THE CHALLENGE OF BIODIVERSITY

In Memoriam: Professor Thomas Lovejoy
EVPP 619 - 3 credits
Spring, 2023 Course Syllabus (Version 17 January)

Class Time and Dates:	**Faculty:**
Mondays, from 4:30 to 7:10 PM Eastern US Online via Zoom: https://gmu.zoom.us/j/93201706202 23 January 2023 – 17 May 2023 (Spring Break 13-19 March 2023)	Dr. Heather E. Eves heves@gmu.edu +1 703.254.7474 https://www.linkedin.com/in/heathereves/

Office hours by appointment, normally Mondays before class, but if not possible, other times and places can be arranged to accommodate students' schedules. I aim to respond to email messages within 24 hours of receipt. If you do not receive a response within that time, please feel free to resend the message or text me.

Safe Return to Campus:
Although our course is online, you should be aware of this: All students taking courses with a face-to-face component are required to follow the public health and safety precautions and procedures outlined on GMU's Safe Return to Campus webpage (https://www2.gmu.edu/safe-return-campus).

Blackboard (Bb) Course Website:
To minimize possible problems, please use a browser supported by Blackboard:
Chrome: 87+ Firefox: 78+ Safari: 13+ Edge: 87+

MacOS 10.13+ is required to update to a supported version of Safari.
To fix a 404 error message in Microsoft Edge, go to Edge Settings > Downloads > unselect "Open Offices files in the browser."

To access the course, go to https://www.gmu.edu/, click on "MyMason". Log in using your user ID and Patriot Pass password. Once you authenticate via two-factor option you can click on the courses tab and select EVPP-619-DL1 from the list. Please let your instructor know if you have any problems accessing or using this site.

All course materials except textbooks will be posted to Bb. Assignments should be turned in through Bb as well.

Department of Environmental Science & Policy
Environmental Science & Policy Department Office telephone: 703-993-1043
Environmental Science & Policy Department Website: https://science.gmu.edu/academics/departments-units/environmental-science-policy

ESP Listserv:
To receive Environmental Science & Policy Department emails please contact Anne Reynolds:
areyno14@gmu.edu

Summary Objectives and Assessments for the Course:
The priority objective is to enhance students' understanding and capacity toward identifying, evaluating, and planning for effective problem-solving in biodiversity conservation. Such problems require sound science and include considerations that go beyond science assuring a wholistic, integrated approach engaging multiple knowledge forms. Engaging multiple knowledge forms and their communities facilitates building consensus thus enabling co-development and management of strategies and solutions for improved biodiversity and human well-being outcomes.

The course engages a variety of learning tools including professional presentations, readings, individual field case analysis, individual research and writing with peer-review, and a class case study biodiversity planning project. The class will work with real and current problems while gaining perspective on the historical development of efforts to conserve biodiversity over the decades. This course is intended to give students the necessary background to pursue advanced studies and careers that involve both international and domestic issues in conservation and conservation biology. Critical thinking and analysis will be encouraged as we aim to identify solutions, embrace the value of conflicting perspectives, and practice learning to engage others effectively.

By the end of the course participants will be able to:

- Review and recall major issues relating to biodiversity and its conservation historically and in the present day including major policy developments and priority solutions recommended for successful biodiversity conservation;
- Understand the mechanisms through which biodiversity conservation theory and policy is developed, implemented, and evaluated;
- Apply broader knowledge and concepts from course materials toward specific biodiversity challenge cases (via: major paper research and analysis, field site evaluation, conservation planning group project);
- Analyze the ecological, social, and economic priorities, opportunities, and challenges toward successful biodiversity conservation generally and within case studies;
- Evaluate and prioritize immediate actions over the next 5-10 years for local, regional, and global biodiversity conservation;
- Create a model plan incorporating the general principals studied in the course that engage ecological, socio-cultural, economic, legal, and policy elements through articulation of a situational analysis including both biodiversity and human well-being targets, viability assessment, threats, strategies, theory of change, and monitoring plan.

Course Prerequisites:
Graduate Standing & 6 credit hours of graduate course work or permission of instructor.

Course Overview and Content:
This course emphasizes effective communication, research skills, and critical thinking, and provides opportunities to further these proficiencies. Active discussions, engagement with guest speakers and one another, a group biodiversity planning project, a field trip, and your research paper are the primary assessments used in this course.

Assigned reading for this course includes portions of two textbooks, as well as journal and newspaper articles. One textbook for this class is available for download at no charge (see below.) The other textbook is available through Yale University Press and/or other online vendors. Other readings will be assigned to augment class discussion; typically, pdf files will be posted on Blackboard.

All students will choose a topic (subject to approval of instructor) relating to the challenge of biodiversity

conservation. Students will prepare a research paper on their topic, develop a 2-page fact sheet summary, and give a presentation.

Speakers and class exercises were chosen to represent an extensive variety of challenges and activities in conservation and conservation science; most are multi-factorial in nature. All are intended to develop students' abilities to recognize and analyze issues, to devise solutions, and to provide a wide spectrum of perspectives of value to a conservation career.

REQUIRED TEXTBOOKS

Conservation Biology for All. 2010. Sodhi, N.S. & P. R. Ehrlich, Editors. Oxford University Press 358 pp. Available at: http://www.mongabay.com/conservation-biology-for-all.html

Lovejoy, T.E. and Hannah, L.J. eds., 2019. Biodiversity and Climate Change: Transforming the Biosphere. Yale University Press. ($43 at YUP / $35 with shipping from Amazon)

American Psychological Association. (2019). Publication manual of the American Psychological Association (7th ed.). Washington, DC. Online guidance for this source is acceptable also see: https://writingcenter.gmu.edu/writing-resources/citing-sources/apa-style-quick-guide-2020

GENERAL POLICIES AND RESOURCES

Attendance:
You are expected to attend every class session and to be there on time. If you must miss a class, please let the instructor know ahead of time, if possible. Absences may affect your participation grade.

Email:
GMU requires students to use the GMU email system. You can set up this email to forward to a different email address. Your GMU email address will be used for all contact regarding this course. See http://gmu.edu

Networking:
Recognizing the value of colleague relationships, Prof. Lovejoy, the originator of this course, invited students to supper after class each week. We continue this tradition with remote learning, as we invite you to grab a bite and chat informally after class. Guest speakers are also invited – a valuable opportunity to connect with them in a more informal setting. This is not required and will not affect your grade; building these bonds can benefit your future success.

Academic Integrity:
GMU is an Honor Code university; please see the University Catalog for a full description of the code and the honor committee process. Academic Integrity is taken very seriously; violations are treated gravely and will be reported directly to the Office of Academic Integrity, who will investigate, and if a violation is substantiated, will impose sanctions, which can be severe. What does academic integrity mean in this course? Essentially this: when you are responsible for a task, you yourself will perform that task, and do your own original work. When you rely on someone else's work in any aspect of the performance of that task, you will give full credit in the proper, accepted form. Another aspect of academic integrity is the free play of ideas. Vigorous discussion and debate are encouraged in this course, with the firm expectation that all aspects of the class will be conducted with civility and respect for differing ideas, perspectives, and traditions. When in doubt (of any kind) please ask for guidance and clarification. See http://catalog.gmu.edu/policies/honor-code-system/

University Policies:
The University Catalog, http://catalog.gmu.edu/, is the central resource for university policies affecting student, faculty, and staff conduct in university academic affairs. Other policies are available at https://universitypolicy.gmu.edu/. All members of the university community are responsible for knowing and following established policies

Office of Disability Services:
If you are a student with a disability and you need academic accommodations, please contact the Office of Disability Services (ODS) at 993-2474. All academic accommodations must be arranged through the ODS. https://ds.gmu.edu/

Other Useful Campus Resources:
GMU Career Services: https://careers.gmu.edu/

Writing Center: Lab for Writing & Communication: https://writingcenter.gmu.edu/

University Libraries: "Ask a Librarian" http://library.gmu.edu/ask

Counseling And Psychological Services (CAPS):
(703) 993-2380; https://caps.gmu.edu/

Student Support and Advocacy Center (SSAC):
(703) 993-3686; https://ssac.gmu.edu/

Mason Ready & Mason Alert Emergency Notification System:
https://ready.gmu.edu/ ; https://ready.gmu.edu/masonalert/

Cell Phones:
As a courtesy to your classmates, professor and guest speakers, please turn your cell phone ringer off during class. If you are experiencing a medical or family situation where you need to receive an incoming call, please let us know, and feel free to exit the class to receive your call.

Inclement Weather and Class Cancelation:
We will still plan to have class virtually. Any additional information will be provided if necessary.
GMU posts closings on its website (www.gmu.edu.) You can receive notification from Mason Alerts via email or text to a cell phone.

COURSE GRADING AND ASSIGNMENTS

Grading Scale:

A+	98 – 100	B+	88 – 89	C+	78 – 79	F	<70
A	93 – 97	B	83 – 87	C	73 – 77		
A-	90 – 92	B-	80 – 82	C-	70 – 72		

See https://catalog.gmu.edu/policies/academic/grading/#ap3-2-1

Grading Rubric:

Assignment	**Points**	**Rubric**
Major Paper Assignment: - Topic and Initial Resources (2 pts) - Outline (3 pts) - Draft 1 (5 pts) - Draft 2 & PR (5 pts) - Final Draft (10 pts) - Presentation + 2 Page Fact Sheet (10 pts)	35% of grade	Full Credit: All assignments complete, follow guidelines, on time. Substantial first draft developed. Comments from reviewer(s) incorporated in subsequent draft(s) and include replies/decision-making. Formatting (APA) incorporated for in citations, references, and presentation follow guidelines. Partial Credit: Assignment does not follow guidelines or formatting instructions. Drafts are not fully developed and/or do not address reviewer(s) comments with incorporated replies / decision-making.
Draft Biodiversity Conservation Project Management Plan	20% of grade	Full Credit: Participate as individuals / small teams in developing information and decision-making during class training. Apply concepts of training to field visit case study. Partial Credit: Limited participation identifying/providing information for decision-making / discussions. Limited application of training to field visit case study. *Keep track of / document roles and outputs and agree as a team who will do what part of the work.
Discussion / Participation	25% of grade	Full Credit: Meaningful participation each week in class discussion / critical analysis providing feedback to classmate comments, on readings, questions developed for guest speakers. Synthesis of concepts and analyses combined with curiosity to develop probing questions. Partial Credit: Meaningful but limited participation in discussions each week.
Field-Based Case Study - Identify field site case study (2 pts) - Summary history report of field site (3 pts) - Evaluation of current management strategy / plan (5 pts)	20% of grade	Full Credit: Complete all sub-assignments in full and on-time, evaluate field case study based on steps learned in conservation planning, recommendations for improvements for field site management to improve biodiversity. Partial Credit: Limited history or evaluation of field site management and planning. Limited connectivity between recommendations and capacity for field site to implement. Presentation limited in following guidelines.

- Challenges and Recommendations (5 pts) - Consultant Report (5 pts)		

Basis of Grading – Details:
Following directions for all graded materials is expected. If in doubt, please consult the syllabus and Blackboard. If you are still unclear about something, please ask your instructor. Clear communication, including correct spelling, grammar, and punctuation, is expected in all written assignments. You should not expect full credit if there are mistakes in usage. Thorough proofreading is expected.

Most written assignments have a maximum word count. We hope you will write both deeply and concisely (note: It is more challenging AND more effective to say more with fewer words). Full credit will not be given if you go over the maximum word count, if you are significantly under, or if you merely pad it.

Assignments:
Assignments include discussions, presentations, individual research, team project, peer review, and field project. Assessment of assignments is based on content, adherence to parameters of assignment (following instructions, completeness, observance of deadline etc.) as well as spelling, grammar, and punctuation. Your writing reflects not only on yourself, but on your university, your organization, and our profession, and should demonstrate professionalism in quality of research, content, and usage.

Discussions on a presentation, readings, or activity are intended to engage students in higher order thinking skills by analyzing, reconsidering, questioning and relating the content within a broader context of student knowledge and experience. Our discussions and your participation in them should not be just a summary or a description but should involve your own thinking about the subject. You can expect full credit as you demonstrate an interaction with your own thoughts and outlook.

Class Participation:
Students are expected to attend class, to engage in and lead lines of inquiry/questions, and participate fully and meaningfully in the group project. Emphasis is placed on effective communication; class discussions and question/answer sessions after presentations provide avenues to demonstrate and develop your critical thinking and communication skills. Come to class prepared from background readings in texts / articles with questions, alternative viewpoints, additional resources, and curiosity.

Major Paper (MP):
All students will prepare an academic paper on their own selected biodiversity topic that will include: title, author, institution, abstract, background with research question/problem identified, methodology undertaken, results, discussion/conclusion, future steps/directions, references, and a summary of lessons learned (Appendix A).

Formatting and citation style should follow the American Psychological Association (APA) Style, 7th edition, the standard/dominant professional style for the biological sciences. Generally speaking, formatting should be left-justified, Times New Roman 12-point font, 1-inch margins, double-spaced throughout, including abstract and references. Specified format for headings / subheadings should also be followed. Reference formatting varies by source type. The Publication manual of the American Psychological Association, 7th edition is required for your reference in this course and will be a valuable addition to your professional collection. Zotero citation software (free download at https://www.zotero.org/) is also recommended for ease in creating correct citation format.

A running head should be included in the header on each page per APA guidelines. Each paper should include an Abstract, on a separate page before the body of the paper. The Abstract should summarize and preview the problem, methodology, and conclusions of the paper. The Abstract should be a maximum of 200 words.

The body of your paper should be complete, clear, and logically organized to lead a reader through an understanding of your topic. Papers should be a minimum of 10 pages, maximum 12. References, images, and tables are not included in the page count. Please use Times New Roman, 12 point, with 1" margins (normal), left justified for all text.

References should start a new page at the end of the body of the paper, and follow APA formatting. Generally, references should be listed in alphabetical order by first author's last name. Date (generally, year) of the publication should follow the authors' names. Please format to leave the first line hanging for each reference. Master's students are expected to have a minimum of 15 references, and PhD students a minimum of 25. Most references should be from peer-reviewed journals. Any reliance on others' work should be credited, including ideas, thoughts, concepts, data, images, etc. Direct quotes should be avoided or used only when necessary. All in-text citations should appear in end references, and vice versa. Please refer to the APA 7th edition style guide for specifics. Zotero reference software is recommended to organize your sources; it was developed here at GMU and is available as a free download (www.zotero.com). The library offers Zotero workshops.

Additional guidelines:

- References, images, and tables are **not** included in the page count. References should begin a new page after the body of the paper (use a page break). Images and tables may appear within the body (but are not included in the page count), or in a separate appendix after the References.
- Please number the pages (in the top right) and put your name on each page under the running head in the header.
- Please use spell and grammar check, and carefully proofread your work. Correct usage counts in your grade.
- Submit an electronic file. The electronic file is submitted to GMU plagiarism software and should be in a .doc or .docx format (i.e. please do not submit a PDF of your paper)
- Document name should follow this guidance:
  lastname_Mpevpp619_biodiversitytopic_DraftX_yearmonthday
  (e.g. Eves_Mpevpp619_BushmeatAfrica_DraftFinal_20230502)

MP Peer Review:
You will review another student's paper before final submission to give constructive feedback to your classmate. This feedback can be helpful to the author as they revise and complete their paper before submitting. You will receive credit for the quality of your peer review. All submissions should include the recommendations to your fellow student as well as the author's response to those recommendations (i.e. do not submit a 'clean copy' of your paper without edits/comments/replies). Check Blackboard for details.

Criteria for grading the papers include content, research, analysis, organization, and writing style, including spelling, punctuation, and grammar usage. Students are expected to produce a paper suitable for publication in a peer-reviewed journal, which includes proper references, citations, language usage, and format.

MP Fact Sheet:
A highly valuable skill to develop in our field is that of the 2-page fact sheet. This is a summary detail of your larger work – consultant report, research paper, literature review, data analysis, policy evaluation etc. – and is a document you can provide to listeners whenever you have a presentation or, simply, as a tool to direct individual to your larger work product. You will develop this fact sheet based on your major paper as part of

your presentation – this enables listeners to really listen to you (they won't need to take notes), enables you to not produce an edu-document as a presentation itself, and serves as a multi-purpose tool going forward to communicate about your work.

MP and IFS Presentation:
All students will give an oral, timed presentation on their major paper and field study, followed by a class discussion and question/answer period. The presentations should be of the type and quality for submission at a professional, scientific, or academic conference or symposium. That said, many such presentations end up being more or less a document in a Powerpoint. We want to rather prepare an engaging presentation that tells the story of your topic while the 2-page fact sheet you produce provides the typical text and graphics one would put into a PPT (for professional meetings). All presenters should prepare their 2-pager to be posted to the Blackboard Discussion Board for access by your classmates **prior** to the presentation. Please visit the link above to Presentation Zen to learn more about ways you can avoid common challenges with making professional presentations.

Please submit your PowerPoint slides to Bb Assignments, and post the day prior to the day of your presentation.

Criteria for grading the presentations include content, research quality, organization, analysis, visual clarity, and presentation style. Correct spelling and grammar usage do count. You are in graduate school and are expected to express yourself in a professional way. Proofread carefully.

Independent Field Study (IFS):
Each student will identify a biodiversity-designated location (or one with such restoration potential) near where they live or work to learn about and develop an historical – observational – evaluative analysis and presentation. Details for each step will be provided in our weekly assignments section on Blackboard. Generally, you will locate an existing park or protected place or one with potential for restoration and identify the history of the site and surrounding area, current management authority and process for funding as well as partners or other entities involved with the site. Ideally you will be able to visit the site in person, take photos, spend time learning about the staff and the required work to maintain/manage the site. We will be completing an in-class group planning project on another biodiversity site/issue and you can draw from this to evaluate your chosen field study site. Based on what you learn with, ideally, 2-3 visits to the site and via research, you will develop recommendations for priority actions for the location and prepare a short 4-5 page 'consultant report' and brief summary presentation (see presentations section above). Follow relevant APA formatting requirements – more details will provided in Bb.

Conservation Standards Management Plan – Class Project (CS):
Each week in class we will reserve time (ideally one hour) toward the development of a draft management plan for a selected biodiversity conservation challenge. This work will follow the training provided by the Open Standards for the Practice of Conservation which has been in development since 2002 and is a tool applied globally across government and non-government organizations working to conserve biodiversity and improve human well-being. Planning using this tool has become a required skill among biodiversity and development professionals by major funding institutions. As this tool requires unique software and detailed planning expertise (not required for this course) we will utilize this opportunity to learn the basics of this planning tool and system as a means towards enhancing how we evaluate our readings and course assignments.

.

The professor reserves the right to modify the course content or syllabus – check top of syllabus for most recent date version.

Every effort has been made to be clear and consistent, but if you notice any discrepancies internal to this syllabus or Blackboard, or between the syllabus and Blackboard, please call it to our attention so we can clarify.

COURSE SCHEDULE

Below is the general schedule for our course. Please visit Bb for assignment instructions and weekly readings

Course Week	Topic & Presenter	Assignments & Due Dates
1: 23 Jan	Eves: Course Review, Introductions, Biodiversity Challenges, CBD Agreement 2022, Intro to Conservation Standards (CS)	Due ASAP (before 30 January if possible) Review Syllabus, Order Textbook
2: 30 Jan* *Dr. Pimm will present at 8 AM US / 3 PM Africa	Dr. Stuart Pimm (Duke University Doris Duke Professor of Conservation Ecology: Extinctions and the Practice of Preventing Them CS: Project Selection	Due 30 January Week 2 Readings/ Resources, Narrow Paper Topic, Scope Options for Individual Field Study Sites
3: 6 Feb	Eves: Conservation Biology and Biodiversity CS: Scope, Vision, Team	Due 6 February Week 3 Readings/ Resources, Topic selection and 3-5 Major Peer-Review Sources for Paper, Site Selection and Brief History of Field Site
4: 13 Feb	Eves: Ecosystem Services CS: Biodiversity & Human Well-Being Targets	Due 13 February Week 4 Readings/ Resources, Draft Outline of Paper & 7-10 PR Resources, Draft History/ Summary Current Management of Field Site
5: 20 Feb	Eves: Habitat Fragmentation CS: Viability Assessment	Due 20 February Week 5 Readings/Resources, Draft Outline of Paper and Resources Update, Field Site Update
6: 27 Feb	Dr. Nancy Knowlton, Smithsonian NMNH: Success Stories in Conservation CS: Threats & Threat Assessment	Due 27 February Readings for Week 6, Ongoing Paper Development / Field Visit Planning (if a first visit has not yet taken place)

7: 6 March	Eves: History of Biodiversity Conservation CS: Situation Analysis	Due 6 March Readings for Week 7, Draft 1 Major Paper, Plan for Field Visit (Major Questions to be answered)
X: 13 March	SPRING BREAK	SPRING BREAK
8: 20 March	Dr. Lee Hannah (INVITED – TBD), Conservation International: Biodiversity and Climate Change CS: Strategies	Due 20 March Readings for Week 8, Edits for Draft 2 of Major Paper, Draft of Field Visit
9: 27 March* May have to schedule for earlier in the day as speaker is in UK	Chantal Elkin, WWF Head of Beliefs and Values: Moral and Ethical Considerations in Biodiversity Conservation CS: Theory of Change	Due 27 March Readings for Week 9, Edit Draft 2 of Major Paper, Field Visit (at least first but preferably second)
10: 3 April	Dr. Brian Gratwicke, National Zoo and Conservation Biology Institute: Sustainable Development CS: Theory of Change	Due 3 April Readings for Week 10, Exchange Major Paper with Peer, Field Visit Report Draft
11: 10 April	TBD: Science Communications CS: Objectives and Indicators	Due 10 April Readings for Week 11, Return Peer Review on Major Paper, Draft Presentation for Field Visit/ Edit Report
12: 17 April	Dr. Gary Rupnick, Head of Plant Conservation Unit, Department of Botany, NMNH CS: Monitoring Plan	Due 17 April Readings for Week 12, Final Paper Edits, Final Field Report Edits, Presentation Edits, 2-Page Fact Sheet for Major Paper
13: 24 April	619 Participants: FINAL PRESENTATIONS Major Paper	Due 24 April Edit Final Papers, Final Presentations on Major Paper, 2-Page Fact Sheet
14: 1 May	619 Participants FINAL PRESENTATIONS Field Visits	Due 6 May Final Field Study Reports, Final Presentations for MP and IFS, Final Major Paper.