

**APPLIED BIOLOGY/CONSERVATION 495**

**PRINCIPLES OF WILDLIFE MANAGEMENT IN FOREST AND AGRICULTURAL ENVIRONMENTS**

**Sessions:** Wednesday 10:00 -12:00  
Room: FSC 1222

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Office hours: T 10:00 – 12:00

**Timetable:**

1. **January 6**  
Introduction – Wildlife management in BC
2. **January 13**  
Wildlife management, natural history, and human conflicts
3. **January 20**  
Overabundance I – Population dynamics
4. **January 27**  
Overabundance II – Communities and ecosystems
5. **February 3**  
Dave Bradbeer – “Waterfowl and Agriculture on the Fraser River Delta: Conflict and Opportunity in Wildlife Conservation and Sustainable Agriculture”
6. **February 10**  
Rodent population dynamics and pest management
  
- February 17 and 24**  
READING BREAK
  
7. **March 3**  
Gregg Howald – “Eradication of Invasive Species on Islands”  
Rats and native fauna on islands
8. **March 10**  
Wildlife - human conflicts in Africa: Carnivores and conservation
9. **March 17**  
Jake Goheen – “Native and Domestic Ungulates and Tree Recruitment in Africa”
10. **March 24**  
Large mammal extinctions and re-wilding
11. **March 31**  
Hunting issues and compensation programs
12. **April 7**  
Ecological and professional ethics
13. **April 14**  
Ethics, environment, and philosophy

## **PRINCIPLES OF WILDLIFE MANAGEMENT IN FOREST AND AGRICULTURAL ENVIRONMENTS: THE APPLIED SCIENCE OF OVERABUNDANCE**

*Description:* This course focuses on the analysis of population dynamics of overabundant wildlife species and their impacts on forest- and agro-ecosystems. It covers a variety of topics exploring the impacts of wildlife on crop productivity in temperate and tropical environments, the history of rodent pests, the resiliency of wildlife populations to conventional control methodology, adoption of innovative methods to reduce crop damage, and the impact of introduced species on native faunas. Class datasets will be available for analysis and preparation of detailed technical/scientific reports. Readings, interactive instructor-class discussions, and student-led discussions comprise the weekly class time.

### *Learning Outcomes:*

- 1) Improve critical thinking about issues and problems.
- 2) Develop an understanding of how scientific research is used to solve problems and provide objective input into management decisions.
- 3) Organize large datasets for analysis and synthesis.
- 4) Use standard statistical analyses to evaluate datasets to help solve problems.
- 5) Prepare detailed scientific/technical reports on data and experience generated from field projects.
- 6) Discuss the impact of overabundant wildlife on ecosystems and the ecological and socio-economic constraints to solving these problems.
- 7) Discuss the approaches to managing wildlife with respect to animal welfare concerns.
- 8) Develop a vision of what the earth's future might be with respect to wildlife – human conflicts .....

*Class Projects:* There will be two class projects:

PROJECT 1 – Population Dynamics of Montane Voles and Deer Mice in Old Field and Apple Orchard Habitats

PROJECT 2 – Life after the Beetle: Northern Flying Squirrel and Red Squirrel Populations 30 years after Salvage Harvesting of Lodgepole Pine Forests

Projects 1 and 2 will have class datasets that will be available to form the basis of report preparation. These data are to be analyzed and written up as a report by each student with the following format:

Abstract or Summary  
 Introduction  
 Materials and Methods  
 Results  
 Discussion  
 Management Implications  
 Literature Cited  
 Tables  
 List of Figures  
 Figures

This format is for a scientific paper or detailed technical report. There are no page limits but 20-30 pages (typed, double-spaced) would probably be an average length. Students may work in groups or individually, but each student prepares a report. All references must come from credible sources: peer-reviewed scientific journals and in some cases, reports by government agencies.

Evaluation will be based on two written reports and participation in class discussions: this includes attendance and demonstrated knowledge of assigned readings. There are no exams.

Reports	(1) 35%	Due date: March 3
	(2) 35%	Due date: April 7
Discussion	30%	
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	100%	