




# 5.2 Limits to Growth

pg. 137-141

## Lesson Objectives

-  Identify factors that determine carrying capacity.
-  Identify the limiting factors that depend on population density.
-  Identify the limiting factors that do not depend on population density.

## Limiting Factors

For Questions 1–6, write True if the statement is true. If the statement is false, change the underlined word to make the statement true

- \_\_\_\_\_ 1. Limiting factors determine the immigration capacity of a population.
- \_\_\_\_\_ 2. A limiting factor controls the growth of a population.
- \_\_\_\_\_ 3. Limiting factors operate when growth is exponential.
- \_\_\_\_\_ 4. Populations grow too large in the absence of limiting factors.
- \_\_\_\_\_ 5. Competition is an example of a limiting factor.
- \_\_\_\_\_ 6. Population size can be limited by factors such as predation.

## Density-Dependent Limiting Factors

7. What is a density-dependent limiting factor?

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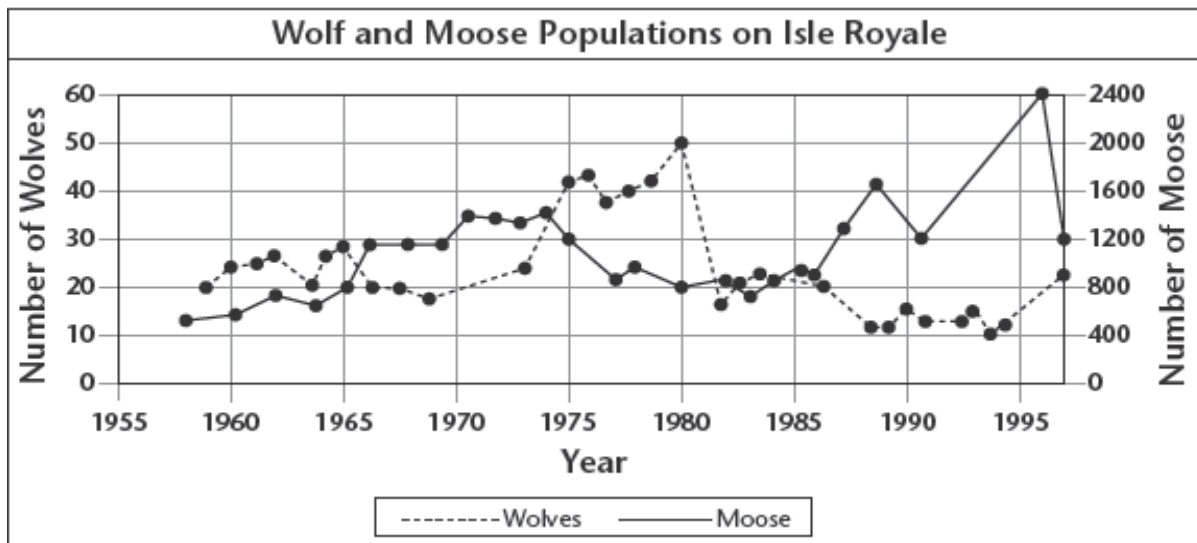
8. When do density-dependent factors operate most strongly?

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9. What are four density-dependent limiting factors?

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Use the graph to answer Questions 10–13.



10. What happened to the number of wolves on Isle Royale between 1975 and 1985?

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11. What happened to the moose population when the number of wolves was low?

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12. What is the relationship between the moose and the wolves on Isle Royale?

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13. Is the number of moose on the island a density-dependent or density-independent limiting factor for the wolf? Explain your answer.

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## Density-Independent Limiting Factors

14. What term describes a limiting factor that affects all populations in similar ways, regardless of population size?

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15. What is the usual response in the population size of many species to a density-independent limiting factor?

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16. Complete the graphic organizer with examples of density-independent limiting factors.

