

# WILDLIFE ECOLOGY AND CONSERVATION BIOLOGY

## WLDL 458/658



Urban Ecology Center, Milwaukee, WI



A UWSP student photo of a hummingbird during a field course to Costa Rica. Ecotourism is popular in Costa Rica.

### Students will be able to:

1. Discuss concepts in conservation biology as they relate to local, national, and global issues.
2. Analyze problems encountered in the field of conservation biology.
3. Design, conduct, and present a wildlife ecology project on squirrels.
4. Collaborate with a team in person and/or in an online environment.
5. Discuss conservation biology issues with your peers.

Men argue.  
Nature Acts.

Voltaire

### Course Description and Objectives

Welcome to WLDL 458/658, Wildlife Ecology and Conservation Biology. This course will introduce you to the relatively young science of Conservation Biology and the issues that conservation biologists engage. From its roots, conservation biology was developed as a deeply collaborative discipline and as such the approaches used and the tools needed are widely varied. However, if there is a central theme that unifies conservation biology, it is the preservation of biological diversity and ecosystem function. To accomplish this, many stakeholders including scientists, corporations, governmental agencies, private land-owners, and others are invited to participate in the design and success of the various programs and studies.

Wisconsin was home to some of the founders of the field as we know it today. In fact, we are about an hour's drive from both the homestead of John Muir near Portage and the famous shack of Aldo Leopold near Baraboo. In addition to these western pioneers of the preservationist and conservationist ethics, the Native Americans in Wisconsin had already been practicing sustainable development through the principles of honorable harvest, which teaches to take only one you need, never more than half, and always leave a gift in return. I am excited to be back in-person this year! Please follow the [UWSP Covid-19 mask mandate found here](#). Students that are non-compliant will be asked to leave.

*DR. CHRISTOPHER YAHNKE*

**OFFICE TNR 346**  
[CYAHNKE@UWSP.EDU](mailto:CYAHNKE@UWSP.EDU)  
715-346-2455

**LECTURE: MW 8:00-  
8:50 TNR 352,**  
**DISCUSSION: W 2:00 –  
3:50 TNR 352**

**ZOOM/LIVE - OH  
BY APPOINTMENT  
OF FIND ME AFTER  
CLASS**

**I HAVE A FEELING THAT I MAKE A VERY GOOD FRIEND, AND I'M A GOOD MOTHER, AND A GOOD SISTER, AND A GOOD CITIZEN. I AM INVOLVED IN LIFE ITSELF-ALL OF IT. AND I HAVE A LOT OF ENERGY AND A LOT OF NERVE.**

*Maya Angelou*

## Assessment

There will be up to 400 points in this class\*. There will be a 50-point team oral presentation on a national collaborative squirrel behavior research project using Squirrel-Net. Each week you will be expected to read the portions of the textbook we will be discussing during class. You will write down some notes from the readings and upload these to Canvas. \*Each of these will be worth 5 points. There will be 20 of these due throughout the semester (100 point). You will get 5 points for turning them in, but you will not be punished for not turning them in. While the point is to complete this prior to the Live Zoom, you can continue to turn these in for full credit until the last day of the semester. There will be weekly midterm exams in this course. Each exam will consist of two essay questions worth 10 points each. There will be a 30-minute time limit for these exams, and you will only get one attempt. These exams are designed to evaluate your understanding of the concepts discussed that week. There will be 10 of these worth a total of 200 points. If you do the math, this is equivalent to having a 100-point midterm and a 100-point final. The other 50 points will consist of a series of challenges for you to complete based on the material we are covering. Challenges can be submitted multiple times until you are satisfied with your grade. There are due dates, but I will accept notes and challenges through the last day of the semester on May 13<sup>th</sup>.

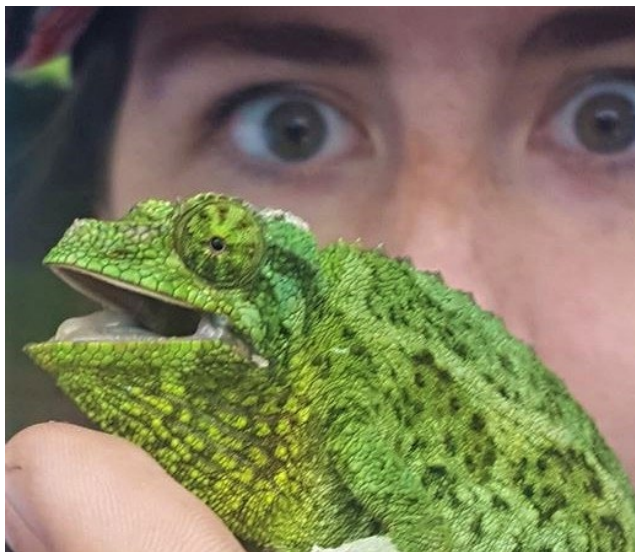
- 93-100 A
- 90-92 A-
- 88-89 B+
- 83-87 B
- 80-82 B-
- 78-79 C+
- 73-77 C
- 70-72 C-
- 68-69 D+
- 60-67 D
- <59 F



**Snapshot Wisconsin:** There are more than 1000 trail cameras throughout the state hosted by citizen volunteers. The data is used by the WDNR for species management plans. This buck was captured by the camera in Schmeckle Reserve in 2019.



**UWSP students work in a taro patch in the Waipio Valley during a field course to Hawaii in 2017.** Your effectiveness as a wildlife biologist will be improved if you are willing to work together with the stakeholders. Sometimes that means getting in the muck.



**UWSP student holds a Jackson's chameleon, an invasive species in Hawaii.** Biosecurity is a priority in delicate island ecosystems.

## Teamwork

**ONE MAN ALONE CAN BE PRETTY DUMB SOMETIMES, BUT FOR REAL BONA FIDE STUPIDITY, THERE AIN'T NOTHIN' CAN BEAT TEAMWORK.**

*EDWARD ABBEY*

## Research Presentation

The team presentation will be a study focusing on squirrel behavioral ecology. We will work on a national study of squirrel optimal foraging using Giving Up Densities. I will go over the details during the discussion sections where we can also put together teams. This will be challenging and interesting as we will collect the data prior to spring break so there will be snow on the ground. We will discuss the best way to do this as a class. There will also be a peer assessment portion to this assignment with team members assessing each other on contribution and participation throughout the semester.

## SYLLABUS SPRING 2022

Week	Topic	Pages in Conservation Biology
1 January 24 <sup>th</sup> January 26 <sup>th</sup>	Welcome Back The Rise of Conservation Biology Discussion: Teams	26-45
2 January 31 <sup>st</sup> February 2 <sup>nd</sup>  February 4-6 <sup>th</sup>	Biodiversity Concepts I Biodiversity Concepts II Discussion: Squirrel GUD experiment Midterm 1	54-66 67-77
3 February 7 <sup>th</sup> February 9 <sup>th</sup>  February 11-13 <sup>th</sup>	Global Patterns of Biodiversity I Global Patterns of Biodiversity II Discussion: Protected lands and biodiversity Midterm 2	82-91 92-113
4 February 14 <sup>th</sup> February 16 <sup>th</sup>  February 18-20 <sup>th</sup>	Values of Biodiversity I Values of Biodiversity II Discussion: Student led - State wildlife policies Midterm 3	118-137
5 February 21 <sup>st</sup> February 23 <sup>rd</sup>  February 25-27 <sup>th</sup>	Biodiversity and Ecosystem Services I Biodiversity and Ecosystem Services II Discussion: What's Next Challenge Midterm 4	141-158 159-180
6 February 28 <sup>th</sup> March 2 <sup>nd</sup>	Ecological Economics I Ecological Economics II Discussion: Student led – Pittman-Robertson Act	181-194 195-210
7 March 7 <sup>th</sup> March 9 <sup>th</sup>  March 11-13 <sup>th</sup>	Extinction I Extinction II Discussion: Student led – Lacey Act Midterm 5	215-229 230-245
8 March 14 <sup>th</sup> March 16 <sup>th</sup>  March 17-20 <sup>th</sup>	Habitat Loss I Habitat Loss II Discussion: Migratory bird policies Midterm 6	249-276 277-289
9 March 28 <sup>th</sup> March 30 <sup>th</sup>  April 1-3 <sup>rd</sup>	Overexploitation I Overexploitation II Discussion: Student led – International policies Midterm 7	293-326
10 April 4 <sup>th</sup> April 6 <sup>th</sup>	Invasive Alien Species I Invasive Alien Species II Discussion: Biosecurity – Hawaii Case Study	329-368
11 April 11 <sup>th</sup> April 13 <sup>th</sup>  April 15-17 <sup>th</sup>	Climate Change I Climate Change II Discussion: Stats with Jamovi Midterm 8	369-391 392-400
12 April 18 <sup>th</sup> April 20 <sup>th</sup>	Species-level Conservation I Species-level Conservation II Discussion: Stu led – Endangered Species Act	405-422 423-440 445-460
13 April 25 <sup>th</sup> April 27 <sup>th</sup>  April 29-May 1 <sup>st</sup>	Community and Ecosystem Conservation I Community and Ecosystem Conservation II Discussion: Presentations I Midterm 9	461-474
14 May 2 <sup>nd</sup> May 4 <sup>th</sup>	Landscape-level Conservation I Landscape-level Conservation II Discussion: Presentations II	479-496 497-519
15 May 9 <sup>th</sup> May 11 <sup>th</sup> May 13-15 <sup>th</sup>	Ex Situ Conservation I Ex Situ Conservation II Midterm 10	521-540 541-551

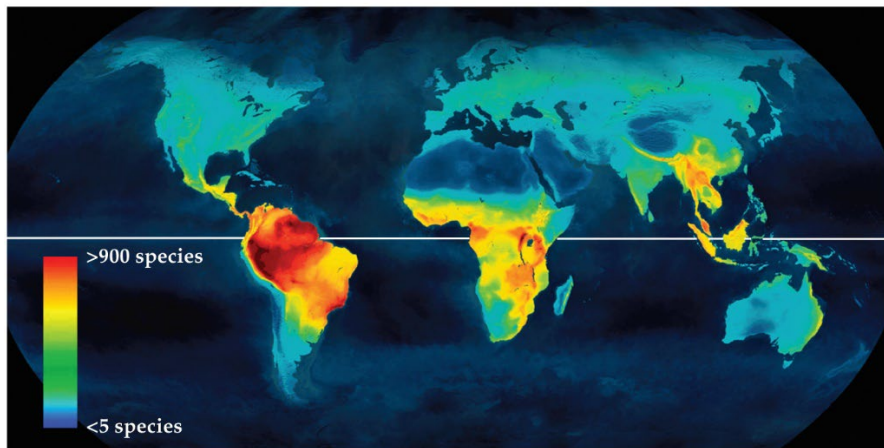
## UWSP RELEASES COVID-19 CAMPUS GUIDELINES

### Face Coverings:

- At all UW-Stevens Point campus locations, the wearing of face coverings is mandatory in all buildings, including classrooms, laboratories, studios, and other instructional spaces. Any student with a condition that impacts their use of a face covering should contact the [Disability and Assistive Technology Center](#) to discuss accommodations in classes. Please note that unless everyone is wearing a face covering, in-person classes cannot take place. This is university policy and not up to the discretion of individual instructors. Failure to adhere to this requirement could result in formal withdrawal from the course.

### Other Guidance:

- Please monitor your own health each day using [this screening tool](#). If you are not feeling well or believe you have been exposed to COVID-19, do not come to class; email your instructor and contact Student Health Service (715-346-4646).
  - As with any type of absence, students are expected to communicate their need to be absent and complete the course requirements as outlined in the syllabus.
- Maintain a minimum of 6 feet of physical distance from others whenever possible.
- Do not congregate in groups before or after class; stagger your arrival and departure from the classroom, lab, or meeting room.
- Wash your hands or use appropriate hand sanitizer regularly and avoid touching your face.
- Please maintain these same healthy practices outside the classroom.



Based on P. D. Mammion et al. 2014. Trends Ecol Evol 29: 42-50, with data from C. N. Jenkinson et al. 2013. Proc R Soc Lond B Biol Sci 280: 20121100. E2610.

CONSERVATION BIOLOGY 2e, Figure 2.19  
© 2019 Oxford University Press

Figure 4.8 in our textbook perfectly illustrates the implication of Rapoport's Rule known to many conservation biologists. With smaller species ranges near the equator, more species can coexist and therefore you find higher biodiversity as you move from higher latitudes to lower latitudes.

## SCIENCE

### EDUARDO RAPOPORT: HE SHOULD BE IN OUR BOOK

Eduardo Rapoport (1927-2017) was an Argentinian ecologist known widely for his work in soil biology, invasive species ecology, urban ecology, and biogeography, and is best known for Rapoport's Rule. Rapoport's Rule states that latitudinal ranges of plants and animals are generally smaller at lower latitudes (i.e. near the equator) than at higher latitudes (i.e. closer to the poles). As a professional you may have the opportunity to attend national and international meetings and listen to a variety of presentations and speakers in your field. In my professional career, two of these among the hundreds stand out as truly special. In 1995, at the Annual Meetings of the American Society of Mammalogist in Burlington, Vermont, I heard Ernst Mayr (he was 91 at the time), one of the greatest evolutionary biologists of the 20<sup>th</sup> century, give an intimate talk on his career. In 2007, at the International Mammalogical Congress in Mendoza, Argentina, I heard Eduardo Rapoport (he was 80 at the time) give a talk in Spanish on his career as an ecologist, much of it living in exile in Venezuela. In both cases you could hear a pin drop. In both cases the audience hung on every word and understood that this was a once in a lifetime moment. I hope each of you have those moments in your careers.

[HTTPS://WWW.UWSP.EDU/REGREC/PAGES/STUDENT-SCHEDULE.ASPX](https://www.uwsp.edu/regrec/pages/student-schedule.aspx)

**JOBS**

## Top 10 Skills Employers Want in College Graduates in 2020

**NATIONAL ASSOCIATION OF COLLEGES AND EMPLOYERS**

Career services practitioners should advise their college students seeking full-time employment after graduation to craft a well-written resume. Why? In part, because employers responding to NACE’s Job Outlook 2019 survey said they will seek evidence of solid written communication skills on their candidates’ resumes.

When NACE asked employers participating in its *Job Outlook 2019* survey which skills and qualities—beyond a strong GPA—they most want to see on students’ resumes, more than four out of five indicated written communication skills, making it the most sought-after attribute this year. (See Figure 1.)

Problem-solving skills and an ability to work as part of a team are also highly desired.

Attributes showing more significant movement this year are initiative and leadership. Initiative, which was eighth on the list last year, has rocketed to fourth. Nearly three-quarters of respondents are seeking it on resumes this year.

Leadership, on the other hand, has dropped from the fourth most sought-after attribute last year to the seventh this year (tied with verbal communication skills). Other highly valued attributes that employers want to see evidence of on resumes this year include analytical/quantitative skills and a strong work ethic.



**Graduation Day: It’s weird. You’ve been in school since you were six and now you have to get a real job. You’ve been practicing skills the entire time you were in college, but can you communicate those to a potential employer?**

