

Lecture 04, 02 Sept 2004
 Van Dyke Ch3, Meffe and Carroll Ch2 (=Callicott), Leopold

Conservation Biology
 ECOL 406R/506R
 University of Arizona
 Fall 2004

Kevin Bonine
 Kathy Gerst

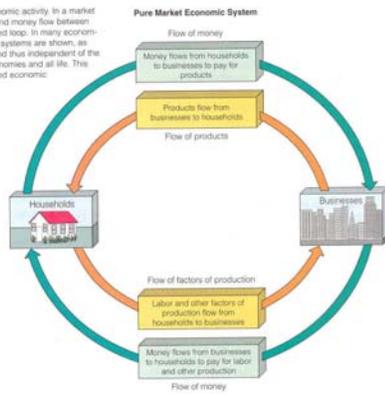
Conservation Biology 406R/506R

- 1. Ethics and Philosophy
- Van Dyke Ch 3
- Callicott (Ch2 Meffe and Carroll)
- Leopold, Aldo

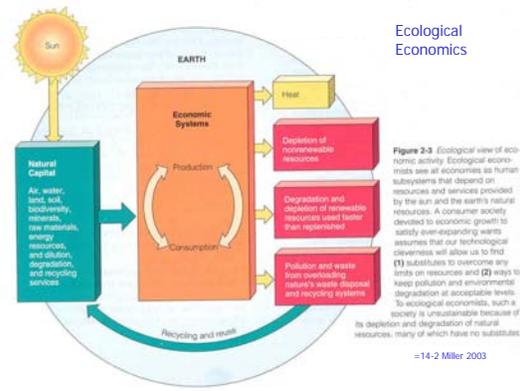
-Conservation Biology Website:
http://eebweb.arizona.edu/courses/Ecol437/457_2004_Vert_Physiol_Page.html
 -Seminars

Recycling Fair on Wednesday, September 8. On the UA Mall.
 UA Recycling, ASRA, Tucson Clean and Beautiful, COT Environmental Services,
 and Res Life Recycling.

Figure 2-2 Conventional view of economic activity in a market economic system, economic goods and money flow between households and businesses in a closed loop. In many economics textbooks, such market economic systems are shown, as here, as if they were self-contained and thus independent of the natural resources that support all economies and all life. This model reinforces the idea that unlimited economic growth of any kind is sustainable.
 =14-1 Miller 2003



Conventional Economics



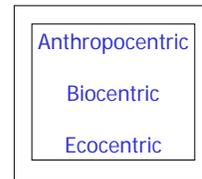
Ecological Economics

Figure 2-3 Ecological view of economic activity. Ecological economists see all economies as human subsystems that depend on resources and services provided by the sun and the earth's natural resources. A consumer society devoted to economic growth to satisfy ever-expanding wants assumes that our technological cleverness will allow us to find (1) substitutes to overcome any limits on resources and (2) ways to keep pollution and environmental degradation at acceptable levels. To ecological economists, such a society is unsustainable because of its depletion and degradation of natural resources, many of which have no substitutes.
 =14-2 Miller 2003

Ecological vs Conventional Economics

Characteristic	Unsustainable Economic Growth	Environmentally Sustainable Economic Development
Production emphasis	Quantity	Quality
Natural resources	Not very important	Very important
Resource productivity	Inefficient (high waste)	Efficient (low waste)
Resource throughput	High	Low
Resource type emphasized	Nonrenewable	Renewable
Resource fate	Matter discarded	Matter recycled, reused, or composted
Pollution control	Cleanup (output reduction)	Prevention (input reduction)
Guiding principles	Risk-benefit analysis	Prevention and precaution

Figure 2-4 Comparison of unsustainable economic growth and environmentally sustainable economic development.
 mcmbr
 2004



Evolution of rights...

monarchs
white males
"all men"
humanity
sentient beings
nature?



Evolution of the King

Eastern Kingbird (Tyrannus tyrannus)

"Bonuses?"
(Callcott p. 47)

Shift Burden of Proof/Responsibility (precautionary principle)

SMS (safe minimum standard)

	~Developers	~Conservationists
1 Instrumental		B of P
2 Intrinsic also	B of P	
3 BCA		B of P
4 SMS	B of P	

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 Van Dyke text)

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



-value of evolutionary trajectory

-extinction and doors
(temporal and spatial scales)



Values, Ethics, Philosophy...

Ethics:

constrain self-serving behavior in
deference to some other good

Tragedy of the Commons

Science, Vol 162, Issue 3859, 1243-1248, 13 December 1968

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.

Values, Ethics, Philosophy...

Role of religions?
interpretation...

Table 3.3 Seven Major Worldviews that Shape Environmental and Conservation Ethics

WORLDVIEW	TYPE OF VALUE	MOTIVATION FOR CONSERVATION
1. Judeo-Christian stewardship	Theocentric	Preserve the ecological systems that God has commanded humans to care for, as exemplified by the placing of man in the garden to "work it and take care of it" (Genesis 2:15). Humans should respect and not destroy God's handiwork.
2. Deep ecology and related value systems	Ecocentric	The rights or intrinsic values attributed to nonhuman nature place limitations on human prerogatives to use or alter nature and must be respected.
3. Transformativist/transcendentalism	Anthropocentric	Respect the spiritual value of nature, which provides solace to consider life's deepest questions and can cure human alienation.
4. Constrained economics	Anthropocentric	Resource use is primarily a problem of human economics. Because avoiding irreversible damage to the environment is beneficial, the environment should be preserved when the economic cost is not too great. Low risk taking, common sense, and avoiding irreversible damage to the environment are justification.
5. Scientific naturalism	Science-centered/ ecocentric	Scientific theories of evolution and ecology reveal necessary limits on population growth and violence to the land. Dynamism and contextualism are emphasized.
6. Ecofeminism	Anthropocentric feminism	Because man's domination over nature is symbolic of his domination over women, preserving the environment fights to cure both environmental and social problems.
7. Pluralism/pragmatism	Anthropocentric	Philosophy, 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.

*Norton, B. G. 1991. *Toward unity among environmentalists*, 197-99. New York: Oxford University Press.

Van Dyke 2003

Personal Example?
Virtue?
(Van Dyke p. 75)

1. Should conservation biologists explain the value of biodiversity in purely instrumental terms or should they also include reasons invoking intrinsic value?

2. How should we respond to the question of "What good is it?"

3. How do we know that humans, or anything, have intrinsic value?

4. How does this quote from Leopold sit with the idea of intrinsic value?

For one species to mourn the death of another is a new thing under the sun. The Cro-Magnon who slew the last mammoth thought only of steaks. The sportsman who shot the last pigeon thought only of his prowess. The sailor who clubbed the last auk thought of nothing at all. But we, who have lost our pigeons, mourn the loss. Had the funeral been ours, the pigeons would have hardly mourned us. In this fact . . . lies objective evidence of our superiority over beasts (Leopold 1966:117).

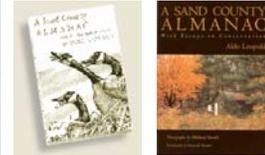
“Objectivity is only possible in matters too small to be important, or in matters too large to do anything about.” (p. 226)

-Leopold

“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

1887-1948



<http://www.aldoleopold.org/Biography/Biography.htm>
Aldo Leopold Foundation

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?