



### III. Human Population Growth

The 1995 human growth rate was near 1.5% (meaning that for every 100 people 1.5 more are added to the population each year). At this rate of growth the population could double in 15-30 years!

A. Expansion Into Diverse Habitats

B. Increasing Resource Availability

C. Sidestepping Several Limiting Factors

### IV. Impact of Human Population Growth

A. Depletion of Resources

1. Fossil Fuels

2. Land

a. Biomass

b. Agriculture

3. Water

B. Build -Up of Waste Products

1. Air Pollution

2. Water Pollution

3. Terrestrial Pollution

### V. What are the Solutions?

### VI. Additional Selected Key Terms

abiotic	biosphere	biotic	biotic potential	carrying capacity
deforestation	desertification	doubling time	ecosystem	emigration
immigration	ozone hole	pollution	species	

## Study Questions – Populations and Ecology

1. What is a “population”?
2. What factors influence population growth?
3. Under ideal conditions (with unlimited resources) populations can grow exponentially. What does this mean?
4. Define “doubling time” and “biotic potential”.
5. How does the pattern of reproduction within a species influence the growth of that species?
6. In general what can limit the rate of growth of a population?
7. Describe how each of the following can limit population growth:
  - a. Reproduction
  - b. Resource Availability
  - c. Disease
  - d. Predation
  - e. Climatic Change
  - f. Natural Disaster
8. How are “density dependent” limiting factors different from “density independent” limiting factors?
9. Define “carrying capacity”?
10. Can populations grow beyond their carrying capacity? What is the result?
11. What factors allow a population to grow beyond its carrying capacity? What factors might prevent a population from growing beyond its carrying capacity?
12. How has the human population overcome some of the limitations to population growth?
13. Describe the impact of humans on the following resources:
  - a. Fossil Fuels
  - b. Land
  - c. Water
14. Define “pollution”?
15. Describe the impact of pollutants on the following:
  - a. Air
  - b. Land
  - c. Water
16. What are some of the consequences of human population growth to:
  - a. The continuing availability of limited resources?
  - b. The elimination / accumulation of wastes?
17. What impact do you have?

*“I would feel more optimistic about a bright future for man if he spent less time proving that he can outwit Nature and more time tasting her sweetness and respecting her seniority.”*

E. B. White