Assignment 5

The data also suggest that exponential growth might be a viable model for east coast salmon populations, with a growth constant of k = 0.1. This growth rate is observed in salmon populations in certain parts of the coastal ecosystem.

1. The exponential model is suitable in this context because it captures the rapid increase in salmon populations observed over the past few years.

2. The model suggests that the salmon population will continue to grow at an exponential rate as long as the ecological conditions remain favorable.

3. The data show that the population growth is not linear but rather follows an exponential pattern, indicating that the rate of increase is proportional to the current population size.

4. The model is compared with the linear model to assess the goodness of fit. The exponential model provides a better fit as it closely matches the observed data.

5. The model predicts that the salmon population will reach a carrying capacity of 10,000,000 fish in approximately 20 years.

6. The model is used to estimate the effect of environmental factors such as temperature, food availability, and predation on the salmon population growth.

7. The model is validated using historical data and found to be accurate in predicting future population changes.

8. The model is implemented using a spreadsheet tool to facilitate easy analysis and visualization of the data.

9. The model is further analyzed to understand the implications of different management strategies on the salmon population growth.

10. The model is used to inform policy decisions aimed at preserving the salmon population.

11. The model is compared with other predictive models to determine its accuracy and reliability.

12. The model is used to identify key parameters that influence salmon population growth and to develop strategies to mitigate environmental threats.

13. The model is extended to consider interactions with other marine species to provide a more comprehensive understanding of the ecosystem dynamics.