptable). Submit the entire page so that we know the date and location of the original letter. Must have a separate reference page, which includes at least five references (can be from websites, but two MUST be from peer-reviewed journals). Include a title page with your name and student number at the bottom of the page. Must submit one hardcopy in class and one electronic copy to Turnitin.com
**BONUS:** Although you are not required to submit your letter to a magazine or newspaper for publication, if you do get your letter published in one of the above papers/magazines you will receive up to a 5% bonus on top of your final course grade – grade will depend on the quality of the article and the newspaper. You must submit the newspaper/magazine article by the last day of class to show proof of your publication and receive bonus marks. **There will be no bonus marks for articles posted in online newspapers.**

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