

Name: \_\_\_\_\_

## **Chapter 43 Active Reading Guide**

### **Global Ecology and Conservation Biology**

#### **Overview**

In the overview at the beginning of the chapter, the author sets the stage for this final chapter of the book. Let's begin by defining conservation biology.

#### **Section 1**

1. Ecologists organize biodiversity on three levels. In the table below, explain the impact of decreasing diversity in each division. Before answering this question, read to page 883, where the topic changes to threats to biodiversity.

<b>Level of Biodiversity</b>	<b>Impact</b>
Genetic Diversity	
Species Diversity	
Ecosystem Diversity	

2. Explain the difference between endangered species and threatened species.
3. Use this table to organize your thoughts on how the following three threats affect biodiversity.

<b>Threat to Biodiversity</b>	<b>How it Reduces Biodiversity</b>
Habitat Loss	
Introduced Species	
Overexploitation	

4. List five introduced species that present a serious threat to their new communities. Explain the damage done by each introduced species. Include two introduced species that are a threat in your own region of the country. Indicate these with an asterisk (\*).

Introduced Species	Damage
1.	
2.	
3.	
4.	
5.	

## Section 2

5. What do conservation biologists who adopt the small-population approach study?
6. Explain what an extinction vortex is, and describe one field study that supports this idea.
7. Why is genetic variation the key issue in the small-population approach?
8. On what type of population does the declining-population model focus?
9. What is the emphasis for study in the declining-population model?
10. Scientists drilled nest holes for red-cockaded woodpeckers in an attempt to increase their population levels. How is this action a response to the declining-population model?

### **Section 3**

11. Describe how the increase in cowbirds is related to forest fragmentation.

12. What are potential positive and negative effects of movement corridors?

13. Explain the concept behind a zoned reserve.

### **Section 4**

This section looks at human impact on ecosystems.

14. How has agriculture affected nitrogen cycling? What are some negative consequences of nutrient enrichment?

15. Explain the process of biological magnification. Discuss at least one example.

16. What is meant by the greenhouse effect? What would life on Earth be like without this effect?

17. What is contributing to the great increase in atmospheric carbon dioxide? What are potential effects of this increase?

18. How is atmospheric ozone depleted? What are projected effects of this depletion?

### **Section 5**

19. Summarize human population growth since 1650. (Of all the reported statistics, which one surprises you the most?)
  
20. What is demographic transition? In demographic transition which falls first, birth or death rates?
  
21. Why do infant mortality and life expectancy vary so greatly between certain countries?
  
22. Can the world's population sustain an ecological footprint that is currently the average American footprint? Explain.

### **Section 6**

23. Explain the concept behind the phrase "sustainable development."