

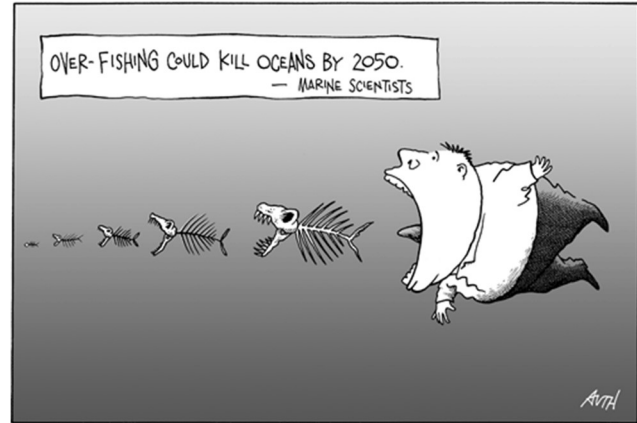
Marine Conservation

EVPP 421 / EVPP 521 / BIOL 450

3 credits

Fall Semester, 2020

(Recommended Prerequisite:
BIOL/EVPP/GEOL 309)



Source: *The Philadelphia Inquirer*.

INSTRUCTOR: Diego Valderrama.
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MODE OF DELIVERY: Online.

COURSE DESCRIPTION: An introduction to the topic of marine conservation - the science of protecting, recovering and sustainably using the living seas. This is a critical subject as over 70% of our planet is ocean and 80% of the world's population and 50% of Americans live in within 50-60 miles of the ocean. The course provides an overview of threats to the marine environment and discusses the scientific, socioeconomic, and political issues behind marine conservation. Covers categories of marine pollutants (chemical, biological, and physical contaminants) and their impacts on the marine ecosystem, as well as impacts on humans (health, social, and economic), threats to key marine species (e.g., coral, sharks, turtles, and marine mammals) and initiatives and laws developed to reduce these threats. Scientific and socioeconomic problems that hinder sustainable fisheries management and the science and policy behind the global warming debate are also discussed.

REQUIRED READING:

- *Marine Conservation Biology: The Science of Maintaining the Sea's Biodiversity*, edited by Elliot A. Norse and Larry B. Crowder. Marine Conservation Biology Institute. 2005, Island Press.
- *Launching the Grand Challenges of Oceans Conservation*. World Wildlife Fund (WWF) and Conservation X Labs (<http://www.oceansxlabs.org/the-challenge/>). Posted in Blackboard.

COURSE STRUCTURE: The course will consist of three modules that will unfold simultaneously throughout the semester:

1. Lecture module based on the textbook *Marine Conservation Biology*, which outlines the conceptual framework for the science of marine conservation based on contributions from leading thinkers in the field. Delivered by the class instructor.
2. Review of essential documentaries and highly cited peer-reviewed papers in marine conservation.
 - a. Documentaries will be shown in class, followed by a discussion accompanied by a study guide.
 - b. Presentations based on the selected peer-reviewed papers will be delivered by students registered in EVPP 521 in groups of 2 or 3 with guidance from the class instructor.
3. Student-led presentations of the 10 grand challenges faced by the oceans as identified by WWF and Conservation X Labs in the handbook *Launching the Grand Challenges of Oceans Conservation*.

COURSE GRADING: For students enrolled in EVPP 421 and BIOL 450, grades will be determined by the results of a midterm exam, a final exam (not comprehensive), one presentation (Grand Challenge for Ocean Conservation), and class attendance/participation as measured by iClicker attendance quizzes and participation in class. Weighting of these activities will be as follows:

Midterm Exam	25%
Final Exam	35%
Grand Challenge presentation	15%
Average score of online quizzes	<u>25%</u>
TOTAL	100%

For students enrolled in EVPP 521, grades will be determined by the results of a midterm exam, a final exam (not comprehensive), two presentations (analysis of peer-reviewed paper and Grand Challenge for Ocean Conservation), and class attendance/participation as measured by iClicker participation quizzes and participation in class. Weighting of these activities will be as follows:

Midterm Exam	20%
Final Exam	30%
Presentation of peer-reviewed paper	15%
Grand Challenge presentation	15%
Average score of iClicker participation quizzes	<u>20%</u>
TOTAL	100%

Your final score in the course will be calculated based on the percentage grade earned on each of the course activities listed above, multiplied by the weighting listed for each activity. Letter grades will be assigned based on your final course score as follows:

- A+ = 97-100%
- A = 93 - 96%

- A- = 90 - 92%
- B+ = 87 - 89%
- B = 83 - 86%
- B- = 80 - 82%
- C+ = 77 - 79%
- C = 73 - 76%
- C- = 70 - 72%
- D = 60 - 69%
- F = 0 - 59%

PLEASE NOTE THAT I DO NOT ROUND UP. FOR EXAMPLE, AN 89.99 IS A B+ AND IT WILL NOT BE ROUNDED UP TO AN A-.

Proposed dates for the in-class exams are indicated in the class schedule section of this syllabus. Any changes to these proposed dates will be announced in class at least one week in advance.

ACADEMIC INTEGRITY: GMU students, faculty and staff are bound by the GMU Honor Code. Adherence to the GMU Honor Code is expected of all students, specifically:

Members of the George Mason University community pledge not to cheat, plagiarize, steal, or lie in matters related to academic work.

In all assignments and communications, plagiarism will not be tolerated. This applies equally to oral and written communications in the context of any evaluated (graded) course assignments. As stated in the Honor Code, infractions may result in invalidated credit for dishonorable work and lowered grade, including failure from the class, suspension or dismissal. Inquiries for clarification from the professor are welcome. For more information see the complete Honor Code in the university catalog.

ACCOMMODATIONS FOR DISABILITIES: If you have a documented learning disability or other condition that may affect academic performance you should: 1) make sure this documentation is on file with the Office of Disability Services (SUB I, Rm. 4205; 993-2474; <http://ds.gmu.edu>) to determine the accommodations you need; and 2) give copies of your disability documentation to your instructors so we may discuss your accommodation needs.

DIGITAL COMMUNICATION: Students must use their MasonLive email account to receive important University information, including communications related to this class. I will not respond to messages sent from or send messages to a non-Mason email address.

DIVERSITY STATEMENT: George Mason University promotes a living and learning environment for outstanding growth and productivity among its students, faculty and staff. Through its curriculum,

programs, policies, procedures, services and resources, Mason strives to maintain a quality environment for work, study and personal growth. An emphasis upon diversity and inclusion throughout the campus community is essential to achieve these goals. Diversity is broadly defined to include such characteristics as, but not limited to, race, ethnicity, gender, religion, age, disability, and sexual orientation. Diversity also entails different viewpoints, philosophies, and perspectives. Attention to these aspects of diversity will help promote a culture of inclusion and belonging, and an environment where diverse opinions, backgrounds and practices have the opportunity to be voiced, heard and respected.

TENTATIVE CLASS SCHEDULE: Subject to changes.

Date	Module 1: <i>Marine Conservation Biology</i> Textbook		Module 2: Documentaries and Peer-reviewed articles.	Module 3: Grand Conservation Challenges (challenge number in handbook)
	Theme	Chapter		
August 24	Presentation of syllabus, Introduction to Marine Conservation			
August 31	Introduction	1-2	Documentary: <i>A Plastic Ocean</i> (2017). Director: Craig Leeson. www.PlasticOceans.org	
Sept. 7	Labor Day, NO CLASSES			
Sept. 14	Marine Populations	3-4	Worm, B., E.B. Barbier, N. Beaumont <i>et al.</i> 2006. Impacts of biodiversity loss on ocean ecosystem services. <i>Science</i> 314: 787-790.*	Marine Debris (2)
Sept. 21		5-6	Documentary: <i>The Cove</i> (2009). Director: Louie Psihoyos.	
Sept. 28	Threats	7-8		Invasive Species (7); Dead Zones (10); Ocean Acidification (8)
Oct. 5	Threats	9-10	Documentary: <i>Chasing Coral</i> (2017). Director: Jeff Orlowski; available in Netflix. https://www.chasingcoral.com/	
Oct. 13 (Tuesday)	Fall Break, MONDAY CLASSES MEET ON TUESDAY			
	MIDTERM EXAM			
Oct. 19	Fisheries	11-12	Pauly, D. V. Christensen, J. Dalsgaard <i>et al.</i> 1998. Fishing down marine food webs. <i>Science</i> 279: 860-863.*	Overfishing (3)
Oct. 26	Fisheries	13-14	Documentary: <i>The End of the Line</i> (2009). Director: Rupert Murray; https://theendofthelinemovie.com/	
Nov. 2	Fisheries	15		Fishing Gear (6), MPAs (4)

Date	Module 1: <i>Marine Conservation Biology</i> Textbook		Module 2: Peer-reviewed articles.	Module 3: Grand Conservation Challenges (challenge number in handbook)
	Theme	Chapter		
Nov. 9	Marine Reserves	16-17	Documentary: <i>The Last Ocean</i> (2012). Director: Bruce Peter Young; http://www.lastocean.org/	
Nov. 16	Marine Reserves	18-19	Documentary: <i>Sharkwater</i> (2007). Director: Rob Stewart; https://www.sharkwater.com/	
Nov. 23	Human Dimensions	20-22		Wildlife Trafficking (9); Sustainable Aquaculture (1); Ecological Resilience (5).
Nov. 30	Human Dimensions	23-25	Bennett, N.J. and P. Dearden. 2014. Why local people do not support conservation: Community perceptions of marine protected area livelihood impacts, governance and management in Thailand. <i>Marine Policy</i> 44: 107-116.*	
Dec. 14	FINAL EXAM, 4:30 pm – 7:15 pm			

*Presented by students registered in EVPP 521.