ENVST-UA/ANST-UA 323 Marine Ecology & Conservation
Spring 2021, T/R 3:30-4:45pm (4 credits)
Prerequisite: ENVST-UA 100 Env. Systems Science
Location: Zoom

Professor: Jennifer Jacquet jj84@nyu.edu
Office hours: T/R 4:45-5:45 or by appointment; just drop an email
Office location: Zoom
Course Assistant:

The Course Objectives:
Welcome! This course analyzes several aspects of our oceans, with particular emphasis on human impacts and examines some of the recent major threats, including lack of governance for the high seas, deep-sea mining, and the effects of climate change on aquatic animals. We will focus ecological relationships between marine organisms and their environment, with the introduction of humans as marine predators and ecological disturbers. We will review recent peer-reviewed marine ecology studies as well as popular articles to familiarize ourselves with the latest research. The first half of the course focuses more on basic ecology while the second half focuses more on anthropogenic impacts (e.g., overexploitation, pollution, invasive species, and climate change) and proposed and tested solutions.

Note: To try to capture the ‘present’ nature of the classroom, I ask that all students attend class in real time unless you have an exception (due to time zone, etc.) and, whenever possible, please have your camera on. This is also to honor the guests who will join us and who are happier when speaking to interested faces, as opposed to black boxes.

Required texts:
The peer-reviewed research articles listed on the daily calendar (all available on NYU Classes) and one film and one book (which you will likely need to purchase).

The Grade:
Pre-class quizzes and questions for guests: 20%
Written assignments (4 total at 15% each): 60%
Final book review: 20%

Academic Integrity, Plagiarism, and Cheating (adapted from the website of the College of Arts & Science, https://cas.nyu.edu/content/nyu-as/cas/academic-integrity.html):
Academic integrity means that the work you submit is original. Obviously, bringing answers into an examination or copying all or part of a paper straight from a book, the Internet, or a fellow student is a violation of this principle. But there are other forms of cheating or plagiarizing which are just as serious — for example, presenting an oral report drawn without attribution from other sources (oral or written); writing a sentence or paragraph which, despite being in different words, expresses someone else’s idea(s) without a reference to the source of the idea(s); or submitting essentially the same paper in two different courses (unless both instructors have given their permission in advance). Receiving or giving help on a take-home paper, examination, or quiz is also cheating, unless expressly permitted by the instructor (as in collaborative projects).

Disability Disclosure Statement: Academic accommodations are available for students with disabilities. The Moses Center website is www.nyu.edu/csd. Please contact the Moses Center for Student Accessibility (212-998-4980 or mosescsd@nyu.edu) for further information. Students who are requesting academic accommodations are advised to reach out to the Moses Center as early as possible in the semester for assistance.
<table>
<thead>
<tr>
<th>Class date</th>
<th>Topic (key concepts)</th>
<th>Readings/media (prepare before coming to class)</th>
<th>Assignment/ exam</th>
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</thead>
<tbody>
<tr>
<td>Feb. 1 (M) (not scheduled class)</td>
<td>SEEING OCTOPUSES</td>
<td>SEEING OCTOPUSES EVENT -- PLEASE ATTEND</td>
<td>Extra credit option</td>
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<tr>
<td>Feb. 18 (R)</td>
<td>NO CLASS</td>
<td>MONDAY CLASSES MEET</td>
<td>BOOK REVIEW (stage 1)</td>
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<td>Mar. 16 (T)</td>
<td>Altered ecosystems (shifting)</td>
<td>1) Saenz-Arroyo et al. 2005. Rapidly shifting environmental</td>
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<tr>
<td>Date</td>
<td>Topic</td>
<td>References</td>
<td>Notes</td>
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2) Jacquet et al. 2017. Bivalves are better: Ecological, food security, and welfare considerations of farming aquatic animals. Solutions.  
2) TBD | ASSIGNMENT 2 DUE |
| Apr 1 (R)   | GUEST DANIEL PAULY | 1) Pauly, 2021. The gill-oxygen limitation theory (GOLT) and its critics. Science Advances. | ASSIGNMENT 2        |
| Apr 8 (R)   | GUEST JOHN HOCEVAR | 1) Haward 2018. Plastic pollution of the world’s seas and oceans as a contemporary challenge in ocean governance. Nature Communications.  
2) Hogg et al. 2020. Protect the Antarctic Peninsula – Before it’s too late.  
3) Watters et al. 2020. Long-term observations from Antarctica demonstrate that mismatched scales of fisheries management and predator-prey interaction lead to erroneous conclusions about precaution. Scientific Reports. | ASSIGNMENT 3 DUE |
| Apr 27 (T)  | No entry zones | 1) Castilla & Duran. 1985. Human exclusion from the rocky intertidal zone of central Chile: The effects on Concholepas concholepas (Gastropoda). Oikos.  
2) Frisch & Rissari. 2019. Parks for sharks: human |                    |
<table>
<thead>
<tr>
<th>Date</th>
<th>Guest Name</th>
<th>Reading</th>
<th>Due Date</th>
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<tr>
<td>May 4</td>
<td>GUESTS MARINA ZURKOW AND ANNA HOPKINS</td>
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<td>May 6</td>
<td>Wrap up</td>
<td>Bring questions for final exam</td>
<td>FINAL BOOK REVIEW DUE</td>
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Pre-class quizzes and questions for speakers (20%):

To accommodate all students around the world and to be more flexible during the time of COVID-19, there is no participation grade. Instead there are pre-class quizzes and/or required questions for guest speakers. Please complete the pre-class quizzes about the reading assignments or enter your questions for the guest speakers BEFORE CLASS BEGINS (these will be set to automatically close). No late exceptions will be made.

Assignments (4 worth 15% each; 60%):
The assignments are short, which means they should require a lot of considered writing and editing. Do not waste your word count on the title of papers. For citations, please use footnotes, so that I can see the references (documented in last name, year, title of paper, journal) at the bottom of each page.

1) Movie review -- choose a film from this list:
   • Blackfish
   • Ghost Fleet
   • The Last Ocean
   • Serengeti Rules

In a max of 750 words answer the following: What is the tone of the film? Who is the protagonist? What are the major themes of the movie? What are the governance challenges? How are animals represented? How is science represented and what kind of scientific knowledge is relied upon?

2) Oceans in 2038:
In a maximum of 1000 words, write a positive scenario and a negative scenario for the oceans in 2038. Cite at least 3 scientific studies for each case (6 total).

3) Your vision for Antarctica:
In 750 words, explain your vision for Antarctica? Cite at least 6 scientific sources (beyond the ones we are reading for class).

4) Improving marine science for marine animals:
In 500 words. Find a study about marine life that harms marine life and declare it in the forum by April 13. Then explain how this study harmed marine life, for what kind of results, and what alternative options the researchers had that might have improved the experiment from an animal welfare perspective. Cite at least 3 sources (which includes the paper the you chose to analyze).

Final book review (20%)

In preparation, read some other book reviews. The New York Review of Books is an excellent source (although often they review several books in one go). Jakub’s “The Oldest Forest” is a good one and I’ve posted a copy on NYU Classes.

Your review should be a maximum of 1500 words (not including references). Please cite at least two other sources in your review.

Choose a book from this list:
   • Coral Whisperers by Irus Braverman
   • Metazoa by Peter Godfrey-Smith
   • The Nature of Nature: Why We need the Wild by Enric Sala
   • Why Fish Don’t Exist by Lulu Miller
   • All We Can Save edited by Ayana Johnson and Katharine Wilkinson
   • The Outlaw Ocean by Ian Urbina

Important dates:
February 23: Declare your book of choice and why you chose it. Include some proof you own a copy of the book, got it from the library, etc. etc. (10%)
March 18: Send an update about how much of the book you’ve read and the notes you have taken to date. (20%)
May 6 (midnight): review due (70%)