

Math 229, Spring 2024
Project: Population models with harvesting

This is essentially Lab 1.3 in the text.

In your writeup, please include the following:

1. The writeup mostly as described in the text. As much as you can, try to give a description of exactly which combinations of k , a and N lead to different sorts of behavior. Give qualitative descriptions of how these parameters affect the behavior of solutions.
2. Add constant and periodic harvesting to the exponential population model. Find solutions, and whatever qualitative information about them you can. Describe the effects of any parameters in your models.
3. For each of your models attempt to answer the following question: For given values of k , N or whatever other parameters are present, what is the rate of harvesting which the population can sustain without collapsing? Comment on the practical usefulness of this information – who might be interested in it?