

Hunter Ch. 3 –Species Diversity – Study Questions
Conservation Biology
Spring 2009

1. The act of defining species of interest and especially ones deserving protection is a central task in conservation biology. It is certainly seen that way by much of the public. You need to gain a sophisticated view of the fact that species are not necessarily as easy to define as people have thought since time in memorial. This surprises many because high schools typically teach the subject as settled (biological species concept) and because you might well think that species are the most fundamental groupings of organisms. We will also examine but concentrating on this during your reading will greatly help in class.
2. Know what an "evolutionary significant unit" is. Know how to read and interpret figures like 3.1.
3. What conservation ethic is implicit in the authors' statement "every species has value without reference to anything but its own existence" (p40)? Contrast the ideas of intrinsic and instrumental value of species (a concept first encountered in Ch. 1).
4. What criteria are used to define a species as being rare? Be able to explain each. Be sure that you read and think about the IUCN Red List definitions. You need not remember them but you will need to come back to this as a reference later in the course and you will be will served if you have some idea of what "endangered" vs. "near threatened" means. Please do the same for the red lists quantitative criteria for assessing threatened status. Think about what these definitions mean in light of what we have learned earlier about populations and genetics.
5. What is meant by germplasm?
6. Know the various instrumental reasons that wild life has value – relate each to a conservation ethic. (Be sure you know the sub-list for economic values).
7. In regard to the "ecological values" section from the list of instrumental reasons – please know what dominant, controller, and keystone species are – how they are similar and different concepts.
8. Under the "strategic values" section, be sure that you know what umbrella and indicator species are (and knowing an example of each always helps).
9. Reflect on the uniqueness value of species – especially on the arguments about why, if forced to make certain decisions, we might favor one species over another (H&G discuss this just after a passionate argument about how no species can be seen to lack value – a not inconsistent notion but certainly the transposition might jar you if you are thinking).
10. The neem tree is an interesting example. Given its myriad uses, is it likely to become extinct? Compare this with the silphion (fig. 3.7).

Please think about the questions at the end of the chapter – we will discuss at least a couple of them in class. I will be looking for your views and I don't plan on offering too many of mine.