Environmental Systems and Societies

*Study Guide for biodiversity and conservation chapter*

**Terms you should be familiar with:**

* Biodiversity
* Species diversity
* Habitat diversity
* Genetic diversity
* Diversity index (Simpson’s Reciprocal Index)
* Extinction rates
* Background extinction rate
* Mass extinction
* Hotspots
* Endemic species
* Exotic (Invasive) species
* Plate tectonics
* Continental drift
* Keystone species
* Natural Selection
* Evolution
* Extinct
* Endangered
* Vulnerable
* Threatened
* Physical barriers
* Conservation
* Preservation
* Biorights
* CITES
* UNEP
* NGO
* WCS
* Red lists
* WWF
* Greenpeace
* Protected areas
* Corridors
* Fragmentation
* Island biogeography
* Captive breeding
* Seed banks
* Habitat conservation
* Species conservation

The easiest way to be prepared for the test concerning these terms is to make flash cards. First learn what the term means, then learn it by using the definition. There are 39 terms, you should be able to define all of them in under two minutes and thirty seconds.

**What you should be able to do:**

1. You should be able to compare and contrast the three types of diversity.
2. You should be able to use the Simpson’s reciprocal index to evaluate the biodiversity of two ecosystems.
3. You should be able to compare the current extinction rate during the Holocene extinction event to the background extinction rate. You should also be able to discuss the causes of the Holocene extinction event.
4. You should be able to explain what hotspots are and why some species are more prone to extinction than others.
5. You should be able to use examples such as the pepper moth and the *Ensatina* salamanders of the Pacific coast to describe how natural selection and the isolation of populations act as the mechanisms for speciation.
6. You should be able to describe how physical barriers and plate tectonics isolate populations.
7. You should be able to list and describe the different factors which lead to the loss of biodiversity.
8. You should be able to discuss why tropical rainforests are the biome with the most biodiversity and why they are under threat for destruction.
9. You should be able to discuss the economic, commercial, ethical, and aesthetic reasons species and habitats should be preserved.
10. You should be able to compare and contrast techniques employed by both governmental and non-governmental organizations to preserve biodiversity and protect ecosystems.
11. You should be able discuss how island biogeography puts organisms at greater risk for extinction. You should also be able to discuss how island biogeography affects the design of protected areas.
12. You should be able to evaluate the strengths and weaknesses of species-based conservation.

Holy Crap I'm Freaking Out!

I will not ask all of this on the test, but I will formulate questions that combine many of these. If you get overwhelmed you should focus on being able to answer the quiz questions, I would expect that to get you at least a C on the test.

What should I study?

* You should study the flash cards I described earlier.
* You should study your outline, you made from your notes.
* You should re-watch any videos that you don't understand.
* You should study your biodiversity project and the notes you took from other biodiversity projects.
* You should take the objectives listed above, turn them into questions and practice writing answers to those questions.
* You should do some of this before we meet again so our review will be helpful.
* You should come to the review with questions.
* You should e-mail me questions as you study.