

*Conservation, viewed in its entirety, is the slow and laborious unfolding  
of a new relationship between people and land.*  
—Aldo Leopold, *Wisconsin Wildlife Chronology* (1940)

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## Instructors:

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*A nation deprived of its liberty may win it, a nation divided may unite,  
but a nation whose natural resources are destroyed  
must inevitably pay the penalty of poverty, degradation, and decay.*  
—Gifford Pinchot, founder, U.S. Forest Service

## Course Description:

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The course examines the conservation of natural resources, including its history and ecological, economic and social foundations. First we discuss the basic principles of resource management including sustained yield, carrying capacity, policy formation, and the effects of world population growth. With this foundation, we take a more detailed look at the management of specific resources, including agriculture, rangeland, forest, wildlife, fisheries, recreation, minerals and energy.

## The Goal of Resource Conservation:

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*To learn to live on a piece of land without spoiling it.*  
-Aldo Leopold

Resource conservation is about survival— survival of both ourselves and our planet. It is about working with nature to provide what we need while trying to minimize our impact on the environment. People are consumers—when we stop using the Earth's bounty, we die. We must try to limit our population and to stop consuming far more than we need. But even if we succeed at doing so, the remaining humans will still need food, water and shelter. We will still need to obtain everything we require from the Earth. And as Leopold said, we must learn to do so without spoiling the very source of our livelihood.

## Course Objectives:

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Upon completion of this course, the student should:

- Understand the concepts and principles of resource conservation
- Understand 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
- Challenge both the optimistic and the pessimistic perceptions about the state of our resources
- Apply scientific data and critical thinking to current resource issues
- Consider both human needs and the needs of the ecosystem
- Develop an appreciation and tolerance of diverse viewpoints

## Lab Sessions

Lab sessions will be facilitated by faculty and graduate students in the School of Agriculture and Land Resources Management. These sessions provide an opportunity for student participation, creativity and problem solving.

Next week I will assign each student to a group. Attendance at lab sessions is worth 10 points. You must be present within the first 10 minutes of class and remain the rest of the period to be counted. If you miss a lab, it will not be possible to “make-up” the points for attendance. However, you can still complete the lab report, subject to the late paper policy described below (i.e. no extra time is given if you miss the lab session).

## Lab Schedule

Lab groups rotate through four different topics, as shown in the table below. On each date, groups report to the following locations (read down the column below each date). *Topics and Rooms are still tentative.*

Bldg, Room & Topic	Sept 20	Sept 27	Oct 4	Oct 11
Ski Hut Map & Compass Tom Malone	<b>Group 1</b>	<b>Group 2</b>	Group 3	Group 4
<b>Bunn 122*</b> Topographic Maps Michael Hay and Tim Stallard	Group 4	<b>Group 1</b>	Group 2	Group 3
<b>Bunn 124*</b> Soils Exercise Sarah Mosco	Group 3	Group 4	<b>Group 1</b>	Group 2
<b>Arctic Health 183*</b> “Reading” Tree Rings Val Barber	Group 2	Group 3	Group 4	<b>Group 1</b>

\* These rooms have not yet been confirmed.

## Discussions of *Sand County Almanac* (SCA) by Aldo Leopold

Fridays Oct 25 to Nov 15 we will have small discussion sections on *Sand County Almanac*. Rotations will not be necessary; you will have the same room and the same group leader for all four sessions.

Bldg, Room & Instructor	Oct 25 & Nov 1 & Nov 8 & Nov 15
?? / Carolyn Kremers	Group 1
Bunn 122 / Jess Ryan	Group 2
Bunn 124 / Sarah Mosco	Group 3
Arctic Health 183 / Susan Todd	Group 4

Rooms are tentative at this time. We will try to have some groups on West Ridge for those of you who would prefer that and other groups on lower campus. Attendance at these sessions is also required and the 2-page “Reflection” papers will be worth 50 points.

More details on how to write these Reflections will be provided later in the semester.

## Grading Criteria for Lab Reports and Leopold Reflections

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Lab reports will be due the Wednesday after lab (except for the last one, which is due the following Friday, Oct 18).. These will be graded by the group leader. Each assignment is due by 12 noon on the Wednesday following the discussion session. Papers will be graded and returned the following Wednesday. Papers must stay within the 2 page limit (pages over the limit will not be graded) unless otherwise instructed by your lab instructor.

Assignments will be graded for content, logic, grammar, neatness, organization and understanding of the material.

**NOTE: one point will be deducted for each spelling error. If you have trouble spelling, ask the Writing Center or a friend to proofread your papers.**

Experience has shown that the grading and record keeping of some 400 papers in one semester is an enormous task in itself. It is far easier to keep track of papers if they are all collected in class at the same time. To protect the eyesight and sanity of the graders, the policies regarding format and deadlines for the papers are necessarily stringent.

### Late Papers:

Papers submitted outside my office (349 O'Neill) after 1 p.m. but before 5 pm on the day it is due. —5 points/50

NO papers will be accepted after this without a letter from a doctor or the Dean of Students. —ALL points

### Problem on Papers

Spelling errors

### Points Deducted

—1 point/word misspelled

Grammatical errors (such as subject/verb agreement)

—1 pt per type of error

Questions are not numbered

—1 pt per paper

Paper is not double spaced

—1 pt per paper

Print is smaller than 12 pt or larger than 14 pt

—1 pt per paper

Pages do not have 1 inch margins (max) on all sides

—1 pt per paper

Paper does not have a title at the top right

—1 pt per paper

Paper does not have your name at the top right

—1 pt per paper

Paper does not have your Group # at the top right

—1 pt per paper

**No STAPLE for 2 pages or more**

**—10 points !**

## NRM 101 Grade Record

Assignment	Points	% of Subtotal	My Score
email susan.todd@uaf.edu by 9/13	20	2.3%	
NRM Knowledge test	10	1.1%	
Footprint Calc + Para	5	0.6%	
Compass Lab Attend	10	1.1%	
Compass Lab Report	50	5.6%	
Topo Maps Lab Attend	10	1.1%	
Topo Maps Lab Report	50	5.6%	
<b>Tree Rings Lab Attend</b>	10	1.1%	
<b>Tree Rings Lab Report</b>	50	5.6%	
<b>Soils Lab Attend</b>	10	1.1%	
<b>Soils Lab Report</b>	50	5.6%	
Attend Commons Game 1	10	1.1%	
Attend Commons Game 2	10	1.1%	
Commons Individual Winner Extra	5	n.a.	
<b>Leopold Discussion 1 Attend</b>	10	1.1%	
<b>Leopold Reflection 1</b>	50	5.6%	
<b>Leopold Discussion 2 Attend</b>	10	1.1%	
<b>Leopold Reflection 2</b>	50	5.6%	
<b>Leopold Discussion 3 Attend</b>	10	1.1%	
<b>Leopold Reflection 3</b>	50	5.6%	
<b>Leopold Discussion 4 Attend</b>	10	1.1%	
<b>Leopold Reflection 4</b>	50	5.6%	
Top 8 Quizzes	100	11.3%	
Final Exam	200	22.6%	
Participation and Attendance	50	5.6%	
SubTotal	885	100%	
<b>Extra Credit Video 1</b>	5		
<b>Extra Credit Video 2</b>	5		
<b>Extra Credit Video 3</b>	5		
TOTAL			

## Environmental Movement Timeline

### A History of the American Environmental Movement

For a version of this page using tables, [click here](#).

This Timeline gives the dates of some of the most important events in the history of the American environmental movement with links to some web resources. For another timeline, one with links to many historical and legal documents, visit the Library of Congress [web site](#). Please e-mail us at [henro@sequoia.pacweb.com](mailto:henro@sequoia.pacweb.com) to suggest other dates we should add, correct any mistakes, and let us know what dates we should put on this list when we expand it to include the environmental movement outside the U.S. This list includes some links to resources on the Web, giving more information about these events. If you know of any links that should be included on that list, please let us know.

- \* July 4, 1845: [Henry David Thoreau](#) moved to Walden Pond.
- \* 1847: George Perkins Marsh gave a speech to the Agricultural Society of Rutland County, Vermont. He called attention to the destructive impact of human activity on the land, especially through deforestation. He advocated a conservationist approach to the management of forested lands. The speech was published in 1847. It became the basis for his book *Man and Nature or The Earth as Modified by Human Action*, first published in 1864 and reprinted many times thereafter.
- \* 1864: Posthumous publication of Henry David Thoreau's *The Maine Woods*, in which Thoreau called for the establishment of "national preserves" of virgin forest.
- \* 1864: Congress passed [legislation](#) giving Yosemite Valley to the state of California as a park.
- \* 1866: The word "ecology" was coined by the German biologist [Ernst Haeckel](#).
- \* 1876: [Appalachian Mountain Club](#) founded
- \* 1869: [John Muir](#) moved to Yosemite Valley.
- \* 1872: Congress passed [legislation](#) making Yellowstone the world's first official National Park.
- \* 1872: Congress passed the now-infamous [Mining Law](#) under which companies and individuals may buy the mining rights for public land thought to contain minerals for \$5 per acre or less.
- \* 1886: *Audubon Society* founded
- \* September 25, 1890: Congress passed legislation establishing [Sequoia National Park](#), California
- \* October 1, 1890: Congress passed [legislation](#) establishing Yosemite and General Grant National Parks, California.
- \* 1891: Congress passed the [Forest Reserve Act](#), empowering the President to create "forest reserves." This created the legislative foundation for what became the National Forest system.
- \* June 4, 1892: [Sierra Club](#) incorporated with [John Muir](#) as President
- \* 1893: President Benjamin Harrison created the 13 million acres of [forest reserves](#) including four million acres covering much of the High Sierra.
- \* 1898: [Gifford Pinchot](#) was appointed chief of the Division of Forestry of the U.S. Department of Agriculture, beginning an era of scientific forestry where, theoretically, clear-cutting was to be abandoned.
- \* 1901: First [Sierra Club outing](#) (to [Tuolumne Meadows](#))
- \* 1903: Teddy Roosevelt [visited Yosemite](#) with Muir
- \* 1905: California legislature agreed to return Yosemite Valley to federal control
- \* March 15, 1910: The amazing Lakeview Gusher started spewing crude oil into the air of the San Joaquin Valley in California. Oil shot into the air at an estimated 125,000 barrels a day from a column of oil and sand 20 feet in diameter and 200 feet high (6 meters by 60 meters). The gushing continued at a reduced rate for 18 months and released approximately 9.4 million barrels. According to the San Joaquin Geological Society [website](#), "Preachers and their flocks prayed that oil might not cover the earth and bring about its flaming destruction." Half the oil was captured and processed but the rest flowed into local rivers, agricultural land, the air and the water table.
- \* 1913: Congress [authorized](#) the dam at [Hetch Hetchy Valley](#) in Yosemite National Park
- \* 1915: California legislature authorized \$10,000 to start planning and construction of the [John Muir Trail](#)
- \* 1916: [National Park Service](#) founded with Stephen Mather as President
- \* 1949: *Sand County Almanac* by [Aldo Leopold](#) published posthumously.
- \* January, 1935: The [Wilderness Society](#) was founded. In the first issue of their magazine *Living Wilderness*, editor Robert Sterling Yard wrote, "The Wilderness Society is born of an emergency in conservation which admits of no delay. The craze is to build all the highways possible everywhere while billions may yet be borrowed from the unlucky future."
- \* 1952: [David Brower](#) became the first Executive Director of the Sierra Club. Under his leadership, the Club became America's foremost environmental protection organization.
- \* 1955: As a result of public pressure, the federal government dropped plans for a dam in [Dinosaur National Monument](#). Building on the momentum generated by this success, the [Wilderness Bill](#), drafted by Howard Zahniser, was introduced into Congress by Hubert Humphrey and John Saylor.
- \* 1962: *Silent Spring* by [Rachel Carson](#) published. The book alerted the general public to the dangers of pesticides, particularly the dangers to humans. Yet she remained in the tradition of Muir, summarizing her main argument, "The 'control of nature' is a phrase conceived in arrogance, born of the Neanderthal age of biology and philosophy, when it was supposed that nature exists for the convenience of man."
- \* 1964: The [Wilderness Act](#) passed, establishing a process for permanently protecting some lands from development.
- \* 1965: The Sierra Club [brought suit](#) to protect New York's Storm King Mountain from a power project. The case established a precedent, allowing the Club standing for a non-economic interest in the case.
- \* June, 1966: Sierra Club published full-page newspaper ads in the *New York Times* and *Washington Post* against building a dam that would flood the Grand Canyon. The next day, the IRS hand-delivered a suspension of the Club's tax-exempt status. This action boosted the Club's prestige

## Aurora Email Accounts

### REQUIRED Aurora Email Assignment Due Sept 13 by 5 pm

Email is now an essential tool in academia. Many simple questions can be taken care of by using it. Aurora is the only way UAF professors can look up your email address if they need to reach you about changes in field trips, class times, etc.

1. Everyone is ***required*** to obtain a UAF "Aurora" email account.
2. Send me an email by **September 13**. My email is [susan.todd@uaf.edu](mailto:susan.todd@uaf.edu)
3. If you obtain an Aurora account and send me a message from it by Friday Sep.13, you will receive 20 points.
4. The email you send **MUST** come from an aurora account to receive credit (hotmail, msn etc. will not count)
5. To count for credit, you **MUST** include your first and last name in the "from" line (see "How to set your identity in Aurora" below).
6. To count for credit, you **MUST** include the subject "NRM 101 student" in the subject of the email.

### How to obtain an Aurora Account

To apply for an Aurora account, sign the Aurora account form on the first day of class, OR stop by The Help Desk at 319 Bunnell or "The Node" (the all-hours lab on the 4th floor of the Library.) You'll need to bring Polar Express card or proof of class registration. For assistance contact the Computing Help Desk [fxhelp@uaf.edu](mailto:fxhelp@uaf.edu).

### How to set your identity in Aurora

Once your identity is set, each message you send on Aurora will include your first and last name as well as your email address and these will show up in your recipient's inbox.

1. Telnet to [aurora.uaf.edu](http://aurora.uaf.edu) (ask a computer lab assistant if you do not know how to do this)
2. On the Main Menu type **P** for "preferences/utilities" menu
3. Type **F** for "Change Personal Directory (finger) Information"
4. Your default identity will appear. Type in your first and last name here. It will ask you for telephone and other information, but this is *optional*. Hit [return] to go on to the next item and to return to the Utilities Menu.
5. Hit [return] to return to the main menu or **Q** to logoff or **H** for help.