Course Syllabus: **Marine Conservation Biology**  
University of Oregon | Oregon Institute of Marine Biology  
**Winter 2018** | BL 457/557, (5 Credits)

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**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, “topic discussions”, writing, 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 the key terminology, core issues, and science of marine conservation biology via reading, discussion, lectures and activities. [knowledge]  
2) Comprehension of the topics will be demonstrated through active participation in group activities, ‘topic discussions’, and **term paper**, which will be **peer-reviewed and ‘published’ in an internal course e-journal**. [synthesis, application, evaluation]  
3) Conservation of marine biodiversity requires an ability to think 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 term paper, which will go through the whole 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 [Friday 26-Jan] (wk 3). Papers will be submitted for consideration in the course journal **Oregon Marine Conservation Biology Letters** (OMCBL). As a result of the peer review process, a portion of the submitted and revised papers may be ‘published’ in OMCBL in the OIMB library, and made available to future classes at OIMB. Particularly promising papers may even form the basis for future research that could ultimately be submitted to a real peer-reviewed journal.

**Topic-Discussions**  
Many conservation issues are fraught with disagreement between and within scientists, managers, and stakeholder groups. A useful approach for deeply understanding such topics is **science-based topic discussions** (like a debate, but a little less formal). Because of the very small class size this year, we will stray from my standard topic-team ‘debate’ approach. **We will conduct three topic discussions [see schedule].** Students will work together or individually (depending on the topic) to research various perspectives on a topic. There will be in-class time for research and strategy development prior to the discussion on that topic in the following week.
Prior to each discussion, each person in charge of a perspective will prepare a **summary document** of their key (e.g., 5-10) arguments, with references to published literature supporting those arguments. Valid resources must be peer-reviewed and/or must be reputable journalism, and be available on the web, as pdfs, or available in the library. **Citations of these references must be consistent with the guidelines in the OMCBL e-journal** (see section on this below). On the topic discussion day, each summary document must be shared with the instructor and the people with the other perspectives **prior to the start of class**. Students will have prep time to review the summary documents and the resources within prior to the start of the ~1-hour duration discussion. There will be an 10 initial minutes for PowerPoint presentation(s) summarizing key points. We will then take turns discussing the evidence in an orderly fashion with the help of moderators (instructor and TA). **All points made in discussion must be informed by science, and supported by peer-reviewed primary research or synthesis.**

**Lectures**

Each week we will have one or two lectures (e.g., 30-60 min) on a core topic in marine conservation biology (biodiversity, genetic diversity, biological invasions, mineral extraction, high latitude climate change, Allee effects, marine protected areas, etc.), designed to augment the topic discussions and ongoing research on the term papers.

**Readings**

Each week’s lecture or topic will have an associated assigned reading from the peer reviewed literature (see Table 1, below). Reading discussions and are due by Friday each week (prior to the Tuesday class). Each student will write a brief summary of that reading prior to Friday class, which will be graded. On Friday, we will sit and discuss the papers. There may be pop quizzes about content of these readings at the instructor’s discretion.

**Field trips**

We make many local field trips, related to our studies. The scheduled trips include visits to local low rocky intertidal areas, Newport to visit the Oregon Coast Aquarium and meet with staff from the Oregon Marine Reserves Program, the South Slough National Estuarine Reserve, to the North Spit (Snowy Plover habitat), and to Port Orford.

**Course Text:**

The optional text 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, which means that students do not have to buy this as a hard-copy book. I am not going to assign readings from this text (just the literature). But I will base many of my lectures on the contents of the book and subjects covered there.

**Supplies:**

Students should have footwear they are comfortable with for visiting the low intertidal, where it is wet, muddy, and slippery (e.g., rain boots) and rain gear.

**Grading Details, Deadlines Description, Schedule:** All in the full syllabus posted in Canvas.