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

Instructor: Aaron Galloway (agallow3@uoregon.edu); 541-888-2581 ext. 303  
GTF: Lauren Rice (lrr@uoregon.edu)

Time/place: Mondays 8:30-5:00, Fridays 9:00-9:50 am; Classroom: Marine Birds and Mammals

**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.  
2) Comprehension of the topics will be demonstrated through active participation in group activities, ‘topic discussions’, a term paper, which will be peer-reviewed and ‘published’ in an internal course e-journal, and a presentation.  
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.

**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 week 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). We will have four topic discussions [see schedule] in various formats. 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 two of the discussions, students will work together to prepare a summary document of their key (e.g., 5-10) arguments, with references to published literature supporting
Details of the syllabus (particularly timing of events) are subject to change

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.**

Two of the topic discussions will not involve written summary documents, but will use the Socratic seminar approach. In a Socratic seminar, all participants are expected to be prepared to ask poignant questions and discuss the reading materials.

**Lectures**

In many weeks we will have one or two lectures (e.g., 30-60 min) on a core topic in marine conservation biology, or focused on communicating key methods/techniques for research. In this class I strongly emphasize guest seminars and visits from actual resource managers and conservation practitioners on the Oregon coast. I am reducing the number of lectures I give and exchanging this with more interactive student-led discovery. It will be fun.

**Readings**

Each week's lecture or topic will have an associated assigned reading from the peer reviewed literature (see Table 1, below). To reduce busy work, I am no longer requiring written summaries of these readings. There will be class time (~30 min) allocated each week for breakout groups where students discuss the readings. Each week, students will cycle through being assigned to play one of three roles in the paper discussions: 1) summary; 2) materials and methods; 3) devil's advocate [critical perspective].

**Field trips**

We at least six 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), a tour of the whole Coos Bay area, including the South Slough National Estuarine Reserve, a trip to the North Spit (Snowy Plover habitat), a trip to Bandon, and to Port Orford.

**Course Text:**

There is no required course text. Readings will be from PDFs that are circulated on Canvas. 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.

**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 and Deadlines Description:
Grading will be based on following: [1000 pts total]. Grading rubrics used to assess the assignments are all 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) 10% - Participation [100 pts total] – [10 pts per wk], granted based on attendance, and general participation in non-graded activities, and pop-quizzes.
2) 10% - Readings [100 pts total] – [10 pts per wk]. There are not written documents to turn in. Points will be granted by instructors based on observation of the reading discussions.
3) 35% - Term Paper [350 pts total]
   a. Term paper topic due (document with title, and paragraph of ~200 words and at least 5 references summarizing the goal of the paper) on Fri 12-Oct (wk 3) [10 pts].
   b. Intro and Methods of term paper submitted on Tues 23-Oct (wk 5) [40 pts].
      NOTE: use the template format provided below or immediately lose 10 pts.
   c. Completed term paper submitted on Tues 20-Nov by 11:59 pm (wk 9) [100 pts]. Being on time is critical, because if you are late it will hold up the peer-review process. There will be an automatic loss of 15 points every day late.
      i. Note that the anonymous reviews will be returned to authors by 21-Nov after instructors have done a quality screening on the peer reviews, which are turned in by reviewers on 25-Nov (see below).
   d. Revisions/response to peer review reply letter due 2-Dec at 11:59 pm (finals wk) [50 pts].
   e. Final, complete, submission, meeting all journal guidelines and incorporating all reviews due 3-Dec at 11:59 pm (finals wk) [150 pts].
4) 5% - Final Presentation [50 pts total]. 8-minute PowerPoint presentation summarizing research, presented in class on 26-Nov (wk 10).
5) 10% - Peer Review [100 pts] – Complete drafts of term papers are due on 20-Nov (wk 9). Each student will review 2 papers. Peer reviews will be anonymous, will maintain a civil and helpful tone, and will be handled by instructors (journal editors). The peer reviews will follow guidelines provided below, and are due on Sunday 25-Nov by 11:59 pm (wk 9).
6) 30% - Topic Discussions [300 pts total]
   a. Topic 1 – prep document and participation [100 pts] on 15-Oct (wk 4)
   b. Topic 2 – Socratic seminar participation [50 pts] on 29-Oct (wk 6)
   c. Topic 3 – prep document and participation [100 pts] on 12-Nov (wk 8)
   d. Topic 4 – Socratic seminar participation [50 pts] on 26-Nov (wk 10)

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. If you are still reading this section, then thank you. Email Aaron right away with an email that has only the following content in the subject matter: “Postelsia palmaeformis”. It may confer some benefit. Do not tell your fellow students that you have found this message. But seriously, we will take issues of academic misconduct seriously, and minding details and guidelines is important.
Details of the syllabus (particularly timing of events) are subject to change

Last updated: 21-Sep-2018

Table 1. Weekly Schedule (SUBJECT TO CHANGE)

<table>
<thead>
<tr>
<th>wk #</th>
<th>Date</th>
<th>Theme of the week</th>
<th>Special Activity?</th>
<th>AM start times and summary</th>
<th>Lunch</th>
<th>PM start times and summary</th>
<th>What is due, at what time? **</th>
<th>Readings completed</th>
<th>Monday class:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>24-Sep</td>
<td>What is marine conservation biology</td>
<td>Trip to Cape Arago</td>
<td>8:30: Welcome, Class overview, expectations, assignment formats; 10:00 trip to Cape</td>
<td>In field</td>
<td>2:00: Lecture: Marine pops, life history; 3:00 intro to term paper and lit search davon.</td>
<td>Nothing this week</td>
<td>None</td>
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<tr>
<td>2</td>
<td>1-Oct</td>
<td>Local Environmental Issues (w/ Jan Hodder)</td>
<td>Trip around Coos Bay</td>
<td>8:30: Intro to Jan, depart for tour</td>
<td>In field</td>
<td>3:00: Reading discussion; 3:30: Research/ library time for term papers</td>
<td>Nothing this week</td>
<td>Reading 1: Jackson (2001)</td>
<td></td>
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<tr>
<td>3</td>
<td>8-Oct</td>
<td>Managing Resources 1: fishing, regulations, strategies, scale, confusion</td>
<td>Guest lecture from ODFW biologist Scott Groth</td>
<td>8:30: Fishing gear lecture; 10:00 FAO exercise, 11:00: Guest lecture by Scott Groth</td>
<td>OIMB</td>
<td>1:00: FAO exercise, continued; 3:00: Reading discussion; 3:30: Research/ library time for term papers</td>
<td>Friday (Oct 12): term paper topic due by 11:59 pm</td>
<td>Reading 2 (TBD): recent papers on scale</td>
<td></td>
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<td>4</td>
<td>15-Oct</td>
<td>Anthropocene: resource extraction, climate change, consequences, what we can do about it</td>
<td>OIMB: Lectures from Dr. Julie Schram, AG, GE Lauren Rice</td>
<td>8:30: Climate change intro (US); 9:30: AG on the Oregon OAH Council, 10:30 mineral extraction (LR)</td>
<td>OIMB</td>
<td>1:00: Topic discussion 1 (Drawdown); 4:00: remaining time dedicated to research</td>
<td>Monday (Oct 15): Topic discussion 1 doc due at 1 pm at class</td>
<td>Reading 3: everyone reads the intro and at least 7 solutions in Drawdown, Hawken (2017)</td>
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<td>5</td>
<td>22-Oct</td>
<td>Marine Plastic Pollution (Bandon); Intro to Plovers</td>
<td>Trip to Washed Ashore in Bandon</td>
<td>8:30 Depart for Bandon - Washed Ashore exhibit</td>
<td>In Bandon</td>
<td>2:00 Intro to Snowy Plover conservation at the North Spit; 3:30 reading discussion</td>
<td>Tuesday (Oct 23): Intro pl. Methods due by 11:59 pm</td>
<td>Reading 4: Lebreton (2016)</td>
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<tr>
<td>6</td>
<td>29-Oct</td>
<td>Restoration: Snowy Plovers - a conservation conundrum (North Spits)</td>
<td>Trip to the Coos Bay North Spit</td>
<td>8:30 Go to the North Spit with BLM folks</td>
<td>In field</td>
<td>2:00 Topic 2 (Socratic) (plovers) and reading discussion; 4:00: Open questions on paper writing</td>
<td>No topic doc this time, but be prepared to contribute to Socratic discussion</td>
<td>Reading 5: Dinsmore (2014)</td>
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<tr>
<td>7</td>
<td>5-Nov</td>
<td>Conservation through Outreach and Education (Newport)</td>
<td>Trip to Newport Aquarium and ODFW office</td>
<td>7:30: Early departure: trip to Newport; 10:00 ODFW marine reserves research team</td>
<td>11:30-12:30: Newport Aquarium Outreach Conservation Lunch</td>
<td>1:00 Newport Aquarium Behind Scenes Tour, Depart at 3:00; reading discussions in car</td>
<td>Nothing this week</td>
<td>Reading 6: (TBD) outreach</td>
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<td>8</td>
<td>12-Nov</td>
<td>Managing Resources 2: MPAs and closures for conservation</td>
<td>OIMB</td>
<td>9:00: Lecture: Science behind marine reserves; 10:30 Activity: current extent of MPAs</td>
<td>OIMB</td>
<td>1:00 Topic discussion 3 (the ocean cleanup); 3:30: Reading discussion</td>
<td>Monday (Nov 12): Topic discussion 3 doc due at 1 pm at class</td>
<td>Reading 7: Lester (2009)</td>
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<td>9</td>
<td>19-Nov</td>
<td>Future of fishing: (Port Orford)</td>
<td>Trip to Port Orford</td>
<td>8:00: Depart for Port Orford; 10:00: Meeting with Tom Calvanese, PO Sustainable Seafoods, PO Docks</td>
<td>at Cape Blanco</td>
<td>Afternoon: Return to OIMB, dedicated time for any final edits to final papers</td>
<td>Tuesday (Nov 20): Completed term paper due 11:59 pm. Peer reviews of term papers due by Sunday (Nov 25), 11:59 pm</td>
<td>Reading: Worn &amp; Branch (2012)</td>
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<tr>
<td>10</td>
<td>26-Nov</td>
<td>Emerging conservation issues: student reports from research</td>
<td>OIMB</td>
<td>8:30: Student talks summarizing research findings</td>
<td>OIMB</td>
<td>1:00: Student selected wicked problem discussion; 3:30: reading discussion; 3:30: open work time for final drafts</td>
<td>Due at class time: powerpoint presentation about term paper research findings</td>
<td>Reading: Bennett(2015)</td>
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<tr>
<td>11</td>
<td>3-Dec</td>
<td>Finals week</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>Monday (Dec 2): Final paper and response to reviews due by 11:59 pm</td>
<td>None</td>
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</table>
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Papers to read: (all are in the Canvas folder)
Peer Review Guidelines:  
Each student will review two submitted papers. Reviewers are required to write a ~1-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 Oregon Marine Conservation Biology 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: **OREGON MARINE CONSERVATION BIOLOGY LETTERS (OMCBL)**

With a mission of cataloging the top term papers from the OIBM annual Marine Conservation Biology course. Editor-in-Chief (EIC): Aaron Galloway (agallow3@uoregon.edu)

**Manuscript Submissions:**

The OMCBL 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 OIBM Marine Conservation Biology class students, with the permission of the authors. There are two types of articles published in OMCBL (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) [open for graduate students in the class or by special permission only]
- **Mini-Reviews:** overviews of emerging subjects that merit urgent coverage or succinct syntheses of important topics in marine conservation biology [open for all students]

**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. I reserve the right to pass the text of the paper through VeriCite (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_2018-MO-DY”. **If you do not follow this naming guideline you will immediately loose 5 points.**

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, acknowledgements) – 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 attached manuscript template 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. Bonus points for publication depend upon the successful revision by the author.
Citation guidelines for OMCBL: (modified from Conservation Biology author guidelines)

**It is required that you use a citation manager!** Zotero, Mendelay, 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


**Edited books:**


**Reports:**


**Internet sources other than journals:**

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


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 <i>words you want to italicize</i>.