1. Ethics and Philosophy, What is Conservation Biology
1. Van Dyke Chapter 3
2. Callicott 1997
3. Noss 1999
4. Leopold

1. Role Playing for Thursday next week

Problems Addressed by Conservation Biologists:
1 Genetic Diversity
   variation, inbreeding, drift, hybridization
2 Species
   MVP, PVA
   small populations
   declining populations
   metapopulations
3 Habitat
   loss, fragmentation, isolation, heterogeneity
4 Ecosystem Processes
   scale
5 Human sustainability
   the crux

- Metapopulations
- Island Biogeography
  MacArthur and Wilson 1963
- Testable Hypotheses
- Thresholds

Is conservation biology a distinct discipline?
- Biodiversity (levels and scales)
- Prevent degradation and loss
1. Scarcity and Abundance
2. Value laden and mission driven
3. Diversity and complexity good
   Untimely extinction bad
4. Evolution is good (genotypic variation)
   - process
5. Biotic diversity has intrinsic value
   (~ Soulé’s normative postulates)
6. Crisis Discipline?

Objectivity vs. Neutrality (Van Dyke p. 57)

Journal of Wildlife Management (1937)
Wildlife Society Bulletin

vs.

Conservation Biology
Biological Conservation

Is there a special conservation biology?

Origins
Soulé et al. 1978+
SCB 1986
Conservation Biology 1987

Ideas
-Precautionary Principle
-Value Laden
-Species differences...
-Umbrella species
-Advocacy

Is ConBio distinct discipline?

Responsible Advocacy?

Ethical Advocacy?
p.117, Noss 1999:
tropical rainforest
tropical rainforest vs.
economic development program

Noss 1999:
Society for Conservation Biology (SCB; –1987):
“to help develop the scientific and technical means for the protection, maintenance, and restoration of life on this planet – its species, its ecological and evolutionary processes, and its particular and total environment” (cited in Noss 1999, p. 114)
What does he mean by "a special conservation biology?"

How is the Environmental Movement similar to, or different than, Conservation Biology?

Values, Ethics, Philosophy...

Systematic organization of values

Basis for estimation of worth

VALUE OF BIODIVERSITY

- Instrumental/utilitarian
- Intrinsic/inherent

Values, Ethics, Philosophy...

Monetizing

- Discount rate
- Rates of growth and reproduction

Economic development short sighted?

BCA

Valuation methods

- Willingness to pay
- Accept travel cost
- Existence value
- Contingent valuation
- Bequest value
Madagascar Periwinkle Argument
(Callicott p. 30)

Ecological Economics

Evolution of rights...

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

"Bonuses?"  
(Callicott p. 47)
Shift Burden of Proof/Responsibility (precautionary principle)

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)

Anthropogenic perturbations:
...fast rate and large spatial scale.

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...

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

Tragedy of the Commons

Role of religions?
interpretation...
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 sportsmen 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

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?

Aldo Leopold Land Ethic

-land ethic enlarges the community to include biota
-land pyramid

-processes
-evolutionary/ecological biology
-scale of perturbation (temporal, spatial)
-violence

What is “land-health?”
Aldo Leopold Land Ethic

- Social evolution (social disapproval for wrong actions)
- 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

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

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

"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)