EXAM I, 24 September 2003

Please put your NAME on the backside of the last page.

Exam is worth 75 points. After you turn in your individual copy, you will work on a new copy of the exam outside in groups of ~four. The score for your group exam will earn you additional points on your individual exam. (See syllabus for details.)

Very Short Answer (a few words at most, 23 points)

- Who wrote Silent Spring (1962)? [2 points] 1.
- 2. What was the first National Park established in the U.S. in 1872? [2 points]
- 3. Provide an example of a traditionally non-economic utilitarian value of biodiversity. [2 points]
- What theory, put forth in the early 1960s by MacArthur and Wilson, helped bring increased rigor and testable 4. hypotheses to Conservation Biology? [2 points]
- 5. What is the important and powerful requirement inherent in NEPA (1970, National Environmental Policy Act)? [2 points]
- The Convention on Global Warming and the Convention on Biodiversity both arose from what 1992 event? [2 6. points]
- 7. What is the Kyoto Protocol (1997) attempting to address? [2 points]
- List the four "spikes" altering our world at a global scale [4 points] 8.
- The endangered species act (ESA, 1973 and amendments) generally prohibits the "taking" of endangered 9. species. In what area of implementation of the ESA is the "God Squad" allowed to evaluate the economic costs/losses/hardship of preserving a given species? [1.5 points, 1 best answer]
 - only when evaluating threatened species a)
 - only when evaluating endangered species b)
 - deciding between threatened and endangered status c)
 - d) critical habitat designation
 - e) determining which cases are heard by the courts
- 10. What is currently the greatest threat to biodiversity? [1.5 points, 1 best answer]
 - a) habitat loss
 - hunting and trapping b)
 - exotic species c)
 - spread of disease and pathogens d)
 - asteroids e)
- 11. Earth Day (22 April 1970) is often credited with initiating the modern environmental movement in the U.S. and with instigating the creation of the Environmental Protection Agency. Other environmentallly-minded legislation passed around the same time includes the clean

[2 points]

_ act, the clean ______ act, and the endangered species act.

Short Answer (Each answer should require about a sentence, 28 points)

- 1. What does "tragedy of the commons" mean? [3 points]
- 2. How do Conventional Economics and Ecological Economics differ? [3 points]
- 3. How do each of these directly benefit humans? [2 points each, 6 points]
 - A. Biodiversity:
 - B. Ecological processes:
- C. Evolutionary processes:
- 4. Explain how extinction of species is both an integral part of biodiversity and currently a threat to its (biodiversity's) continued existence? [4 points]

- 5. What does it mean that Conservation Biology is "mission driven" and "value laden"? [4 points]
- 6. What is the discount rate and how does it affect conservation biology? [4 points]
- 7. What did Aldo Leopold (Thinking Like a Mountain) mean when he wrote that "a mountain lives in mortal fear of its deer?" [4 points]

Longer Answer (A few sentences, 24 points total)

1. How does the land ethic, as envisioned by Aldo Leopold, involve a step forward in social evolution? Provide an example of earlier steps forward in social evolution. [6 points]

2. Discuss arguments for and against the following statement:

"Conservation biologists, in efforts to persuade others about the value of biodiversity, should rely not only on instrumental values, but should also invoke intrinsic valuation of biodiversity." [8 points]

3. What five groups were represented in our role-playing exercise about the Ironwood Forest National Monument? What 3 traits (and why) make a good presentation from an interest group in a setting such as that represented by our role-playing exercise? What is one thing your group did well? What is one thing your group could have done better? (when doing the 2nd group exam refer to the whole class instead of your role-playing group) [10 points]