

Deer Population



Predator Population



Food Supply

1.      Change the model to determine what would happen if no bounty was placed on predators. Include the 3 new graphs and label them. Write a paragraph describing your findings.



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Deer population raises and falls at a very slow rate. Peeking in 1920 at 6996 deer. Predator population never falls. It actually rises and doesn’t start to fall until the 1940’s. Idling around 10,000 predators. Food supply hardly changes form 1900 to 1950 now.

2.      Run the model in the SyntheSim mode to determine a value for the predator removal fraction (RF) that causes the deer population to smoothly grow and stabilize at about 20,000. Include the 3 new graphs and label them. Write a paragraph describing your findings.



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The closest RF I could get to stabilize the Deer Population was at 20.065. The Predator Population graph seems to be creating an error, or, the population will be rising and crashing at an uncontrollable rate. Food supply takes a little dip and seems to level itself out.

3.     Restore RF and RST to their original values. In 1918 the first warnings of deer over-population were issued. If these warnings were heeded, the predator bounty may have been reduced.  Introduce 2 new variables into your model for the year to reduce the predator bounty (RST2) and the amount to reduce bounty (RF2). The bounty will now step up to 20% in 1905 and step down to a lower level in 1918. Using the SyntheSim mode, modify RF2 to stabilize the populations or recover from the previous damage as much as possible. To do this you should adjust the scale of the slider for RF2 so you can make fine enough adjustments. Include the 3 new graphs and label them. Write a paragraph describing your findings.

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Adjusting RF2 to .0325 seems to be a fairly good answer. It seems to have a perfect balance all around. Deer population is fine, Predator population is fine, and the Food supply is not in short order.

4.   Write a paragraph explaining your recommendation for the best solution for managing the Kaibab Plateau.

I believe the 3rd situation is the best solution for managing the Kaibab Plateau. Stabilizing the Deer population without hurting the Food supply. And maintaining a manageable Predator population.