Course Syllabus: **Marine Conservation Biology**
University of Oregon | Oregon Institute of Marine Biology
Fall 2022 | BI 457/557, (5 Credits)

Instructor: Aldwin Ndhlovu (aldwinn@uoregon.edu); 458-230-1453
GTF: Kendall Smith (ksmith35@uoregon.edu)
Class Time: Fridays 8:30-15:00 (subject to minor adjustments, week to week)
Place:
Lectures/group and project work: Marine Birds and Mammals and connected classroom; many field trips; some guest speakers and remote conference attendance via Zoom.

Summary:

Marine Conservation Biology is the applied science behind the maintenance of biodiversity and the management of marine resources. We will examine prevailing dogma from diverse user groups through close examination of applied conservation case studies. Using readings, seminars, and field trips we will think critically and communicate effectively about the consequences of diversity loss at the levels of 'stocks' species, ecosystems, and genetics. We will assess threats to biodiversity (e.g. invasions, diseases, fishing, mineral extraction), and mechanisms for dealing with these risks, with an emphasis on marine reserves.

Learning Outcomes:

1) Students will gain an understanding of key issues in marine conservation biology via reading, discussion, lectures, and activities. [knowledge]
2) Comprehension of the topics will be demonstrated through active participation in group activities, discussions, a term review paper, which will be *peer-reviewed and 'published' in an internal course e-journal*, and a presentation. [synthesis, application, evaluation]
3) Conservation and the sustainable use of marine resources requires an ability to think and act collectively in broad and creative ways. An emphasis throughout the course will be building skills in collaboration and teamwork, with groups of varying sizes. [collaboration, synthesis]

Term Paper

Every student will write a brief term paper, which will go through the science 'publication' process, including anonymous peer review, revisions, and replies to reviewers/editors. Top ranked papers will be published in the course "e-journal" [see below]. The papers will be a literature review or synthesis of a topic relevant to marine conservation biology. Papers may also conduct novel analyses on existing data relevant to the topic. The paper will be prepared per the class journal guidelines (attached in the full syllabus). Students will need to announce their term paper topic by week 3. Papers will be submitted for consideration in the course journal Marine Environmental Issues Letters (MEIL). As a result of the peer review process, a portion of the submitted and revised papers may be 'published' in MEIL in the OIMB library and made available to future classes at OIMB.

Readings (and discontinued Topic-Discussions)

Each week's lecture or topic will have an associated assigned reading from the peer reviewed literature (see Table 1, below). More time and a greater proportion of the total course points are allocated to the term paper, final presentation, and field trips.

Course Modality

Each week will give 1-2 lectures (e.g., 30-45 min) on a core topic related to a major marine conservation topic or focused on communicating key concepts or methods/techniques for research.

These lectures will be given live in the Birds and Mammals Classroom. Lecture slides and notes will be made accessible to everyone so that if someone had to miss a class, they can go through them at any time to catch up on the content. Regardless of this, please note that this is an **in-person course**: that means that, unlike asynchronous online/WEB courses, we will meet during scheduled class meeting times. I will accommodate illness and absences as described below. If you need additional flexibility UO encourages you to consider WEB courses. If you need accommodation related to a medical or other disability, you can set those up through AEC (https://aec.uoregon.edu).

Therefore, please plan on attending lectures in real time, unless there are pandemic-related developments that require this to change **[see additional notes on this below in the 'special circumstances' section].**

How instructor(s) will communicate with you

Instructors will send regular updates about small adjustments to the class schedule through Canvas Announcements function. Make sure you receive notifications when we post new announcements. All of the course expectations, assignments, zoom links for class and office hours, readings, lecture notes, activities, and grading rubrics are posted within Canvas.

How you can communicate with the instructor(s)

The best way to communicate with both the instructor and the TA is directly via email. The email function within Canvas is not convenient. We are available during class hours, and we are both happy to meet with you individually. Please communicate your needs and we will work something out. Please cc both the instructor Aldwin **and** the TA Kendall on questions. We are both instructors and we will cc each other on our replies even if you don't, unless you are clear that you specifically want to only talk to one of us.

Guest Lectures with In-Person and Virtual Excursions

In this class will have several guest visits (some in person and some on zoom) designed to spark discussion with actual resource managers and conservation practitioners. In addition, we will do several field trips. We have a large class, so field trips will require complex collaboration with some students riding in OIMB vans and some students in personal cars with passengers. Field trips are designed to be low-key and entertaining visits designed simply to enrich your class experience, with no extra graded work for you. I'm really excited about the line-up, which includes so many diverse and exciting topics.

Course Text and Supplies:

There is no required course text. Readings will be from PDFs that are circulated on Canvas or provided in the classroom and library. A great, optional text relevant for this course is: **Marine Conservation Biology: The Science of Maintaining the Sea's Biodiversity** (Ed. Norse and Crowder), Island Press, 2005 (referred to as MCB in the schedule). The University of Oregon Library system has an e-book subscription to the content of this book, so you can access it for free.

The only supplies needed are a computer and internet for preparing presentations and writing your review paper. Please let me know if that will be a problem, I will work to accommodate you as much as I can.

Grading and Deadlines Description:

Grading will be based on following: Grading rubrics used to assess the assignments will all be available within Canvas. Also, see the Schedule table below for exact times (if not already indicated in this summary) and due dates. There are no exams in this course.

1) 60% - **Term Paper**

a. Term paper **topic** due (document with title, and paragraph of ~250 words and at least 5 cited references summarizing the goal of the paper) on Fri 7-Oct (end of wk 3).
b. **Intro** and **Methods** of term paper submitted by 11:59 pm on Fri 21-Oct (wk 4). NOTE: use the template format shown below and shared in Canvas or immediately lose 5 marks.
c. Draft of **Results** and **Discussion** due on Friday 4-Nov (wk 6).
d. **Completed** term paper submitted on Friday 18-Nov by 11:59 pm (wk 8). Deadlines are critical; if you are late it will hold up the peer-review process.
e. **Revisions/response** to peer review reply letter due 2-Dec at 11:59 pm (finals wk).
f. **Final, complete, submission**, meeting all journal guidelines and incorporating all reviews due 6-Dec at 11:59 pm (finals wk).

2) 30% - **Final Presentation** – Students will give a 15-minute PowerPoint presentation summarizing their research paper, presented in class on 9-Dec (Finals week).
3) 10% - **Class Participatory** – Students will get a maximum of 5 marks for each class discussion session for every reading/study assignment – make sure to read and engage in discussions.

Student Conduct Code:

All University of Oregon students are expected to follow the rules of the Student Conduct Code. These can be found at (http://policies.uoregon.edu/vol-3-administration-student-affairs/ch-1-conduct/student-conduct-code). Plagiarism is subject to the disciplinary process outlined in the code. Students are expected to be honest and ethical in their academic work. For example, you are all surely aware by now that there are many resources available to professors for passing writing through plagiarism filters. One of the goals of the class is to teach you how to write in a way that cites other work properly and provides correct attribution. If you have any uncertainty about how to do this, please just reach out to us as you are working through it so that we can avoid plagiarism.

Classroom Community Expectations:

All members of the class (both students and instructor(s) can expect to:

- General COVID guidelines: We are not required to maintain 6' physical distancing inside, but we are doing our best at OIMB to still set things up this way whenever possible. Stay home if you are sick, wash hands frequently, and watch for signs and symptoms of COVID with daily self-checks.
- Participate and Contribute: Students are expected to participate by sharing ideas and contributing to the collective learning environment. This entails preparing, following instructions, and engaging respectfully and thoughtfully with others. Together, we will establish more specific participation guidelines and criteria for contributions in our first weeks of the term.
- Expect and Respect Diversity: All classes at the University of Oregon welcome and respect diverse experiences, perspectives, and approaches. What is not welcome are behaviors or contributions that undermine, demean, or marginalize others based on race, ethnicity, gender, sex, age, sexual orientation, religion, ability, or socioeconomic status. We will value differences and communicate disagreements with respect. We may establish more specific guidelines and protocols to ensure inclusion and equity for all members of our learning community.
- Help Everyone Learn: Our goal is to learn together by learning from one another. As we move forward learning during this challenging time, it is important that we work together and build on our strengths. We are returning with a range of feelings about and comfort

with being in person, and this means we need to be patient with each other, identify ways we can assist others, and be open-minded to receiving help and feedback from others. No one should hesitate to contact me to ask for assistance or offer suggestions that might help us learn better.

Accessibility:

If there are aspects of the instruction or design of this course that result in disability-related barriers to your participation, please contact the instructors—your success and the success of your peers' matters. You are also encouraged to contact the Accessible Education Center in 164 Oregon Hall at 541-346-1155 or uoaec@uoregon.edu. The AEC offers a wide range of support services including note-taking, testing services, sign language interpretation and adaptive technology.

Absences:

The policy for attendance is that all students are expected to attend all classes. Missing more than one day of class is significant and may be problematic for your learning in this class. Because OIMB only meets 10 times a quarter, missing one or two days of class is much more significant than missing a couple hour lecture / labs. I cannot make up the field trips, class/group activities, or guest lectures but I will provide lecture slides in case you miss a class. I will do my best to accommodate absences associated with reasonable explanations (COVID, travel, sickness, other extenuating circumstances).

Academic Disruption:

In the event of a campus emergency that disrupts academic activities, course requirements, deadlines, and grading percentages are subject to change. Information about changes in this course will be communicated as soon as possible by email, and on Canvas. If we are not able to meet face-to-face, students should immediately log onto Canvas and read any announcements and/or access alternative assignments. Students are also expected to continue coursework as outlined in this syllabus or other instructions on Canvas. In the event that the instructor of this course has to quarantine, this course may be taught online during that time.

Flexibility under difficult circumstances:

In summary, I recognize that these are very difficult and upsetting times, in regards to climate change, systemic racism, and a deadly global pandemic. In light of this, I commit to working to make this course as accommodating as possible given the challenging circumstances we are currently experiencing. This can mean many things, but a few examples are:

- I am going to slightly relax my grading criteria and will give students the benefit of the doubt on grading when in a gray area.
- I will do my best to accommodate your schedule if you cannot make it to class.
- I am not doing "participation points" this year. It is up to you to decide what you will put into the class; what you will get out of my class is directly proportional to what you put in.
- You are expected to attend lectures and guest talks in person, but if something comes up for you and you can't make it every now and then, you can email me. If you just miss one or two lectures, I don't need to have any excuses or reasons. But I hope no one takes this flexibility too far. I will keep notes on attendance, and I'd like to know if you are going to miss >80% of the lectures/classes. If you do need to miss more than a couple of classes, I will still be happy to accommodate you within reason.
- I have adjusted my class to be as flexible as possible on deadlines, except for the few deadlines that require everyone to be on the same page (e.g., peer reviews, final products).
- Please let me know if anything is going on in your life that requires assistance. I don't need

to know details if you don't feel comfortable sharing. The following resources are available to you as a student.

- University Health Services or call (541) 346-2770
- University Counseling Center or call (541) 346-3277 or (541) 346-3227 (after hrs.)
- MAP Covid-19 Testing

Mandatory Reporter Status:

Your instructors are designated reporter/student-directed employee]. For information about our reporting obligations as employees, please see Employee Reporting Obligations on the Office of Investigations and Civil Rights Compliance (OICRC) website. Students experiencing any form of prohibited discrimination or harassment, including sex or gender-based violence, may seek information and resources at safe.uoregon.edu, respect.uoregon.edu, or investigations.uoregon.edu or contact the non-confidential Title IX office/Office of Civil Rights Compliance (541-346-3123), or Dean of Students offices (541-346-3216), or call the 24-7 hotline 541-346-SAFE for help. Your instructors are also mandatory reporters of child abuse. Please find more information at Mandatory Reporting of Child Abuse and Neglect.

Papers to read: (all are in the Canvas folder)

Marine Conservation: Science, Policy, and Management G. Carleton Ray, Jerry McCormick-Ray, Robert L. Smith Jr. is available as an ebook. You can add the following URL to an online syllabus: https://allianceuoregon.primo.exlibrisgroup.com/permalink/01ALLIANCE_UO/1j98102/cdi_askewsholts_vlebooks_9781118714430

Beaudreau AH, Ward EJ, Brenner RE, Shelton AO, Watson JT, Womack JC, Anderson SC, Haynie AC, Marshall KN, Williams BC. 2019. Thirty years of change and the future of Alaskan fisheries: Shifts in fishing participation and diversification in response to environmental, regulatory and economic pressures. Fish and Fisheries **20**:601–619.

Bik HM, Goldstein MC. 2013. An introduction to social media for scientists. PLOS Biology **11**:e1001535.

Brooks, Cassandra M., et al. 2020. "Reaching consensus for conserving the global commons: The case of the Ross Sea, Antarctica." Conservation Letters **13.1** 0: e12676.

Dinsmore SJ, Gaines EP, Pearson SF, Lauten DJ, Castelein KA. 2017. Factors affecting Snowy Plover chick survival in a managed population. The Condor **119**:34–43.

Lester SE, Gentry RR, Kappel CV, White C, Gaines SD. 2018. Opinion: Offshore aquaculture in the United States: untapped potential in need of smart policy. Proceedings of the National Academy of Sciences **115**:7162–7165.

Lee LC et al. 2021. Chiixuu Tll iinasdll: Indigenous Ethics and Values Lead to Ecological Restoration for People and Place in Gwaii Haanas. Ecological Restoration **39**:45–51.

Meyer MF, Powers SM, Hampton SE. 2019. An evidence synthesis of pharmaceuticals and personal care products (PPCPs) in the environment: imbalances among compounds, sewage treatment techniques, and ecosystem types. Environmental Science & Technology **53**:12961–12973.

Mumby PJ, Broad K, Brumbaugh DR, Dahlgren CP, Harborne AR, Hastings A, Holmes KE, Kappel CV, Micheli F, Sanchirico JN. 2008. Coral reef habitats as surrogates of species, ecological functions, and ecosystem services. Conservation Biology.;**22**(4):941-51.

Reisinger, Ryan R., et al. 2022. "Predator-derived bioregions in the Southern Ocean: Characteristics, drivers and representation in marine protected areas." Biological Conservation **272**: 109630.

Tinker TM et al. 2021. Elakha Alliance Sea Otter Reintroduction to Oregon Feasibility Study. https://www.elakhaalliance.org/feasibility-study/

Wiens, John A., et al. "Using surrogate species and groups for conservation planning and management." BioScience **58.3** (2008): 241-252.

Table 1. Weekly Schedule (SUBJECT TO CHANGE)

Week	Day	Schedule and Material Covered	What is due?	Reading
Week 1 **Introduction to Marine Conservation Biology**	**Friday - September 30th**	08:30 Welcome, class overview (Birds and Mammals Classroom) 10:00 Introduction 12:00 lunch	Nothing	Weekly topical reading
Week 2- Setting Conservation Priorities	**Friday - October 7th**	8:30: Lecture discussion 11:00: Guest Lecture Topic: NGOs and Blue Carbon Guest: Joanna Lyle, The Nature Conservancy 12:00: Lunch 13:00: Term Paper Guidelines	Paper Topic by 11:59pm	Weekly topical reading

Week 3- Species based vs Area based conservation	**Friday- October 14th**	8:30: Lecture 9:30: break 10:00: Field trip to South Slough 13:30: Case study discussion	Nothing	Weekly topical reading
Week 4- Conservation vs Preservation	**Friday- October 21st**	8:30: Lecture 9:30: break 10:00: Field trip 13:30: Case study discussion	Intro and Methods due 11:59pm	Weekly topical reading
Week 5- Directions in conservation biology	**Friday- October 28th**	8:30: Lecture 9:30: break 10:00: Tiny field trip to Charleston Marine Life Center 13:00: Presentation outlines	None	Weekly topical reading

Week 6-Role of Science and Environmental Education	**Friday – November 4th**	Possible field trip to Newport-TBA	Draft and Results due 11:59pm	Weekly topical reading
Week 7-Management Interventions	**Friday-November 11th**	8:30: Lecture 9:30: Field trip to North Spit Guest: Carol Aron-Bureau of Land Management; Snowy Plover 13:30: Case study discussion	None	Weekly topical reading
Week 8	**Friday-November 18th**	8:30: Lecture 9:30: break 10:00: Field trip to fish hatchery Guest: ODFW biologist Gary Vonderhoe/Morgan Davies 13:30: Scientific writing/reviewing	Completed term paper	Weekly topical reading

Week 9	**Friday-November 25th**	No Class-Holiday	None	
Week 10	**Friday-December 2nd**	8:30: Lecture 9:30: break 10:00: Tiny field trip to commercial fishing docks Guest: Kendall Smith Scott Groth, Fishery Manager	Revisions/response	Weekly topical reading
Week 11	**Friday-December 9th**	Final Group Presentations	Final, complete submission due	None

Peer Review Guidelines:

Each student will review two submitted papers. Reviewers are required to write a ~1-2-page report about the submitted paper. ***Each review should have the following 3 sections***:

1) Overview: briefly summarize the scope of the paper and the main positive attributes
2) General Comments: numbered general points or comments that the author should address in the revision (but not grammatical changes here). Numbering of each separate comment is important because this gives the original author a specific reference point to talk about in their response and revision.
3) Specific Comments: this is the place for specific grammatical suggestions or more 'minor' suggestions for changes.

It is critically important that the tone of the review is respectful to the original author. Provide constructive feedback in a friendly, gentle, and non-hostile way. Failure to maintain a reasonable tone in the review may result in a loss of some or all points for that review. I will screen reviews before I distribute them to the original authors to do my best to make sure no feelings get damaged because of this process. Do not use word's track changes for your review. Formulate all comments in the review document.

One of my rules for peer review is that I write my review as if I am going to sign it with my name and email address. In other words, do not hide behind the anonymity of peer review. Also, think of peer review to provide suggestions rather than demands. For example, instead of saying "cut lines xx-xx because they are not supported by the citation", say "I suggest the authors revise lines xx-xx, because as worded, it does not accurately represent the citation they use". See the difference? "I suggest..." is a very important phrase. Also, refer to the authors in the 3rd person ('the authors') rather than directly. It comes across as less personal and therefore less antagonistic when the comment is critical.

The Editor-in-chief of Marine Environmental Issues Letters will make the final decision of whether to offer 'publication' after the authors do their revisions.

If you do not follow the required guidelines of this review, you will not receive full credit for your effort.

Guidelines for course e-journal: ***MARINE ENVIRONMENTAL ISSUES LETTERS (MEIL)***

With a mission of cataloging the top term papers from the OIMB annual Marine Environmental Issues course.
Editor-in-Chief (EIC): Aldwin Ndhlovu (aldwinn@uoregon.edu)

Manuscript Submissions:

The MEIL e-journal encourages interdisciplinary submissions, synthesizing novel marine conservation science and policy, which are aimed at advancing conservation goals. The top ranked 25%-33% of the term papers that advance through in-class peer review will be published in this unofficial e-journal and made available to future OIMB Marine Environmental Issues class students, with the permission of the authors. There are two types of articles published in MEIL (authors need to identify the article type in the submission cover letter):

- **Letters:** novel findings with relevance for practice or policy (synthesis/analysis of existing data or new data)
- **Mini-Reviews:** overviews of emerging subjects that merit urgent coverage or succinct syntheses of important topics in marine conservation biology (this format is more rare, ask for permission)

Guidelines for Authors: [5 of 15 points for the final submission depend on guidelines #2-6] – see the deadlines for the dates in the above sections

1) Do not plagiarize. Your first full draft will need to be submitted and through the Canvas plagiarism detection software.
2) The final, revised, term paper submission must be delivered to the Canvas by the deadline. The title of the term paper must be: "AuthorLastName_TermPaperFinal_YEAR-MO-DY". **If you do not follow this naming guideline you will immediately lose 5 marks.**
3) Text of submissions should between roughly 3,000 and 3,500 words and contain no more than 3 tables and/or figures. Word count applies to article body text (see below).
4) **Minimum** of 20 references of primary literature cited. In-text citations and Literature Cited sections must conform to the format of the guidelines described below (largely borrowed from Conservation Biology, a prominent journal in the field)
5) Articles must include the following 6 sections, with each section separated by page breaks:
    a. Cover page (title, author, author affiliations, up to 5 keywords, acknowledgments) – This page is NOT circulated to the peer reviewers.
    b. Title (maximum of 20 words) and Abstract (maximum 200 words) page
    c. Body text: Introduction, Methods, Results, Discussion, Conclusion, Literature Cited.
        i. The Methods section will describe how authors searched for and collated the data.
    d. Tables (editable within word tables required), with table caption above table
    e. Figures (.png or TIFF files, 300 dpi embedded in the word file), with figure captions directly under each figure (no more than 100 words per caption). Figures cannot be already published in other papers, even if they are cited. Figures may include data from other papers (if those papers are cited) and the figures are prepared by scratch by the author.
6) Use the manuscript template provided in Canvas **[REQUIRED]** to ensure the manuscript meets the following requirements:
    a. Use 12-point Times New Roman font (REQUIRED), for all parts of the manuscript
    b. Margins of the document must be 1" on all sides
    c. Text must be 1.5 spaced (do not get creative)
    d. Line numbers and page numbers are required (do not change the template)
    e. Mind the required page breaks between sections! (do not change the template)
7) After getting feedback from the peer review process (2 peer-reviewers from class, and another review from the instructor or GTF), the author will need to respond to the suggestions of the peer reviewers, carefully responding to **every** suggestion/criticism in a reply letter and making changes to the main manuscript file accordingly. The revised manuscript AND the reply letter will be considered by the OMCBL editors (Instructor and GTF) when deciding whether to publish the paper.
8) Papers accepted for "publication" will undergo additional formatting by the authors upon acceptance.

Citation guidelines for MEIL: (modified from Conservation Biology author guidelines)

It is required that you use a citation manager! Zotero, Mendeley, Endnote, etc. all have free products... download the 'Conservation Biology' Style. Do not cite work or data that have not been published or are not available. If the data are available in a publicly accessible database, you may cite that.

In-text citations

- In the body of the paper order citations from oldest to newest and use name-year format.
- In most cases, enclose citations in text in parentheses. "Populations in sagebrush have higher reproductive success than populations in cheatgrass (Bird & Tree 2000)." is better than "According to Bird and Tree (2000), populations in sagebrush . . . ."
- Use an ampersand (&) between author surnames when the citation is parenthetical: (Bird & Sanchez 2010); but separate with *and* if not parenthetical, e.g., "Our results are consistent with the predictions of Wolf and Rhymer (2011)."
- For citations with more than 2 authors, use et al.: (Hatchwell et al. 1996). Do not italicize et al.
- List parenthetical citations chronologically (from oldest to most recent) and separate entries with a semicolon: (Zorenstein et al. 1991; Waddell & Fretwell 2001).
- Separate the years with commas when citing multiple papers by the same author: (Cox et al. 1991, 1992; Chapman 2001).
- Ensure that all references cited in text are listed in Literature Cited and vice versa.
- Avoid "in. lit." citations. Provide the original citations.

Literature Cited section

- Provide the full names of all journal titles. Do not italicize titles.
- If there are more than 10 authors, use et al. (Howard G, et al.) instead of listing the 10 names.
- Papers in review and personal communications should not be included in Literature Cited.
- Proceedings and abstracts from conferences may be cited only if they have a "publisher" and the location of the publisher can be provided.
- Use the citation manager to build your ref cited BUT VERIFY IT HAS WORKED CORRECTLY.

Example Citations

Journal articles: ***You can add the DOI at the end if it is available***

Christensen ND, Eu J, Hebbble W. 2003. Ecology of cranberry bogs: a case study. Ecology **59:**1147–1167, 1178–1187. DOI: 10.1371/journal.pbio.1001222

Reed, FM. 2001. Title of paper. Journal **13**(supplement 1):172–180.

Edited books:

Cran B, Boy C, Shi L. 1911. Native forest birds of Guam. Pages 4–8 in Wu T, Lee L, editors. Flora and fauna of Guam. 2nd edition. Tell Books, Sydney.

Reports:

Barnes J, Craig S. 2003. Conservation status of riparian areas in southeastern Oregon. General technical report N-24. U.S. Fish and Wildlife Service, Portland, Oregon.

Internet sources other than journals:

Include the name of the organization hosting the website, their geographical location, and an access date (month year).

Carne A. 2003. Ranges of endangered Colombian birds. BirdLife International, Cambridge, United Kingdom. Available from http:www.BLI.org/pub2/birdranges (accessed March 2014).

PLEASE, PLEASE, PLEASE:

Fix the problems you find in various citation downloads IN THE SOURCE program. Deal with italics in the source program by entering words you want to italicize.