

Natural Resource Conservation and Policy

-OR-

How can we live more sustainably on this wonderful planet?

To answer this question, we will need radically new ways of approaching problems. I hope these will give you inspiration:

“Dare Mighty Things”

— Motto, NASA Jet Propulsion Laboratory

**“The bigger the problem,
the bigger the opportunity.”**

— Vinod Khosla, Venture Capitalist

“The best way to get a good idea is to get a lot of ideas.”

— Chemist Linus Pauling

“We all know your idea is crazy. The question is whether it is crazy enough.”

— Nobel Physicist Niels Bohr

“Have a healthy disregard for the impossible.”

— Larry Page, co-founder of Google

“If you want more successes, you’re going to have to live with more failures. You can’t have one without the other.”

— Tina Selig, Professor of Entrepreneurship,
Stanford University

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What is Natural Resource Conservation?

My favorite description of natural resource conservation:

“The oldest task in human history,” wrote Aldo Leopold, “is to learn to live on a piece of land without spoiling it.”

- ***The primary goal of natural resource conservation is to supply what humans need while trying to minimize impacts on the environment.***

- ***It combines science (primarily biology) and policy (decision making).***

Resource conservation is about survival of both humans and our planet. We literally cannot survive without resources from the natural world. They supply our food, lodging, clothing, energy, clean water and even our oxygen! But we must minimize our impacts because over the long-term, human welfare and environmental quality are inseparable. The environment can live without us, but we can’t live without it!

Course Description

The course examines the history of conservation and its ecological, economic and social foundations. First we discuss the basic principles of resource management including sustained yield, ecology, and the effects of world population growth. With this foundation, we take a more detailed look at the management of specific resources, including soils, agriculture, rangeland, forestry, wildlife, and fisheries, then fossil fuels and renewable energy.

The course attempts to take the long view. Most of our resource problems have been caused because people put short-term interests over their own best interests over the long run. In addition to that, the history of natural resource management is a key part of the last 10,000 years of human history. As poet Gary Snyder put it, resource

management began when we “stopped chasing our food and started growing it.” All of civilization is based on natural resource management. NRM has greatly increased the carrying capacity of the Earth for humans, but often at the expense of other species. Throughout its history, NRM has put people first and short-term over long-term goals. We need to change that. We need to take a long view toward the future and think of many generations down the road. What will we leave for them?

In addition to taking the long view, the course takes a global view. Since the days of the spice trade, natural resource management has had global implications. Now there are so many humans on the planet that we are having impacts on the entire planet and its climate. Natural resource managers are working hard to reduce these impacts, but it will require very creative thinking to overcome them.

Themes

- Natural resource conservation has greatly increased the carrying capacity of the Earth for humans.
- Much of natural resource management has involved domesticating the plants, trees, mammals, birds and fish that humans favor.
- We have faced serious environmental impacts in the past and in most cases (though not all) human ingenuity saved the day.
- We now face environmental challenges on a global scale
- **We will need major innovations and fundamental changes in our approach to solve these challenges**

Course Objectives:

Upon completion of this course, the student should:

- Recognize that *everything is connected*. Resources are not separate entities, but communities of living, interacting organisms and their abiotic environments.
- Recognize that the history of resource management is one of turning an increasing amount of the world’s biomass into humans and the things humans want and need. This is having major impacts on other species.
- It is also a history of increasing domestication. We started with grass seeds and small livestock, then other plants, trees, and finally fish. Will anything truly wild be left?
- Recognize our total dependence on natural resources and our own *personal* impacts on them.
- Recognize the complexity of our resource problems; that there are often no simple answers and that *all* decisions have consequences.
- Recognize the importance of our philosophy in determining both the types of environmental problems we are likely to confront and the types of solutions we are willing to consider.
- Consider both human needs and the needs of ecosystems.
- Be able to tolerate, and even appreciate, diverse viewpoints.
- Recognize that few disciplines are more controversial than resource management—and few are more important.

Required Text:

For those of you on a tight budget, copies of the text will be on reserve in the Bioscience Library and an eBook is available online. You will also find the first 4 chapters of Chiras on Blackboard in case it takes time to get your copy of the text.

Natural Resource Conservation: Management for a Sustainable Future, 9th or 10th Edition by Daniel D. Chiras & John P. Reganold.

This book provides vital background and supplementary information that we don’t have time to cover in lecture: You can order a new or used hardcopy at <http://www.UAFText2U.com>

Here is a link to a cheaper version of Chiras on Amazon, and a link for students to sign up for a free six months of Amazon Prime (free 3-5 business day shipping). It should be noted that if your subscription to Prime has not been cancelled by the end of the six month period, you will be charged the yearly rate of \$39 - which is half that of the non-edu membership.

Book: <http://amzn.com/0132251388> - \$35.59.

Amazon Prime: http://www.amazon.com/gp/student/signup/info?ie=UTF8&refcst=5XKG22R4TR7TTEDSD5OOGSTS2Y&ref_type=generic

Conduct in Class

- **CELLPHONES ARE NOT ALLOWED.** Anyone caught with a cellphone will be asked to put it away immediately. They are an enormous distraction and will not be tolerated.
- **COMPUTERS ARE NOT ALLOWED unless we are working on a project where I ask you to bring them.** Computers are a distraction.
- Do NOT put books away or zip backpacks until class is over (i.e. NOT ONE MINUTE BEFORE 11:30).
- If other students are disturbing or distracting you, please let me know.

Attendance

Students are expected to attend ALL classes. If it is necessary to miss a class, contact the instructor beforehand to inform them of your plans and request guidance on how to make up missed classroom learning. **Research has shown that students who attend classes do much better and are FAR more likely to graduate.** The US has dropped from 1st to 12th in the number of students who start college and actually manage to finish, so professors are urged to take attendance, as this has been shown to increase graduation rates.

Take Notes

Research also makes it clear that students who take notes do better in classes and again, are more likely to graduate. Note taking helps keep your mind from wandering; it helps you concentrate on the class.

Email: always include a subject & your name

If you send an email to me or to the TA, please put **"NRM 101" as part of the subject line.** Most faculty get over 40 messages/day. If you want us to read your email, **ALWAYS include a subject**. Otherwise, it could to be considered spam and deleted.

Blackboard

We use the online course center called "Blackboard" (I abbreviate it BB) for many things in this class. It allows us to post copyrighted material (since only those with a password can access it), the gradebook is kept online, and you can access lecture notes, announcements, handouts, etc. It will also be the place to take quizzes and submit some assignments. Go to <http://classes.uaf.edu/> and log in using your UA username (eg. sktodd). Don't know user name? Go to: https://uaonline.alaska.edu/banprod/owa/bwggk2gid.P_DisplayID_Request.

If you have any questions about email or Blackboard, contact the Computing Help Desk at helpdesk@alaska.edu.

Academic Honesty:

The UAF [Student Code of Conduct](#) requires that collaboration among students will not be allowed on essays, tests, exams and online quizzes. Copying or paraphrasing another student's writing is a violation of the Student Code. Evidence of academic dishonesty (either copying anyone else's work or allowing someone to copy yours) will be presented to the Director of Judicial Services and may result in an F for the course and possible expulsion from the University.

Quizzes

There is at least one quiz due by 11:59 pm almost every Monday!!

NOTE: **You cannot pass this course without doing the quizzes.** In every field, the 101-level courses tend to be heavy on vocabulary. In this respect, 101 courses are like learning a new language; it's hard to discuss the complex concepts without being fluent in the "language." The quizzes help develop your fluency in the vocabulary and basic concepts of NRM that you will need for upper division courses.

QUIZZES count for over 44% of the points in this course. There is a quiz on every lecture topic, such as agriculture, forestry, wildlife, fisheries, etc. Quizzes on one week's topics are due by 11:59 the following Monday. **You do not need to wait till the last minute; the quizzes are available any time.** Some weeks there can be 3 quizzes due Monday night, so I would encourage you to work on the quizzes as soon as possible after the lecture on the topic. You have two chances to get a perfect score on each quiz. There are also practice quizzes, which are copies of the regular quizzes that do not count toward the grade; they are there for review and practice before tests if you wish to do them.

Tests & Final Exam

There will be one Midterm and one comprehensive Final Exam. Each of these will include several true/false and multiple choice questions, as well as several short answer and essay questions. Dates for tests and the exam are given on the attached course schedule.

Questions on Test Scores

If you feel there is a mistake in the grading of a test or assignment, it is important for you to point it out. Graders do make mistakes and it's also healthy to defend yourself and your ideas. However, please do **not** discuss the score right after class. I can be surrounded by a dozen students pleading for points and this isn't fair to any of us. Instead, do the following:

Write the number of the question on the back of the test and explain why you feel you deserve more points for it, then turn it in.

I will look these over carefully and correct any problems. When you get your corrected test back, if you still have concerns, please make an appointment to discuss it with me. However, **an appointment to discuss a particular test must be made within one week after I have returned the test to you.** Do NOT wait until the end of the semester to bring such problems to my attention.

***Late for a test? Remember that arriving late to a test is
preferable to missing it altogether!!***

No Early Final Exams

Early final exams are not allowed (an airline ticket is not an excuse for missing the final exam). However, if you have more than 2 exams in one day, provide proof and if possible, I will allow you to take the final exam at a different time.

Don't Miss a Test!

Missed Test Policy

This policy is an effort to be fair to those who did take the test on time and who have complained in the past that they, too, would have liked extra time to study (or sleep, etc...).

Sports Teams. If you are on a team that requires you to miss a test, you must have an excuse signed by your coach and make arrangements with me to take the test as soon as you return.

Illness. if you are seriously sick, you should stay home. You won't do well on the test and could infect others. However, please write me an email asap (preferably before the test) and arrange with me to make it up as soon as possible.

Grading Policy

Zeros are very bad for your final grade! Try hard not to get a single ZERO! Each year, 15% of the students in this course receive an F, and inevitably they have several zeros on the grade sheet. This is NOT a difficult course—unless you fail to do the work. **It is always better to turn in something rather than taking a zero.** Grades will be based on the percentage of points earned in the course.

ITEM	POINTS	% of total points
15 Quizzes on key topics	1157	44%
FINAL EXAM	500	19%
MIDTERM	300	11%
Stormwater Management Plan	150	6%
Ecosystem Services OR Extinct or Endangered Species Marketing Plan	100	4%
Summary of your position for Climate Talks	100	4%
Summary of the film Silent Spring (on Blackboard)	50	2%
Summary of the film Taking Stock (shown in class)	50	2%
Performance & participation in Climate Negotiations	50	2%
Commons Game Participation	50	2%
Participation in classes	50	2%
Performance & Participation in Caribou v. Wolves	40	2%
Commons Reflection	28	1%
Entry Quiz extra credit (100 pts)	0	0%
Commons extra credit (50 pts)	0	0%
TOTAL	2625	100%

Plus and minus will be used as follows: between 90 and 92% = A-, between 87 and 89 = B+. between 80 and 82% = B-, between 77 and 79 = C+, between 70 and 72% = C-, between 67 and 69% = D+, between 60 and 62% = D-. Note that this course cannot count as a requirement if the student receives anything less than a C-

Anyone who has less than 51% of the points possible after the first test will be withdrawn from the course. It is better to receive a W than an F.

You will be sent an email if this is the case.

Learning Disabilities:

If you have a learning disability that may interfere with your ability to perform the work in this course, I am happy to make any necessary accommodations. However, it is the student's responsibility to obtain an Accommodation Letter from the Disabilities Office of the Health Center (ext.6158). This letter MUST be presented to me **within the first two weeks** of class. No accommodations will be made until this letter is given to the professor. Accommodations will NOT be made retroactively (i.e. if you have a spelling disability, you must present the letter **before** any points are deducted for spelling).