

Study Questions and Guide
Hunter & Gibbs Ch. 11 – Protecting Ecosystems
Conservation Biology
Spring 2009

This is the first of the management chapters as we move to increasingly applied aspects of the course. There should be many opportunities for discussion. This chapter deals with three main topics: selecting systems for protection, designing reserves, and managing reserves.

1. Read over and take note of the many different types of UN. recognized protection areas (Table 11.1). What are the variables with respect to different types of reserves?
2. Know the main considerations in reserve selection (the book lists 5 beyond scenic/recreational value).
3. What is a species **hotspot**? What are the problems with hotspot centered conservation? What is GIS analysis?
4. Recall the terms "fine" and "coarse" filter? Why is it better to focus on an area that holds high diversity rather than the dominant species in an area as a means to define the extents of a system to be protected?
5. What is gap analysis?
6. Figure 11.5 is important: be sure that you understand it and discuss the different designs and why those on the left are better than on the right. The figure is discussed in more detail on pp 235-243.
7. What are some of the biological and practical (you will need to supply the latter) factors important in selecting a reserve size? What does Jarred Diamond believe about reserve size and why? Is his view totally correct (see box 11.1)?
8. Figure 11.7 and the accompanying discussion about size and shape of reserves is very important. Notice the importance of buffering and protection zones. Finally, the notion of corridors is very important and a relatively new concept in the design of reserves. Understand their importance, both in terms of their contributions to genetic variation (review this as needed) and repopulation after local extinctions (yes, these do occur in reserves for natural reasons). How are the physical dimensions of the corridor and the characteristics of migrants related?
9. Why are local people so important to the function of reserves?
10. The last topic in the chapter, "What is natural?" is of central importance in conservation decisions. How does one determine what is natural? Is "natural" an important conservation goal? Why or why not?

Terms: protected area and reserve (p 226), hotspot (pp229-31), replaceability (p230), endemism (p 231), gap analysis (p232)