Upcoming Readings

today: Textbook Ch. 3, Leopold readings, Callicott 1997 (from Meffe and Carroll)
[Q1 due 30 Aug if you choose to answer.]

Tues 04 Sept: Text Ch. 4; Costanza et al. 1997, Driessen 2004
Thurs 06 Sept: Walther et al. 2002, Peak Oil Link,
(optional: National Geographic)

Conservation Biology Lab 406L/506L

Next Lab Friday 07 September
1230 S or W side BSE
(4th and Highland)
Hat, water, sunscreen, close-toed shoes
Readings on Course Website

07 September - Sabino Canyon
VAN
Flooding, Wilderness, Forest Management, Nuisance Wildlife

(Schedule stands, could not change our 28-30 September trip.)
Especially relevant for 506 students:

**Conservation Seminar**

If you are interested in participating in the Conservation Seminar (RNR696a – but you don’t need to enroll) please attend Wednesday at 3:30 in BSE 218.

Chris McDonald
cmcdon@email.arizona.edu
(contact for readings)
Plastic Trees in Los Angeles?

knowledge -> advocacy?

“Perhaps our grandsons, having never seen a wild river, will never miss the chance to set a canoe in singing waters.”

-Leopold

Values, Ethics, Philosophy...

Rolston Essay (p. 35 in Callicott Chapter)

- species vs. species in the system (definition of species)

- value of evolutionary trajectory

- extinction and doors (temporal and spatial scales)
Role of scale... (context of disturbance and extinction)

Anthropogenic perturbations:

...fast rate and large spatial scale.
(Cited in Callicott 1997)

Values, Ethics, Philosophy...

Ethics:
constrain self-serving behavior in
deferece to some other good

Tragedy of the Commons

Role of religions?
interpretation...
The Tragedy of the Commons
Garrett Hardin

The tragedy of the commons develops in this way. Picture a pasture open to all. It is to be expected that each herdsman will try to keep as many cattle as possible on the commons. Such an arrangement may work reasonably satisfactorily for centuries because tribal wars, poaching, and disease keep the numbers of both man and beast well below the carrying capacity of the land. Finally, however, comes the day of reckoning, that is, the day when the long-desired goal of social stability becomes a reality. At this point, the inherent logic of the commons remorselessly generates tragedy.

As a rational being, each herdsman seeks to maximize his gain. Explicitly or implicitly, more or less consciously, he asks, "What is the utility to me of adding one more animal to my herd?" This utility has one negative and one positive component.

1) The positive component is a function of the increment of one animal. Since the herdsman receives all the proceeds from the sale of the additional animal, the positive utility is nearly +1.

2) The negative component is a function of the additional overgrazing created by one more animal. Since, however, the effects of overgrazing are shared by all the herdsmen, the negative utility for any particular decision-making herdsman is only a fraction of -1.

Adding together the component partial utilities, the rational herdsman concludes that the only sensible course for him to pursue is to add another animal to his herd. And another; and another... But this is the conclusion reached by each and every rational herdsman sharing a commons. Therein is the tragedy. Each man is locked into a system that compels him to increase his herd without limit--in a world that is limited. Ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons. Freedom in a commons brings ruin to all.

Judeo-Christian Tradition

Intrinsic value by divine decree.
Noah saving "species".

Islam

No separation of church and state.
Unity, Trusteeship, Accountability.

Hinduism

Core of all being is one reality, Brahman.
Prakrti; matrix of the material creation
Buddhism

Limit use of resources.
Nirvana: self+surroundings

Jainism

Each living thing has a soul.

Taoism

The way of nature; don’t buck it.

Iroquois

consider the impact of their decisions on the seventh generation to come

Chipko (Hindu links)

The ultimate tree-huggers.
Himalayas of India
Table 3.3  Seven Major Worldviews that Shape Environmental and Conservation Ethics

<table>
<thead>
<tr>
<th>WORLDVIEW</th>
<th>TYPE OF VALUE</th>
<th>MOTIVATION FOR CONSERVATION</th>
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<tbody>
<tr>
<td>1. Judeo-Christian abstemious</td>
<td>Theocentric</td>
<td>Preserve the ecological systems that God has commanded humans to care for, as exemplified by the planting of man in the garden of Eden (Genesis 2:15). Humans should respect and not despoil God’s handiwork.</td>
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<tr>
<td>2. Deep ecology and related value systems</td>
<td>Ecocentric</td>
<td>The rights and intrinsic values attributed to nonhuman nature places limitations on human procreation to use or alter nature and must be respected.</td>
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<td>3. Transcendentalism</td>
<td>Anthropocentric</td>
<td>Respect the intrinsic value of nature, which provides guidance to consider life’s deepest questions and live in human isolation.</td>
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<td>4. Constrained economics</td>
<td>Anthropocentric</td>
<td>Resource use is primarily a problem of human economies. Because avoiding irreparable damage to the environment is beneficial, the environment should be protected when the economic cost is not too great. Low-risk taking, common sense, and avoiding irreversible damage to the environment are justifications.</td>
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<td>5. Scientific materialism</td>
<td>Science-centric</td>
<td>Scientific theories of evolution and ecology reveal necessary links in population growth and violence to the land. Dynamic and quantitative analysis are emphasized.</td>
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<td>6. Ecotrinism</td>
<td>Anthropocentric</td>
<td>Because man’s domination over nature is symbolic of his domination over women, protecting the environment helps overcome both environmental and social problems.</td>
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<tr>
<td>7. Panmodernization</td>
<td>Anthropocentric</td>
<td>Philosophical, although it can serve as a tool to solve moral problems, is not emphasized. Rather, practical problem-solving and ethical principles are used to address environmental issues.</td>
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Van Dyke 2003

Personal Example?
Virtue?
(Van Dyke p. 75)
"Conservation may be a sign of personal virtue but it is not a sufficient basis for a sound, comprehensive energy policy."

-Vice President R. Cheney, April 2001

Five axioms of consensus among environmentalists:

1. Dynamism
2. Interrelatedness
3. Nested systems
4. Creative processes
5. Differential fragility

Norton 1991 (see Van Dyke p. 72)
Debate 20 Sept 2007:
Should the flat-tailed horned lizard (*Phrynosoma mcallii*) be ESA listed?

Three groups – one will debate, another will evaluate, third will observe, then we rotate.

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<th>Debate 1 (20 Sept.)</th>
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<td></td>
<td>Group A debate</td>
<td>506 A assist</td>
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<td></td>
<td>Group B evaluate</td>
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<td></td>
<td>Group C observe</td>
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<td><strong>Debate 2 (23 Oct.)</strong></td>
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<td>Group A observe</td>
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<td>Group C evaluate</td>
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<td><strong>Debate 3 (15 Nov.)</strong></td>
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<td>Group A evaluate</td>
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<td>Group C debate</td>
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Horned Lizard Debate (20 Sept 2007):

506 A and 506 B look for relevant interest groups and readings, think about debate “rules”.

Group A will also look for relevant interest groups, confer about resource leads with 506 A and B.

Exchange contact information, choose a leader?, divide up tasks, set timeline, practice with your 506 mentors, confer with instructors.

Possible Interest Groups: US Govt, USFWS, AZ, CA, BLM, USFS, CBD, US Military, etc.
Information: Federal Register, CBD, BLM, USFWS
Discussion:

1. How do conservationists respond to the question, “What good is it?”

2. How do we verify that humans, or anything, has intrinsic value?

3. “Enclosed/Private” Goods, or “Common” Goods - Which of these is a better approach for conservation? Why?

4. What is the conservation role of the world's religions?

“Objectivity is only possible in matters too small to be important, or in matters too large to do anything about.” (p. 226)

-Leopold
1887-1948

Aldo Leopold:

Thinking Like a Mountain
Escudilla

The Land Ethic

The Outlook for Farm Wildlife
The Land-Health Concept and Conservation
Aldo Leopold

“An ethic, ecologically, is a limitation on freedom of action in the struggle for existence.

An ethic, philosophically, is a differentiation of social from anti-social conduct.”

(p. 238)

Aldo Leopold Land Ethic

- social evolution (social disapproval for wrong actions)
- land ethic enlarges the community to include biota
- human as plain member and citizen, not ruler
- Conquerer self defeating because falsely thinks s/he understands how the system works and can control it
Leopold Land Ethic

- Property vs. propriety
- Role of land [biology] in human history (Diamond, *Guns Germs and Steel*)
- Sacrifice
  - Obligation of private landowner
  - Livestock, Violence

- Economics?
  - Farm as Factory or Place to Live?

Aldo Leopold Land Ethic

- What is “land-health?”

- processes
  - evolutionary/ecological biology

- complexity & quality
  - invasives
“a thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise”

Aldo Leopold
Leopold

*Thinking like a mountain*
“a mountain lives in mortal fear of its deer”

*Escudilla*
progress?
“It’s only a mountain now.”

The planet will survive, will we?

“In our attempt to make conservation easy we have made it trivial” (p.246)

-Leopold
The Land-Health Concept and Conservation

Conservation is a series of ecological predictions made by beginners because ecologists have failed to offer any.

Leopold, p. 220

“Whether you will or not
You are a King, Tristram, for you are one
Of the time-tested few that leave the world,
When they are gone, not the same place it was.
Mark what you leave.”

As quoted in Leopold, 1949
p. 261 (The Land Ethic)
Human Population?