

**Study Questions and Guide**  
**Hunter & Gibbs Ch. 12 – Managing Ecosystems**  
**Conservation Biology**  
**Spring 2009**

A substantial portion of the earth is managed in large part for specific uses such as forestry, livestock and fisheries. It is possible to harvest these resources in a sustainable way for the greater good of humanity (Pinchot's ethic) and at the same time provide largely intact ecosystems that function as reserves for all species normally found there (Leopold's ecological-land ethic) and also provide spiritual values. The first part of this chapter deals with such systems.

1. Note what constitutes both good and bad forestry practice with regard to meeting the goals of sustainable harvest and conservation of non-harvested species. The book goes into some detail and so please familiarize yourself with the most important considerations in this regard (e.g., age structure of the forest, spatial pattern, etc.).
2. What is **rangeland**? Discuss the differences between natural grazing patterns and those imposed by agriculture. What is the role of disturbance (animals, fire and other sources) in maintenance of rangeland?
3. Fisheries are an especially complex topic since not all are owned by governments (international waters). For the moment, focus on freshwater fisheries and how they should be managed.
4. What is an **extractive reserve**?
5. What are **cultivated ecosystems**? Contrast practices that maximize the output of one thing (e.g., a crop) and those that minimize the impact of the altered system on natural systems. Will economics always favor or demand the maximization of a crop over other possible functions of cultivated land?
6. What is the triad approach to land use?
7. Are **built ecosystems** totally unnatural? How do urban and rural built systems differ? Can anything be done in these systems to preserve biodiversity and are there economically viable reasons for doing so? What do you think about the idea of setting aside open spaces in urban/suburban areas at the cost of higher density of people in the non-set aside areas?
8. With regard to ecosystems – be sure that you know the meaning of the following terms: **neglect, replacement, enhancement, restoration, and rehabilitation**. Also know what **mitigation** means within the context of ecosystem repair.
9. Know and be able to discuss the six basic steps for restoring ecosystems.
10. Please read over the two case studies and be familiar with them – both are famous and often discussed; both frequently are injected into political discussions.

The discussion questions at the end of the chapter are excellent – please think about them and hopefully we will discuss some of these issues (or any you wish to discuss) in class.

As usual, terms that you should know are given above in bold.