Name _____ Period ____ Date _____

Introduction

The story of the Kaibab deer population illustrates what can go wrong when stable populations in an area are disturbed. The Kaibab Plateau is located in a beautiful section of Arizona. Prior to 1907 there was a well balanced, healthy deer population living on the plateau. The range was vital and healthy, easily capable of maintaining not only 30,000 deer, but also the coyotes, mountain lions, and wolves that preyed on them. In 1907 a program was begun to exterminate the deer's natural predators. During the next few years 3,000 coyotes, 600 mountain lions, and 11 wolves were killed. Without their natural predators the deer population exploded, reaching a peak of 100,000 head in 1923. The increased population easily overwhelmed the carrying capacity of the range. With the range decimated, the deer population plunged during the next two years. Over half of the herd starved to death. The range was so badly damaged that it could no longer support the original 30,000 deer. Over the next several decades the herd continued to decline. By 1979 only 10,000 head were left. The range carrying capacity was reduced so that now it will only support 8,000 deer. Upsetting the natural balance between predators and their prey killed far more deer than the predators ever had.

⬜ **Limiting Factors :** Anything that can restrict the size of a population. (ex. food, water, living space, and sun light)

⬜ **Carrying Capacity :** The largest number of individuals of a particular species that an ecosystem can support.

Materials Needed

- Pen/pencil
- Ruler

Procedures

1. Using the data table below, graph the Kaibab deer population.
2. Use your graph to answer the questions on the back of this paper.

Year	Deer Population		Year	Deer Population		Year	Deer Population
1905	4,000		1925	60,000		1930	25,000
1910	9,000		1926	40,000		1935	20,000
1915	25,000		1927	37,000		1939	10,000
1920	65,000		1928	35,000			
1924	100,000		1929	30,000			

Analysis and Conclusions

1. Why did the population of deer decline in 1925? _____
   _____
   _____

2. What future management plans would you suggest for the Kaibab deer herd?
   _____
   _____
   _____
   _____

3. We are experiencing an unprecedented drought throughout the Western United States that has been going on for well over 20 years. There has also been unprecedented growth along the Wasatch front over the past 10 years, with no signs of slowing down. How might these two points effect the carrying capacity where we live? What are some ideas that might help mitigate the problems we will face in the future as the water shortage continues to get worse?

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