SAMPLE COURSE SYLLABUS
Controversies in Natural Resource Management
Fall 2024

Instructor:
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Objectives/Outcomes/Standards:

1) Gain knowledge and further appreciation for contemporary challenges and solutions in natural resource management through class lectures, readings, and extra credit.
2) Use case studies to appreciate both the science underlying conservation policy and management recommendations.
3) Hone critical thinking skills through analysis of material presented in class and primary literature.
4) Gain experience with program R.
5) Acquire ability to interpret and manipulate ecological datasets and graphs.

Important Note 1

Email Policy: Communication is important, and email is a form of communication. Please treat email correspondence as though it's important by initiating email with a greeting and signing off with your name. I will try my best to respond to email queries within 48 hours. If your question will take more than 1-2 minutes to answer, it's best to come to my office hours or schedule an appointment outside of office hours; I'd be happy to answer your question then.

Important Note 2

Participation: In each lecture, several questions will be posed to the class. Sometimes, I'll be looking for spontaneous answers; other times, I'll ask you to break into groups for a few minutes. These questions will extend some aspect of the lecture material in attempt to spur communication and critical thinking, while helping you to become more comfortable with impromptu delivery of scientific material. I am looking for evidence of engagement, problem-solving, and critical thought; I am less concerned that your answer is "correct".

Tips for Success

1) *Be in class, be punctual, and be engaged.* Final grades have been correlated positively with attendance in the past. Simply attending class is necessary but probably insufficient, and I expect you to spend at least 3 hours studying outside of class per every credit hour. Be engaged and assertive.

2) *Participate in discussions.* I assume that you will have read papers prior to class. Questions make understanding easier, and are a requirement for doing science. So, ask them! Also, if something is unclear to you, odds are it is to a classmate as well. When a classmate asks a question, listen both to the question and the answer.

3) *Learn how you learn.* Students can re-write notes, drill flashcards, draw graphs, make charts, or some combination of these and other study methods. Figure out which approaches work best for you. Again, this is good advice for most courses, but particularly those that combine critical thinking, conceptualization, and memorization (like this one!).

4) *Please be patient with me and, more importantly, with your classmates and TA.* There will always be hiccups in life. Try to keep this in mind for us; we will for you!

Week	*Topic*	*Case Study*	*Skill or Technique*	*Pre-Reading*
1	statistics review and stochasticity	what Patrick Mahomes' performance in Superbowl LV, coin flips, and greater prairie chickens near development have in common	nuts and bolts of Program R	—
2	accounting for uncertainty in natural resource management	effects of lead poisoning on raptors	simulating λ	Slabe et al 2022
3	evidence-based conservation: matching time and money to desired outcomes	using demographic elasticity to inform bang : buck in conservation efforts	sensitivity and elasticity analyses	Ali et al 2018
4	the conservation challenge of apparent competition	feral pig control to save Channel Island foxes	population viability analysis	Bakker et al 2021
5	Allee effects and positive density dependence	ruffed grouse conservation in the Falcon Springs Wildlife Area	population viability analysis continued	Dinsmore 2001
6	allocating sampling effort to maximize conservation and management impact	monitoring fish SGCNs in the Driftless Area ecoregion	rarefaction and evidence of absence	Kelly et al 2021
7	listing criteria and "take" under the Endangered Species Act	wind energy development and turbine collisons of wildlife in the Midwestern U.S.	rarefaction and evidence of absence continued	Beston et al 2015
8	"supporting" and "cultural" ecosystem services	the Conservation Reserve Program and ecosystem services in the Lower Cedar Basin	bioeconomic modeling	Johnson et al 2016
9	"regulating" and "provisioning" ecosystem services	reducing vehicle collisons with white-tailed deer	bioeconomic modeling continued	Gilbert et al 2017
10	exploitation, overexploitation, and overabundance	harvest management as a conservation tool	sustainable yields and offtake of harvested species	Jesmer et al 2021
11	conservation and management of formally protected areas	making island biogeography theory informative to on-the-ground management and reserve design	ecologically-scaled landscape indices	Voss et al 2001
12	conservation and management of human-occupied landscapes	spotted skunk conservation in the Midwestern U.S.	occupancy modeling and model selection	Perry et al 2021
13	ecological restoration, shifting baselines, and answering the question 'what is natural'?	tallgrass prairie restoration in the Midwestern U.S.	identifying alternative states	Hempson et al 2019
14	anticipating and pre-empting commons tragedies	private property ownership and natural resource management	public communication	Hardin 1968