

Chapter 11 – Review Questions

Read Chapter 11 and answer the following questions on a separate sheet of paper.

ANSWERS MUST BE HANDWRITTEN! Typed responses will not be accepted.

1. What factors led to the extinction of the passenger pigeon in the United States?
2. Distinguish among *local*, *ecological*, and *biological* extinction of a species.
3. Distinguish between *endangered* and *threatened* species and give two examples of each. List eight characteristics that make species vulnerable to biological extinction.
4. Give three reasons why it is difficult to estimate how human activities are affecting extinction rates. Describe two methods scientists use to create these estimates.
5. What is the estimated range of annual extinction rates caused by human activities based on extinction rate estimation methods? How do these rates compare with the estimated annual extinction rate before humans appeared?
6. List three reasons why most biologists believe the current estimates of extinction rates from human activities are probably too low.
7. Explain why we should care about species extinction. What is the *intrinsic* value of species? What is *biophilia*?
8. Describe the ecological and economic importance of bat species.
9. What are four basic causes of the population reduction and extinction of wild species?
10. Of all human activities, what are the greatest four eliminators of species?
11. Name the type of habitat where species are the most vulnerable to extinction due to habitat destruction. What is a *habitat island*?
12. Describe how habitat loss and degradation, and habitat fragmentation, contribute to the premature extinction of species, and give an example of a species affected by each factor.
13. What percentage of the world's known bird species is declining in numbers? What percentage is threatened with extinction? List three reasons why birds are excellent indicators of environmental conditions.
14. Describe how deliberately introduced, and accidentally introduced, harmful species each contribute to the premature extinction of species. Give two examples of species introduced in each way, and one example of a species affected by each.
15. What are major characteristics of successful invader species? What are major characteristics of ecosystems vulnerable to invader species? List four ways to reduce the threat from nonnative species.
16. Describe how each of the following factors contributes to the premature extinction of species, and give an example of a species affected by each factor: (a) human population growth, (b) overconsumption, (c) pollution, and (d) climate change.

17. For every live animal captured and sold in the exotic pet market, how many are killed, according to some estimates?
18. Describe how each of the following factors contributes to the premature extinction of species, and give an example of a species affected by each factor: (a) commercial hunting and illegal hunting (poaching), (b) predator and pest control, and (c) the legal and illegal market for exotic pets and decorative plants.
19. What are three reasons for the increased killing of wild animals for bushmeat in many developing countries?
20. List the benefits and limitations of protecting species using the Convention on International Trade in Endangered Species (CITES) and the Endangered Species Act (ESA) in the United States.
21. Distinguish among *habitat conservation plans*, *safe harbor agreements*, and *voluntary candidate conservation plans* used as ways to help implement the ESA.
22. Give reasons why you believe the Endangered Species Act has been a failure or success. List measures that would strengthen or weaken the ESA in the United States. List the major accomplishments of the ESA.
23. Some experts want to supplement or replace the ESA with a new law focused on biodiversity and ecosystems, rather than on individual species. This new approach would follow what three principles?
24. Summarize the advantages and disadvantages of using the following to help protect endangered species: (a) wildlife refuges, (b) gene banks and botanical gardens, (c) zoos and animal research centers, and (d) aquariums.
25. What is *reconciliation ecology*? Give two examples of reconciliation ecology.
26. What are five ways in which individuals can help to protect endangered and threatened species?