FWB 260: Principles of Wildlife Management

Spring 2015
Wagar 232 at 15:00 to 16:15 Tues and Thurs

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Synopsis:
Principles of ecology applied to management and conservation of fish and wildlife. This class is designed for Fish, Wildlife, and Conservation majors, but will be incorporating other natural resource fields where applicable.

Course Objectives:
1. Students will develop a general understanding of the assumptions, effectiveness, and limitations of theories and strategies used to manage fish and wildlife populations and their habitats.
2. Students will develop analytical problem-solving skills and will gain experience in data interpretation and graphical and mathematical models.
3. Students will develop a general appreciation for the challenges and opportunities inherent in fish and wildlife conservation.

Readings:
Your primary textbook will be:


We will read much, but not all, of this book. Additional course material will be taken from the primary literature and other relevant readings. For access to course materials on RamCT you will need an eID user name and password. Visit http://ramct.colostate.edu and find the “student resources” tab to learn more about RamCT.

Supplies: You will need a calculator that can calculate logarithms for possible use on exams. Sharing calculators will not be allowed during exams.
Course Format:

1. Two lectures per week: Tues, Thurs: 3:00 – 4:15 pm  232 Wagar.
2. Come to class having read the pages assigned.
3. Weekly quizzes will be given on the assigned reading and previous weeks lecture materials.
4. If you miss a class, it is your responsibility to get the notes from a classmate.
5. Please bring questions to class and ask them. Discussion in class is important.

Course Grading:

Tentative point allocation for evaluation of students:

<table>
<thead>
<tr>
<th>POINTS</th>
<th>PERCENTAGE</th>
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<tbody>
<tr>
<td>80</td>
<td>20%</td>
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<td>150</td>
<td>36%</td>
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<td>100</td>
<td>24%</td>
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<td>ca. 70</td>
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<td>10</td>
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<td>410</td>
<td>100%</td>
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Pass/Fail is not a grading option. Fish, Wildlife, and Conservation majors must earn a “C” or better in FW 260. Cutoffs for grades typically will be based on the following percentages: 90-100 = A (or A-); 80-89 = B (or B-); 70-79 = C (or C-); 60-69 = D (or D-); ≤ 59 = F; in some instances grades might be based on the performance of the entire class.

Quizzes:

We will have approximately weekly in-class quizzes (~12 in total) during the semester administered using the RamCT test functions or iClickers. These weekly quizzes are tentatively scheduled as indicated with a Q on your course schedule below. The quiz questions will be taken directly from course lectures and assigned readings, and will cover the period between quizzes. These regular quizzes are given to: 1) reduce “cramming” for exams by ensuring all students make frequent use of the material; 2) ensure better retention because you study and review material regularly; and 3) reward those who come prepared to class. I will drop the lowest in-class quiz score from the calculation of your grade. I do not give make up quizzes and it is your responsibility to ensure your iClicker works prior to each quiz (lack of batteries or other problems will result in a 0 on your quiz).

Exams:

Exam questions will be taken from lectures, guest lectures, textbook readings, and discussion readings (you are responsible for all information in reading assignments, even if it is not specifically covered in class). In general, exams will have some combination of true/false, multiple choice, matching, and short answer. Make-up or early exams are seldom given; rare exceptions are made for catastrophes truly beyond your control. In these cases, I must be notified before the exam and I must have written verification. If I do not have a valid excuse from you before the exam, you will receive a 0. I may choose to use a restricted average of other scores, instead of a makeup.

Once I have returned an exam you have 24 hours to identify any arithmetic errors on my part and I will correct them. If you did not detect arithmetic errors, but want question(s) regraded, you must submit the exam with a written explanation of your arguments within one
week after it was returned in class. Beware! If you submit an exam for re-grading I will re-grade the entire exam to ensure no other mistakes were made (this may or may not benefit you).

**Problem-Sets:**

We will have 5 take-home problem sets during the semester. These are due at the start of the class on the due date and will be penalized 10% if received after the start of class on the due date. No problem sets will be accepted after the due date, unless I accept a catastrophic reason in advance.

**Conservation Activity:**

Each student will be required to conduct an activity relating to conservation (preferably of fish and wildlife) during the semester. The activity cannot be an assignment or project from another class and it must be accomplished within the semester. Possibilities include, but certainly are not limited to: 1) work at local conservation groups or zoos, 2) assisting ongoing scientific research programs 3) participation in conservation education programs, 4) delivering a public talk or seminar, 5) involvement in a conservation activity with the Student Chapter of The Wildlife Society, the Society for Conservation Biology, or the American Fisheries Society, or other student group, 6) writing to politicians regarding conservation issues (note: you must turn in letter to get credit), 7) writing articles regarding conservation issues for the popular press, 8) volunteering as part of an environmental clean up or invasive species removal program, etc. In the final day of class, students will turn in a brief (1 paragraph) typed description of their activity.

**Helpful Hints:**

1. Ask questions; 2. Rewrite your lecture notes; 3. Test yourself by writing questions in the margin of your notebook paper, next to relevant lecture material; 4. Use flash cards for studying vocabulary; 5. Study with a partner or group; 6. Use the TA office hours – they are there to help you, 7. Keep up with the material. In theory you should be studying 6-9 hrs/wk for a 3 credit class, but for some it will take more time and for others it will take less.

**Academic Dishonesty And Disruptive Behaviors:**

Cheating and plagiarism will not be tolerated in class. If found cheating, you will receive a failing grade. Distractive behaviors such as talking to neighbors, reading newspapers, regularly coming to class late (unless prior authorization has been given), or leaving class early are also not acceptable; students engaged in such activities may be asked to leave the class. Instances of academic dishonesty and disruption also may be referred to the Office of Judicial Affairs, which can result in University disciplinary action (see Student Rights & Responsibilities section of the CSU General Catalog for more information). As an instructor it is my responsibility to ensure all students have an equal opportunity to learn the material without disruption or distraction. I take that responsibility seriously and will not tolerate such disturbances.

Academic integrity lies at the core of our common goal: to create an intellectually honest and rigorous community. Because academic integrity, and the personal and social integrity of which academic integrity is an integral part, is so central to our mission as students, teachers, scholars, and citizens, we will ask to you sign the CSU Honor Pledge as part of completing all
of our major assignments. While you will not be required to sign the honor pledge, we will ask each of you to write and sign the following statement on your papers and exams: 
"I have not given, received, or used any unauthorized assistance."

**Attendance And Participation:**

You are expected to attend all classes, but I will not take roll. As adults I leave it in your responsible hands to get notes from your peers (not from me or your TA) and do the required reading. However, we will have random clicker questions in class and during discussions. Your participation as assessed through these clicker based measures in class will be used as your participation grade.

**Special Needs:**

Please let me know as soon as possible if you have any special needs. If any student has a learning disability please contact the Resources for Disabled Students in the General Services Bldg. That way we can work to accommodate you as soon as possible. It is your responsibility to work with RDS and bring necessary paper work to me.

**COURSE SCHEDULE** (subject to change, be sure to check RamCT for latest updates)

1 Tues Jan. 20
   1.1 Course Intro
   1.2 Dr. Wittemyer Research Intro
2 Thurs Jan. 22
   2.1 Intro to Wildlife Management
   2.2 Text Reading - Chp 1-4
3 Tues Jan. 27 Q1
   3.1 Intro to Wildlife Management (cont)
   3.2 Role of Science in Wildlife Management
   3.3 Text Reading - Review Chp 3
   3.4 Discussion Reading: Wildlife Professional 2012, Celebrating 75 Years
   3.5 Discussion Questions: 75 Years
4 Thurs Jan. 29
   4.1 Guest Lecture Joel Berger on Conservation Science
5 Tues Feb. 3 Q2
   5.1 Role of Science in Wildlife Management Cont.
   5.2 Wildlife Funding
   5.3 Discussion Reading: The Wildlife Professional 2012, Cornerstone of US Conservation
   5.4 Discussion Questions: Cornerstone of US Conservation
   5.5 Assignment 1 Agencies and Legislation
6 Thurs Feb 5
   6.1 Video: North American Model of Wildlife Conservation
   6.1 Reading: The Wildlife Professional 2012, Lifeblood of the States
   6.2 Discussion Reading: Organ and Fritzell (2000)
   6.3 Hunting Trends Discussion
   6.4 **ASSIGNMENT 1 DUE**
7 Tues Feb 10 Q3
7.1 Guest Lecture: Chuck Anderson CPW  
8 Thurs Feb 12  
8.1 Management Approaches: Single-Species, Ecosystem, and Adaptive Management  
8.2 Lecture Background Reading: Wilcove and Blair 1995 (Ecosystem Management)  
8.3 Lecture Background Reading: Grumbine 1997 (Ecosystem Management)  
9 Tues Feb 17 Q4  
9.1 Ethics and Values in Wildlife Management  
9.2 Discussion Reading: Murie (1954)  
9.3 Discussion Questions: Wildlife Management Ethics Reading  
9.4 Discussion Reading: NYT Climate Change (2014)  
9.5 Discussion Reading: NYT Isle Royale Wolves (2013)  
9.5 Discussion Questions: Ethics and Advocacy  
10 Thurs Feb 19  
10.1 Wildlife Populations Growth Introduction  
10.2 Text Reading - Chp 5 (80-100); Chp 6  
10.3 Midterm Review  
11 Tues Feb 24  
11.1 Midterm  
12 Thurs Feb 26  
12.1 Wildlife Populations - Exponential  
12.2 Text Reading - Chps 5,6,7  
12.3 Assignment 2 Exponential Growth  
13 Tues Mar 3 Q5  
13.1 Wildlife Populations - Regulation and Logistic (cont)  
13.2 ASSIGNMENT 2 DUE  
13.3 Text Reading - Chps 5,6,7  
13.4 Assignment 3 Logistic Growth  
14 Thurs Mar 5  
14.1 Wildlife Populations - Life Tables Introduction  
14.2 Text Reading - Chp 5 (pp 92-110), Chp 6 (pp 121-122)  
14.3 Discussion Reading: Wittemyer et al. 2013 (Elephant Demography)  
14.4 Assignment 4 Life Tables  
15 Tues Mar 10 Q6  
15.1 Welfare Factors  
15.2 Text Readings: Chp 8,13,14  
15.3 ASSIGNMENT 3 DUE  
16 Thurs Mar 12  
16.1 Welfare Factors Cont.  
16.2 ASSIGNMENT 4 DUE  
Mar 16-20 Spring Break  
17 Tues Mar 24 Q7  
17.1 Wildlife Habitat  
17.2 Text Reading: Chapt 16  
17.3 Discussion Reading: Bergman et al. 2014 Mule Deer Habitat  
17.4 Guest Lecture: Nick Prough Quail and Upland Wildlife Federation  
18 Thurs Mar 26  
18.1 Predation  
18.2 Text Reading - Chp 9
19 Tues Mar 31 Q8
19.1 Predation (Cont)
19.2 Discussion Reading: Leopold 1949 (Thinking Like a Mountain)

20 Thurs Apr 2
20.1 Discussion Reading: Ripple and Beschta 2005 (Trophic Cascade)
20.2 Discussion Questions: Predation
20.3 Midterm 2 Review

21 Tues Apr 7
21.2 Midterm 2

22 Thurs Apr 9
22.1 Hunting and Harvest Theory
22.2 Text Reading - Chp 10
22.3 Assignment 5 Part I Harvest Theory

23 Tues Apr 14 Q9
23.1 Harvest (Cont)
23.2 Discussion Reading: Smith et al. 2011 (Impacts of Marine Fishing)
23.3 Discussion Questions: Overfishing
23.4 Assignment 5 Part I Due
23.5 Assignment 5 Part II Harvest Theory

24 Thurs Apr 16
24.1 Human Wildlife Conflict (Dr. Stewart Breck of the National Wildlife Research Center)
24.1 Assignment 5 Part II Due

25 Tues Apr 21 Q10
25.1 Wildlife Diseases
25.2 Text Reading - Chp 11

26 Thurs Apr 23
26.1 Wildlife Diseases (Cont)
26.2 Discussion Reading: Fricket al. 2010 (White Nose Syndrome)
26.3 Discussion Reading: WNS Brochure
26.4 Discussion Questions: WNS and bats
26.5 Guest Lecture: Prof. Gene Decker-Putting it all together

27 Tues Apr 28 Q11
27.1 Animal Behavior and Wildlife Management

28 Thurs Apr 30
28.1 Animal Behavior Cont. (animal space use)
28.2 Discussion Reading: Loss et al. 2013 (domestic cats)
28.2 Discussion Questions: Impacts of domestic cats

29 Tues May 5 Q12
29.1 The future of Wildlife Management
29.2 Reading: Wildlife Professional 2012, What the Future Holds
29.3 Discussion Reading Orr 2007
29.4 Discussion Reading Knight 2007
29.5 Discussion Conservation and Optimism

30 Thurs May 7
30.1 Conclusions/Final Review
30.2 Text Reading - Chp 19
30.3 Conservation Activity Description DUE!

31 Tues May 11 - FINAL (6:20-8:20 PM)