

Case Study: Investigating a Predator-Prey Relationship

Lynx, a cat of forests of Canada, prey on snowshoe hare. In some areas, hare provide over 70 % of the lynx diet. As a result, the population growth curve of the lynx should show a relationship to that of the hare. What do you think that relationship is?

The data on this relationship are listed in the following table. Study them carefully as you answer the questions.

Population Numbers Of Hare and Lynx by Year

Year	Hare numbers	Lynx numbers	Year	Hare numbers	Lynx numbers
1895	85 000	48 000	1918	5 000	5 000
1900	18 000	6 000	1921	52 000	11 000
1903	65 000	18 000	1924	78 000	28 000
1905	40 000	61 000	1927	18 000	42 000
1908	28 000	28 000	1930	4 000	5 000
1909	25 000	4 000	1933	22 000	18 000
1910	51 000	10 000	1934	86 000	32 000
1912	70 000	32 000	1936	15 000	40 000
1915	30 000	42 000			

Questions

1. Plot this data on the same sheet of graph paper. Put the year on the x-axis and the population numbers on the y-axis.
2. Which animal is the predator and which is the prey?
3. As the hare population increases what happens to the lynx population? Why?
4. As the lynx population increases what happens to the hare population? Why?
5. These population growth curves are said to fluctuate. What does that mean?
6. We say that a good predator-prey relationship keeps the two populations "in balance." What is meant by this?
7. What would happen to the forest environment if the lynx started being hunted for their skins?

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