



Predator-Prey Interactions

In the 1980s, people became concerned about the wolf and deer populations in a Manitoba provincial park. A wildlife biologist was hired to monitor the populations over 10 years. The results of the study are found below.

Year	Wolf Population	Deer Population
1991	20	4000
1992	24	4600
1993	33	5000
1994	44	4800
1995	56	4500
1996	48	4200
1997	42	3900
1998	36	3850
1999	38	3900
2000	38	3950

Questions

- On a piece of graph paper, plot the fluctuations in the deer and wolf populations for the study period. Place the year along the horizontal axis. Create two vertical axes. Number the left vertical axis to accommodate the number of deer. Number the right vertical axis using a different scale for the size of the wolf population.
- Examine the completed graph. What factors could account for the large increase in the deer population between 1991 and 1992?

- What might have caused the decline in the deer population between 1993 and 1997?

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4. Why was the wolf population so high in 1995?

5. How would you describe the relationship between the wolf population and the deer population?

6. Make a prediction for the size of each of the populations for the year 2005.

7. Should there be a concern about the changes in the wolf and deer populations in the area studied? Explain your answer.

8. Predict the effect on the deer population if...

- a. a forest fire occurs _____
- b. the wolf population suffers from mange _____
- c. prolonged harsh winter weather conditions occur _____
- d. deer hunting quotas are increased _____
- e. wolf trapping quotas are increased _____

9. How can understanding the natural fluctuations of these populations aid conservation officers in setting trapping and hunting limits?

