

EXAMINATION #1

Your answers should be typed and returned no later than the end of the day on April 11.

As you construct your answers to these questions, please make use of the published literature and any other resources you can find to justify your positions. Don't limit yourself to just the papers from class! And, don't forget to cite your references. Use your favorite citation style. The point here is to give me a summary of your positions on these topics, as well as the work that underlies them.

A. Shorter Answer – one to two paragraphs maximum! (10 pts each):

- (1) How have humans impacted ecosystems and biodiversity across the globe?
- (2) What aspects of genetic diversity may be important to protecting species? Among the many factors that conservation biologists should consider when developing protection strategies, how important should these issues be? Why do you believe this?
- (3) How can the long and short-term fate of a specific population be estimated? What types of information do they require? And what are their strengths and weaknesses?
- (4) What are the principle ways that spatial scale impacts biodiversity levels and process? How might this impact the design of nature reserves?
- (5) What is the impact of fragmentation on biodiversity from short to large spatial and temporal scales?
- (6) How are disturbance regimes characterized over multiple spatial and temporal scales, and how do they impact ecological systems?

B. Longer Answer – one to two pages maximum! (20 points each):

- (7) Define and justify your personal conservation ethic.
- (8) Given the dynamic nature of natural areas over time and space (*e.g.*, population size and location, community composition, nutrient cycling, disturbance size and return frequently), provide and defend some rules-of-thumb which conservation biologists should consider while developing reserve boundary and management plans.