EXAM III, 19 November 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 different portion of the exam 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, 33 points)
1. According to Bill Mannan, what percent of land in the world is under some type of reserve protection? [1 point]
   About:  a) 5%  b) 10%  c) 15%  d) 20%  e) 25%

2. A. Give an example of a species that may very well use corridors as actual habitat. [1 point]
   B. Give an example of a species that you would rarely expect to see take up long-term residence in a wildlife corridor. [1 point]

3. What is a likely setting where a conservation biologist would have to be able to quantify 1) the amount of area a species needs or 2) the number of individuals that a population would need to persist? [2 points]

4. Give an example of external influences that may affect Northern Spotted Owls according to Bill Mannan? [2 points]

5. According to the NYTimes article you read about energy sources, about 13% of the energy we use comes from nuclear and hydroelectric. Roughly what percent of our current energy comes from burning fossil fuels? What percent from solar and wind combined? [2 points]

6. The Northern Spotted Owl is an example of a(n) ____________________________ species in the language of conservation biologists. [2 points]

7. Soils containing high amounts of ____________________________ tend to buffer the effects of acid rain better than soils without these compounds. [2 points]

8. What are two of the three Indices of Biotic Integrity (IBI)? [4 points]

9. What is one of the two main effects of water depth on marine organisms? [2 points]

10. How many planet Earths would we need to sustain the lifestyle of 6 billion "Americans" if each American requires about 24 acres? [1 point]
    a) 0.5  b) 1.0  c) 2.8  d) 3.7  e) 5.2

11. What is one major component of sustainable conservation that is absent from the Nature Conservancy's 7-step program? [2 points]

12. What are two pros and one con of connecting habitat patches with some type of corridor system? [3 points]

13. What has happened to the average temperature of the lands and waters of Europe in the last 100 years? Do we see this same pattern everywhere we look in the world? [2 points]

14. What are two of the largest determinants of an individual's ecological footprint? [4 points]

15. Why might common species and rare species NOT help scientists decide whether or not to include a specific piece of land in a conservation proposal? [2 points]
Short Answer (Each answer should require a few sentences, 42 points)

16. How can the functional role of land set aside as a wildlife habitat reserve be improved by manipulating or regulating the 'matrix' between reserve patches? Can you provide an example? [5 points]

17. Explain what it means for the Water Pollution Control Act of 1972 to be enforced only with respect to chemical standards? What are potential problems with this being the form of enforcement? [4 points]

18. How are US government policies somewhat contradictory when it comes to encouraging preservation of wetlands that occur on private agricultural lands? [4 points]

19. Define coral bleaching and describe its effects. [5 points]

20. Why are riparian areas important in the desert southwest? [4 points]
21. Why does Bob Steidl think it is important to monitor species richness (and perhaps population sizes as well) as the SDCP is implemented in the coming years? [5 points]

22. Explain how abiotic surrogates can be used to help identify important components of biodiversity. [4 points]

23. What is eutrophication? What role do humans play in eutrophication? [5 points]

24. Why are zebra mussels of concern to conservation biologists in the US and how are they an example of several themes we have discussed recently in class (or in your textbook)? [6 points]
25. How did Bob Steidl and his colleagues arrive at their species distribution maps in Pima County? [10 points]

26. What makes a good oral presentation? How can oral presentations by students in this class be improved? [10 points]
27. Discuss how and why transparency and justification have helped the SDCP gain acclaim from peer reviewers. [10 points]

28. For each of the four levels of "society" we discussed in class on Monday 17 November 2003, identify two concrete things that you think would be both feasible and effective to reduce contributions to global climate change. [10 points]
506R students (15 points):
Typed take home essay due in my office (BSE1D), or via email to kebonine@email.arizona.edu, no later than 2200h on Friday 21 November 2003:

The Nature Conservancy has promoted a 7-step framework for developing regional plans for conserving biological diversity. List the seven steps and identify which, in practice, are most influenced by a) ecological science, b) economics, c) politics, or d) other (please define). Choose one of the seven steps that you decided was most influenced by "a." Choose another step that you decided was most influenced by something other than "a." For each of these two steps, discuss how a group like the Southern Arizona Home Builders Association (SAHBA) would work to oppose a plan like the SDCP. [15 points; 400 words or fewer]
Please list the members of your exam group and each person's estimated percent intellectual contribution to the group exam you turned in.

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