

## Bi 374: Conservation Biology.



Sp22.

**Message from Dr. Debbie Schlenoff:** I am committed to our course—to experiencing our course material together, learning, questioning, and growing as a class community. Some overall goals:

- Be challenged to learn about the amazing biodiversity on our planet.
- Practice scientific literacy skills, which are cross-cutting, transferable skills.
- Develop life-long skills including reflection, organization, analysis, focus, self-discipline, and communication.
- Engage in ethical dialogue that widens our perspectives and deepens our knowledge.
- Affirm our hopefulness about the future by endeavoring to understand the world around us.

I recognize that many of us are experiencing difficulties in our lives that include concern for our physical and mental health as well as the health and safety of loved ones. Many of us are facing unprecedented uncertainty along with stress, anxiety, and fear. Please do not hesitate to contact me if you are facing challenges that affect your participation in this course. I will do my best to support you.

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## Teaching Team

**Instructor:** Dr. Debbie Schlenoff [schlenof@uoregon.edu](mailto:schlenof@uoregon.edu)

*Office Hrs:* following class meetings on Mondays and Wednesdays and by appointment.

**GEs/Discussion Leaders:**

Angelique Allen [vallen@uoregon.edu](mailto:vallen@uoregon.edu)

Claire Goodfellow [cgoodfel@uoregon.edu](mailto:cgoodfel@uoregon.edu)

**BULAs** (Undergraduate Teaching Associates):

Lance Casey [lcasey@uoregon.edu](mailto:lcasey@uoregon.edu)

Amanda Kreppel [akreppel@uoregon.edu](mailto:akreppel@uoregon.edu)

## Course Description:

**Conservation Biology** is a multidisciplinary, applied science devoted to preserving the remaining biological diversity of our planet. We will study the foundational concepts and principles of conservation biology and use case studies to illustrate these principles in practice. We will examine the causes and consequences of diversity losses; the genetic and evolutionary consequences of small populations; population viability modeling, and other tools. We will discuss approaches to conserving diversity including reserve design, corridors, captive breeding, species reintroductions, conservation legislation, and strategies where we live and farm. The prerequisite for this course is either Bi213 or Bi253.

## Course Objectives

- Learn the fundamental principles and concepts of conservation biology.
- Apply these principles to conservation strategies for species and ecosystem management.
- Identify the causes of biodiversity loss.
- Explain the repercussions of small populations.
- Analyze strengths and weaknesses of varying conservation strategies and tools.
- Describe conservation where we live and work (agriculture, urban conservation)
- Independently and collaboratively research and evaluate conservation issues and actions.
- Improve scientific literacy skills such as analyzing journal articles.
- Improve science communication skills.
- Contribute to habitat restoration.
- Contribute to public input on legislative and regulatory decisions.
- Examine how conservation biology relates to our own lives.
- Gain an appreciation for the diversity of the natural world!

## Technical Requirements

**Website:** All Course documents, readings, and assignments will be posted on the Canvas Course Website. No textbook is required. For each week of the term, links to content, assignments, and sources will be posted in the Weekly Modules. Please see the Welcome Module for course information and links to resources.

If you have questions about accessing and using Canvas, visit the [Canvas support page](#). Canvas and Technology Support also is available by phone or live chat:

541-346-4357 | [livehelp.uoregon.edu](https://livehelp.uoregon.edu)

For Zoom support:

<https://service.uoregon.edu/TDClient/2030/Portal/KB/ArticleDet?ID=101392>

## Course Format

Each week, the Canvas site will contain recordings, readings, and documents to deliver content and explain assignments. All links are in weekly Canvas modules.

***Start with the Weekly Overview*** posted in each week's module.

**Lectures:** We will meet in the classroom (*CHILES 128*) for lecture on Mondays and Wednesdays 12:00-1:20 pm. For most meetings, there are two requirements to prepare for lecture: (1) a narrated content recording to learn some fundamentals of the topic and (2) a reading from the scientific literature to delve into a case study. Class time will be used to expand upon the knowledge based on the recordings, to discuss case studies and examples, to examine research methodology, and to explore questions. We will accomplish this both as a whole class and in small group discussions in the classroom.

**Discussion Sections:** We will meet in the classroom (*FRIENDLY 214*) for Discussion Sections on Thursday mornings. Some sections involve an assignment for preparation—these will be noted on Canvas.

There is no textbook; readings (mostly from scientific journals) will be posted on Canvas. There are no midterm or final exams in this class, although there is a final essay. There is a term project and smaller assignments (including short essays, reading questions, discussions, and quizzes) to help foster deeper consideration of the material and showcase your learning.

Through this structure, we will foster **interactive learning at three levels:**

\*Student & student   \*Student & instructor   \*Student & course material

**Meetings:** Please make a genuine effort to attend the scheduled classes and discussion sessions. This is where we can interact to establish community and develop ideas about conservation biology. Active participation can be more rewarding than passively reading and watching recordings. **“Participation”** can take many forms including when students raise their hand, ask and answer questions, contribute input to small group and whole class discussion, answer “reflection” questions, etc.

## **Office Hours:**

We are here to help guide your learning and help you succeed during the course. We are available during office/chat hours to answer questions about this course or provide additional resources. We invite you to visit with us, so we can meet you and learn more about your interests. Office hours and Zoom links are posted in the Welcome Module: “Communicating with the Teaching Team.” Note the GE office hours: you may attend any that fit your schedule even if it is not the GE leading your discussion section. Office Hours are a great way to make connections with faculty and graduate students, which may be helpful when you need future letters of recommendation or academic advice. I will stay in the classroom after each of our class meetings to speak with anybody who wants to ask questions or discuss their interests or concerns. Generally, I will start with group office hours immediately following class and then meet individually with anybody who desires to chat further. I am happy to schedule meetings at other times via Zoom. I am also available to answer questions via email and will check in on the Canvas Discussion Board “Class Question and Answers.” Do not hesitate to email me with any questions or concerns.

*Talking with you is something I value. Confused or excited about something? Wondering how what we’re learning relates to current events, career choices, or other classes you can take UO? Please be in touch! Please also be in touch to tell me how you are doing in the course. If you are having trouble with some aspect of it, I would like to strategize with you. I believe every student can succeed in this course, and I care about your success.*

## **How will your grade be calculated? Grading Evaluation**

- Lecture Participation: 10% (typically involving short written reflections)
  - Discussion sections (Participation + Section Assignments): 12%
  - Weekly reading questions: 12%
  - Weekly quizzes (Eight quizzes, Drop lowest): 14%
  - Assignments including mini-projects, Canvas discussion posts, etc.: 8%
  - Term paper: Total 24%
    - Draft and peer review: 3%
    - Abstracts and Q&A (format canvas discussion posts): 3%
    - Term Paper 18%
  - Service-learning Project 5%
  - “Take Action” project: 5%
  - Final Essay Recovery Plan: 10%
- Total = 100%*

## ***How you know you're learning (Assessment):***

**Assignments and Discussion Posts:** All links will be available in the weekly Canvas module. Several assignments and Canvas posts involve multiple parts as well as research, reading, or reflection so please give yourself plenty of time to get them done. Please answer all parts of the posted prompts. Due dates will be noted in the Canvas Module—either in preparation for Thursday's discussion section or as indicated on Canvas. If an assignment involves responding to a Canvas discussion post, you will have 48 hours to reply to the posts of two of your classmates.

**Reading Questions:** We will read relatively short articles from the scientific literature that are associated with each lecture. Reading questions will be posted on Canvas and answers should be submitted *before* the time of our scheduled meetings (noon on Mondays and Wednesdays). During the first week of classes, no scientific articles associated with lecture will be assigned although we will discuss a reading in discussion sections on Thursday. We will not use a textbook this term.

**Quizzes:** Weekly quizzes will be posted in Canvas Quizzes mid-week and due by Friday at 11:59pm. The quizzes will allow for review over the entire week and will cover content from pre-recorded narrated slides and class meetings, readings, and learning activities for the week. You may access class materials to answer the questions but do not use outside sources. The lowest score will be dropped.

**Term Paper Project:** Each of you will independently research a topic in conservation biology that results in an individually-written six to seven page term paper, submitted via Canvas through its anti-plagiarism software program (due week 7). In the paper, you will synthesize information from the scientific literature to address a question, problem, or idea. The paper will include (1) an explanation of several research studies on this topic (2) an analysis of two data graphs from your sources and (3) recommendations on how to address the problems described. You will also post an abstract of your paper on Canvas and will be expected to comment on some of your colleagues' abstracts and respond to questions from other students in the class. More details about the project requirements will be provided in class and on Canvas.

### **Service Learning Project: Participation and write-up**

You will do a short service project (approximately 2 hours) and write a one-page reflection about your work and how it relates to conservation concepts. A separate information sheet will provide details. Write-ups are due within one week of your event.

**“Take Action”** - opportunity to write letters to legislators and policy makers on conservation related issues.

**Final Essay Recovery Plan:** An opportunity to synthesize some of the strategies we have discussed to write up a recovery plan for an endangered species. Details to be announced. Due Friday of week 10.

**Class Participation:** Community means a lot to us. Please be prepared to participate in self-reflection, group work, and class discussions. Participation includes respect for your learning community by being on time and prepared, and by directing your attention toward our discussions and activities.

***If you are not able to do an assignment or must miss more than two classes, please communicate with me and we will strive to create an alternative plan to complete required coursework. If we need to make changes to the schedule or activities, we will let you know as far in advance as possible.***

### ***A few things to help you succeed in this course***

- Complete the content recordings and reading questions *before* class so you have the foundation to fully engage.
- Participate and engage in every class and learning activity.
- Ask questions- stay after class, ask questions during class, email, use the Canvas “Class Questions and Answers” discussion forum.
- Use a planner. Keep track of all your assignments and transfer everything to your personal calendar throughout the term so there are no surprises. The weekly overviews really help. Allocate regular, recurring blocks of time for each class. Explicitly build in time for exercise, eating, sleeping, and socializing.
- Plan for the week’s activities: Although due dates for each activity are posted in Canvas, note that many of them involve multiple parts or reading/research that cannot be done right before the deadline. For each week, read the overview and plan accordingly. Any assignments associated with discussion sections are due before the first section at 9:00am on Thursday. Most other activities (mini-projects, papers, assignments, discussion posts) are due by Friday night. The peer review and discussion forum replies should occur within 48 hours of the due date of the posted assignments and so are due by Sunday nights.
- Begin work early, well before the due date. Allow extra time. Break up assignments into parts so as not to be overwhelmed. Start planning your projects early.
- For some people, it may be easier to watch the recordings and get the readings, assignments, etc. all done by Sunday in preparation for the week ahead. Others might do each separately before the due dates.
- Tailor your work environment to avoid distractions and promote engagement. Try not to multitask. (Humans are much worse at this than we think.)
- Study material over several relatively short sessions with repeated review. It’s easy to lose focus if you try to do too much at once. Interacting with the material is a good way to learn it. Don’t just read it- Write it, explain it, and discuss it. Studies have shown that writing things down (rather than typing) helps with internalizing and retaining information.

In addition to these tips, read: *Welcome Module: Tips for Success*

## Course Policies

**Academic integrity:** The University Student Conduct Code defines academic misconduct, which includes unauthorized help on assignments and examinations and the use of sources without acknowledgment. Academic misconduct is prohibited at UO. I will report misconduct to the Office of Student Conduct and Community Standards—consequences can include failure of this course. I will ask you to certify that your submissions and papers are your own work. You are expected to do your own work on homework assignments, projects, and quizzes. When writing up your homework assignments, papers, etc., submit original work for this course. Students may not submit papers that they have submitted in other courses. You are expected to paraphrase (use your own words) and give credit to the sources of your information. You are encouraged to discuss ideas with each other and to study together, but don't copy someone else's work, or allow them to copy yours. Quizzes are administered in Canvas and untimed. I have designed them with the expectation that you will have access to course materials when you take them—and that's just fine. Note that you do not have permission to post any course related material on outside private or public websites (i.e. coursehero, chegg, groupme, etc.). Academic dishonesty is so unfair to your fellow students who are working to achieve their course goals. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures.

### **Class Courtesy:**

Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the quarter so that I may address you properly.

Open inquiry, freedom of expression, and respect for differences are fundamental to a comprehensive and dynamic education. We are committed to upholding these ideals by encouraging the exploration, engagement, and expression of divergent perspectives and diverse identities. Classroom courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender, gender variance, and nationalities. Our classroom is a learning environment, and as such should be a safe, inclusive and respectful place. Being respectful also includes using preferred pronouns for your classmates. Disrespecting fellow students as well as combative approaches, tones and/or actions are not acceptable. Please make me aware if there are classroom dynamics that impede your (or someone else's) full engagement.

The University of Oregon is working to create inclusive learning environments. Please notify me if there are aspects of the instruction or design of this course that result in disability-related barriers to your participation. You are also encouraged to contact the Accessible Education Center at 541-346-1155 or [uoac@uoregon.edu](mailto:uoac@uoregon.edu).

As the university community adjusts to teaching and learning in the context of the COVID-19 pandemic and other world events, course requirements, deadlines, and grading percentages are subject to minor adjustments. I will be mindful of the many

impacts the unfolding events may be having on you. Though attendance and participation is valued, we will allow make-up activities if you need to miss more than two sessions. During this unusual time, I encourage you to talk with me about what you are experiencing so we can work together to help you succeed in this course.

**We want to support your learning**

If you are having a problem that interferes with your ability to do the work in this class, please tell us about it as soon as you can. We may be able to refer you to someone for help or to make special arrangements if the need is real and if you have done your best to deal with the situation in a timely manner.

**TENTATIVE COURSE SCHEDULE:**

This is an abbreviated version. Read the weekly overview in Canvas Modules to find out what the activities are for each week.

Details on readings and assignments, etc. can be found in the Weekly Modules, the Canvas “To Do” bar, and on the Canvas course calendar.

The following tentative content schedule is a work in progress and is subject to change.

WK	<u>LECTURE TOPICS</u>	DISCUSSION SECTION (Thursdays)
<b><u>PART I: Identifying the Problems</u></b>		
1	<p><b>3/28 L:</b> Introduction to Conservation Biology.</p> <p><b>3/30 L:</b> Biodiversity, Species concepts.</p> <p><b>Discussion Post: Introduce yourself</b></p>	<p><b>3/31 Discussion intro.</b>  <b>Reading: Aldo Leopold essay posted on Canvas</b>  <b>Activity:</b>  <i>Discussion on What is wilderness?</i></p>
2	<p><b>4/4 L:</b> Approaches to Conservation, Ecosystem Services.</p> <p><b>4/6 L:</b> Threats to biodiversity I: Habitat loss &amp; fragmentation.</p>	<p><b>4/7 Assignment due.</b>  <i>Measuring biodiversity activity.</i> Prioritizing areas for conservation.</p>
3	<p><b>4/11 Guest speaker?</b></p> <p><b>4/13 L:</b> Threats II: Overexploitation, Invasive species</p>	<p><b>4/14 Invasive Species analysis.</b></p>



4	<p><b>4/18 L:</b> Threats III. Invasive species and Climate change.</p> <p><b>4/20 L:</b> Conservation genetics and the problems with small populations.</p> <p><i>Due Friday: term paper thesis with data figure and relevant citation</i></p>	<p><b>4/21</b> <i>Genetic Drift simulation.</i> <i>Assignment due.</i></p>
5	<p><b>4/25 L:</b> More problems with small populations: Allee effect and inbreeding, Stochasticity and <math>N_e</math>.</p> <p><b><u>PART II: Conserving Species.</u></b></p> <p><b>4/27 L:</b> Modeling: MVPs, PVA, Establishment Programs.</p> <p><i>Assignment: the problems with small populations essay and peer review</i></p>	<p><b>4/28.</b> <i>Activity: Corridors</i></p>
6	<p><b>5/2 L:</b> Protecting Species: Relocations.</p> <p><b>5/4 L:</b> Conservation Behavior and Wildlife Conflict, Wolves.</p> <p><i>Draft of term paper due for peer review.</i></p>	<p><b>5/5</b> <i>Activity: marine reserves</i></p>
<p><b><u>PART III: Conserving Ecosystems</u></b></p>		
7	<p><b>5/9 L:</b> Conserving Imperiled Species-- ESA and other laws protecting species.</p> <p><b>5/11 L:</b> Public lands/timber projects.</p> <p><b>Term paper DUE Friday</b> <i>See schedule for abstract postings and comments.</i></p>	<p><b>5/12.</b> <i>Activity: Mock Trial</i></p>
8	<p><b>5/16 L:</b> Protected areas and restoration.</p> <p><b>5/18 L:</b> Reserve planning, Corridors. Where to designate Protected Areas.</p>	<p><b>5/19</b> Organize and work on Endangered Species Group Project.</p>
9	<p><b>5/23 L:</b> Conservation in the Matrix.</p> <p><b>5/25 L:</b> Urban Conservation <b>Take Action Project</b></p>	<p><b>5/26</b> <i>Endangered Species Recovery Plan Group presentations</i></p>

	<i>Assignment: Conservation Colonialism</i>	
<b>10</b>	<b>5/30 Memorial Day Holiday. No Class.</b>  <b>6/1 L: Impact of Conservation Efforts and Conclusions.</b>  <b><i>Final Recovery Plan Essay due Friday.</i></b>	<b>6/2</b> <i>Share “Take Action” Projects.</i> <i>Review-game style.</i>

**CAMPUS RESOURCES TO SUPPORT YOUR LEARNING:**

**Mental Health and Wellness**

*Life at college can be very complicated. Students often feel overwhelmed or stressed, experience anxiety or depression, struggle with relationships, or just need help navigating challenges in their life. If you're facing such challenges, you don't need to handle them on your own--there's help and support on campus*

*As your instructor if I believe you may need additional support, I will express my concerns, the reasons for them, and refer you to resources that might be helpful. It is not my intention to know the details of what might be bothering you, but simply to let you know I care and that help is available. Getting help is a courageous thing to do—for yourself and those you care about.*

*University Health Services help students cope with difficult emotions and life stressors. If you need general resources on coping with stress or want to talk with another student who has been in the same place as you, visit the Duck Nest (located in the EMU on the ground floor) and get help from one of the specially trained Peer Wellness Advocates. Find out more at [health.uoregon.edu/duckiest](https://health.uoregon.edu/duckiest).*

*University Counseling Services (UCS) has a team of dedicated staff members to support you with your concerns, many of whom can provide identity-based support. All clinical services are free and confidential. Find out more at [counseling.uoregon.edu](https://counseling.uoregon.edu) or by calling 541-346-3227 (anytime UCS is closed, the After-Hours Support and Crisis Line is available by calling this same number).*

**See links in Welcome Module for more info and resources: [General Remote Education Resources: https://remote.uoregon.edu/](https://remote.uoregon.edu/)**

**Tutoring and Academic Engagement Center <https://engage.uoregon.edu/>**

**Accessible Education Center** The University of Oregon is working to create inclusive learning environments. If there are aspects of the instruction or design of this course that result in barriers to your participation, please notify us as soon as possible. You are also encouraged to contact the Accessible Education Center. If you are not a student with a documented disability, but you would like for us to know about class issues that will impact your ability to learn, we encourage you to come visit during office hours so that we can strategize how you can get the most out of this course. (541) 346-1155, <https://aec.uoregon.edu/>

**Center for Multicultural Academic Excellence (CMAE)** mission is to promote student retention and persistence for historically underrepresented and underserved populations. We develop and implement programs and services that support retention, academic excellence, and success at the UO and beyond. We reaffirm our commitment to all students, including undocumented and tuition equity students. Located on the 1<sup>st</sup> Floor of Oregon Hall (541) 346-3479, [cmae@uoregon.edu](mailto:cmae@uoregon.edu)

The **UO Access Shuttle** is an on-campus ride service provided at no cost to students with conditions that limit mobility. More information and a sign-up form can be found on the parking & transportation department website: <https://parking.uoregon.edu/content/access-shuttle>.

**Safe Ride 541-346-7433 ext 2** [pages.uoregon.edu/saferide](https://pages.uoregon.edu/saferide)

Safe Ride is an **assault prevention shuttle** that works to provide free, inclusive, and accessible alternatives to traveling alone at night for **UO students, faculty, and staff**.

## **Discrimination and Harassment**

### *Prohibited Discrimination and Harassment*

Any student who has experienced sexual assault, relationship violence, sex or gender-based bullying, stalking, and/or sexual harassment may seek resources and help at [safe.uoregon.edu](https://safe.uoregon.edu). To get help by phone, a student can also call either the UO's 24-hour hotline at 541-346-7244 [SAFE], or the non-confidential Title IX Coordinator at 541-346-8136. From the SAFE website, students may also connect to Callisto, a confidential, third-party reporting site that is not a part of the university.

Students experiencing any other form of prohibited discrimination or harassment can find information at [respect.uoregon.edu](https://respect.uoregon.edu) or [aaeo.uoregon.edu](https://aaeo.uoregon.edu) or contact the non-confidential AAEO office at 541-346-3123 or the Dean of Students Office at 541-346-3216 for help. As UO policy has different reporting requirements based on the nature of the reported harassment or discrimination, additional information about reporting requirements for discrimination or harassment unrelated to sexual assault, relationship violence, sex or gender based bullying, stalking, and/or sexual harassment is available at [Discrimination & Harassment](#).

### *Reporting*

The instructor of this class is a Student-Directed Employee. As such, if you disclose to me, I will respond to you with respect and kindness. I will listen to you, and will be sensitive to your needs and desires. I will not judge you. I will support you. As part of that support, I will direct students who disclose sexual harassment or sexual violence to

resources that can help. **I will only report the information shared to the university administration when you as the student requests that the information be reported** (unless someone is in imminent risk of serious harm or is a minor). Please note the difference between ‘privacy’ and ‘confidentiality.’ As a Student-Directed Employee I can offer privacy because I am not required to report certain information to the university. However, I cannot be bound by confidentiality in the same way that a counselor or attorney is. Confidential resources such as these means that information shared is protected by federal and state laws. Any information that I as a student-directed employee receives may still be accessed by university or court proceedings. This means, for example, that I could still be called as a witness or required to turn over any related documents or notes that I keep.

Please note also that I am required to report all other forms of prohibited discrimination or harassment to the university administration. Specific details about confidentiality of information and reporting obligations of employees can be found at [titleix.uoregon.edu](http://titleix.uoregon.edu).

#### *Mandatory Reporting of Child Abuse*

UO employees, including faculty, staff, and GEs, are mandatory reporters of child abuse. Child abuse pertains to individuals who are under the age of 18. This statement is to advise you that your disclosure of information about child abuse to the instructor may trigger my duty to report that information to the designated authorities. Please refer to the following links for detailed information about mandatory reporting: [Mandatory Reporting of Child Abuse and Neglect](#).

**Basic Needs: Any student who has difficulty affording groceries or accessing sufficient food to eat every day, or who lacks a safe and stable place to live and believes this may affect their performance in the course is urged to contact the Dean of Students Office (346-3216, 164 Oregon Hall) for support.**

The Student Sustainability Center also provides help including free “produce drops”.

<https://emu.uoregon.edu/sustainability>

*This UO webpage includes resources for food, housing, healthcare, childcare, transportation, technology, finances, and legal*

*support: <https://blogs.uoregon.edu/basicneeds/food/>*

**Please reach out!**

Please don't hesitate to reach out to me or to others on campus (see links above).  
schlenof@uoregon.edu