

# *EFB 390: Wildlife Ecology and Management*

## **Syllabus Fall 2024**

**Lecture:** Tues & Thurs 2:00-3:20, Illick 5

**Recitations:** Tues 3:30-4:25 (Baker 310), Tues 5:00-5:55 (Baker 314),  
Wed 3:45-4:40 (Baker 314), Thurs 8:00-8:55 (Baker 314)

**Instructor:** Dr. Elie Gurarie

**Office:** Illick 206

**Office hours:** Thursday 3:30-4:30 and by appointment

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**TAs:** Sydney Opel ([slopel@esf.edu](mailto:slopel@esf.edu)) and Colton Moyer ([cmoyer@esf.edu](mailto:cmoyer@esf.edu))

Office hours and locations TBA.

### **COURSE DESCRIPTION:**

This is a broad, foundational course. The overarching goal is to make students familiar with fundamental topics in wildlife ecology and management.

Wildlife *ecology* is an extremely complex science, that explores themes like population dynamics, behaviors, space use, disease, habitat, trophic interactions, that is studied with a suite of rapidly evolving tools – field observations, advancing technology, statistics and modeling.

Wildlife *management* places all the complexity of wildlife ecology into a sloppy social, political, historical, ethical and legal realm. Most professional “wildlife” managers will openly admit that they spend much more time trying to manage *people*.

In this course, we will introduce methods, theories, concepts, and contemporary research topics in wildlife ecology, placing these into the very human inflected context of management.

We will hopefully also get you even more interested in wildlife ecology than you maybe already are! It is my opinion that there is no better or more interesting job than being a wildlife ecologist.

### **COURSE LEARNING OBJECTIVES/OUTCOMES:**

- Understand fundamental concepts in wildlife ecology and ecological theory, such as population dynamics, wildlife-habitat relationships, limiting factors, surveying and estimation, wildlife statistics.
- Develop and hone research skills – especially building a bibliography, understanding and synthesizing peer reviewed literature and grey literature on wildlife ecology and management.
- Develop some rudimentary skills in R programming and statistical tools for fitting and interpreting commonly used models in wildlife ecology.
- Learn to establish and maintain a camera trap study.
- Become familiar with the historical context and current (conflicting) philosophies of wildlife management, how these apply to past, present, and future approaches to wildlife research and management.

- Become familiar with the human dimensions of wildlife ecology and management including the role of social, economic, and political dimensions through analysis and synthesis of research articles, popular press articles, reports, and other media, and discussions.
- Synthesize concepts in wildlife ecology, wildlife and habitat management, policy, and human dimensions components to describe, understand, and consider solutions to contemporary wildlife conservation and management challenges, using evidence-based approaches.

## COLLEGE LEARNING OUTCOMES

Scientific Reasoning | Quantitative Reasoning | Communication Skills  
 Technological and Information Literacy (Zotero!) | Basic programming and statistics (R!)  
 Values, Ethics and Diverse Perspectives | Critical Thinking | Collaborative work

## TEXTBOOKS AND SUPPLIES:

There is no required textbook in this class, though a few texts can be recommended. There will, however, be many readings assigned – book chapters, scientific articles, population articles, “grey literature,” some seminal readings. All materials will be made available on the course Blackboard page. All lectures (and other important materials) will be most reliably available on the course website: <https://eliguarie.github.io/EFB390/>. Bookmark this page!

## ATTENDANCE POLICY:

This course will **primarily** cover material that does not appear in your assigned readings or other out-of-class materials. Thus, you should make an effort to attend all classes. If you must be absent for a class, consult with me beforehand and make sure to obtain class notes from a classmate.

We strongly encourage you to make sure to come to class prepared. If you come to class consistently, come prepared having completed any assigned reading or viewing, and pay attention, you are highly likely to succeed in learning the concepts and knowledge I am hoping for you to learn and earning a grade you are satisfied with.

Also – visit us, all of us, at office hours (or at other times)! We love to talk about this stuff.

## GRADING STRUCTURE

Your grade will be based on 1 (or 2) quizzes, weekly assignments (including several group projects during the semester), and a final major project + final group presentation.

Assignment	Grade Percentage
Weekly Assignments	35%
Exams (2)	30%
Final project + presentation	25%
Participation + engagement	10%
<b>Total</b>	<b>100%</b>

Academic dishonesty non-discrimination and inclusive excellence, and others, can be found in the ESF student handbook (<https://www.esf.edu/students/handbook/>).

**TENTATIVE CLASS SCHEDULE [GL – indicates “Guest Lecture”]**

Module	Date	Day	Topic
<b>I. Background</b>			
	Aug 27	Tues.	Basics and Definitions
		<i>Recitation</i>	<i>Wildlife in the News</i>
	Aug 29	Thurs.	Library Science and Research (GL: Jennifer Nace)
	Sep 3	Tues.	Human-Wildlife History - Part I
		<i>Recitation</i>	<i>Referencing and Bibliographies</i>
	Sep 4	Thurs.	Human-Wildlife History - Part II
<b>II. Estimation and Sampling</b>			
	Sep 10	Tues.	Counting Animals - Part I
		<i>Recitation</i>	<i>Survey Methods + Camera Trap Deployment</i>
	Sep 12	Thurs.	Counting Animals - Part II
	Sep 17	Tues.	Counting Animals - Sampling Uncertainty
		<i>Recitation</i>	<i>Flag Abundance + Data Entry</i>
	Sep 19	Thurs.	Mark-Recapture (with GL: Ophélie Couriot)
<b>III. Ranges and Habitats</b>			
	Sep 24	Tues.	Distributions and Ranges
		<i>Recitation</i>	<i>Count data analysis (R lab I)</i>
	Sep 26	Thurs.	Niches and Habitats
	Oct 1	Tues.	Modelling just about anything I
		<i>Recitation</i>	<i>Wildlife Statistics (R lab II)</i>
	Oct 3	Thurs.	Modelling just about anything II
	Oct 8	Tues.	Exam Review
		<i>Recitation</i>	<i>AIC Symposium Prep</i>
	Oct 10	Thurs.	Mega symposium of mini-talks on delta AIC in Wildlife Ecology
	Oct 15	Tues.	<b>NO CLASS   NO RECITATION</b>
	Oct 17	Thurs.	<b>Exam I</b>
	Oct 22	Tues.	Habitat Management for Wildlife (GL TBD)
		<i>Recitation</i>	<i>ID'ing, Storing and Managing Camera Trap Data</i>
<b>IV. Populations</b>			
	Oct 24	Thurs.	Population Growth + Limits to Growth
	Oct 29	Tues.	Population Structure
		<i>Recitation</i>	<i>Estimating Population Growth (R Lab 3)</i>
	Oct 31	Thurs.	Movement Ecology
	Nov 5	Tues.	Wildlife Disease (GL TBD)
		<i>Recitation</i>	<i>Structured Populations (R Lab 4)</i>
<b>V. Models of Management*</b>			
	Nov 7		North American Model of Wildlife Conservation
	Nov 12		NAMCO in Practice: (GL Josh Millsbaugh)
	Nov 14		Indigenous Perspectives: (GL TBD)
<b>VI. Wildlife Management in Practice</b>			
	Nov 19		Furbearer management (GL TBD)
	Nov 21		Waterfowl Management (GL TBD)
	Nov 26-28		<b>NO CLASS   NO RECITATION</b>
	Dec 3		New York State / Adirondack Issues (GL TBD)
	Dec 5		Exam Review
	Dec 10		<b>Exam 2</b>
	Finals Week (TBD)		<b>Final Project Presentations</b>

\* For the majority of the last third of the class, recitations will be devoted to guided progress on final projects.

**IMPORTANT NOTE:** I retain the right to change anything at any time! In practice this is nearly always to the benefit of the students.

**Additional Important Information:**

**Religious holy days:** Students who miss coursework due to the observance of a religious holy day will be given the opportunity to complete the work missed within a reasonable time after the absence, provided that the instructor is notified in advance (notify the course instructor at least 2 weeks prior to the class or an exam that will be missed).

**Scholastic dishonesty:** Students must act with integrity in accordance to ESF's Code of Academic Integrity.

**Common courtesy:** Turn cell phones off, put on silent mode, or whatever it takes to keep them quiet. No texting, emailing, etc. during lecture. Please be on time.

**Disability Services:** SUNY-ESF works with the Office of Disability Services (ODS) at Syracuse University, who is responsible for coordinating disability-related accommodations. Students can contact ODS at 804 University Avenue-Room 309, 315-443-4498 to schedule an appointment and discuss their needs and the process for requesting accommodations. Students may also contact the ESF Office of Student Affairs, 110 Bray Hall, 315-470-6660 for assistance with the process. To learn more about ODS, visit <http://disabilityservices.syr.edu>. Authorized accommodation forms must be in the instructor's possession one week prior to any anticipated accommodation. Since accommodations may require early planning and generally are not provided retroactively, please contact ODS as soon as possible

**Diversity and Inclusion:** SUNY-ESF values diversity and inclusion; we are committed to a climate of mutual respect and full participation. Our goal is to create learning environments that are usable, equitable, inclusive and welcoming. If there are aspects of the instruction or design of this course that result in barriers to your inclusion or accurate assessment or achievement, we invite any student to meet with us to discuss additional strategies beyond accommodations that may be helpful to your success.