

# How Populations Grow

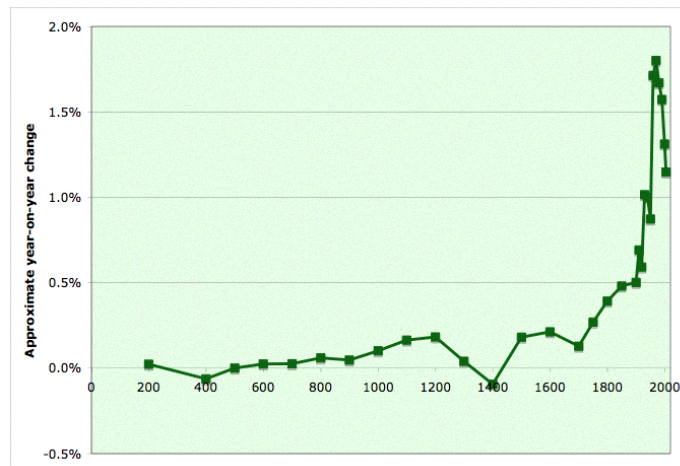
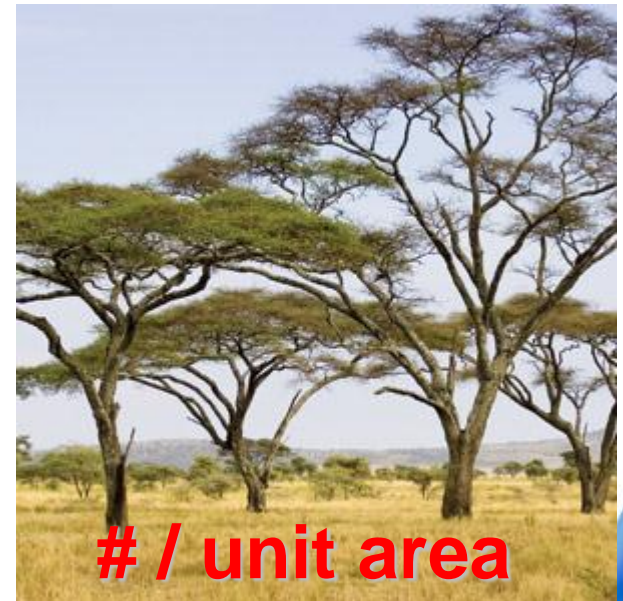


## Characteristics of Populations

Three important characteristics of a population are its:

- geographic distribution
- density
- growth rate

DISTRIBUTION OF THE SPANISH POPULATION (2005)



## Population Growth

**Four factors can affect population size & thus growth rates:**



- **Natality (the number of births)**
- **Mortality (the number of deaths)**
- **Immigration (the number of individuals that enter the population)**
- **Emigration (number of individuals that leave the population)**

When can a population grow then?

When will a population decrease in size?





**Density Dependent Factors:**  
differ with the biome/environment

**Amount food**

**Disease**

**Competition**

**Parasites**

**Versus Density-Independent:**

**Abiotic factors**

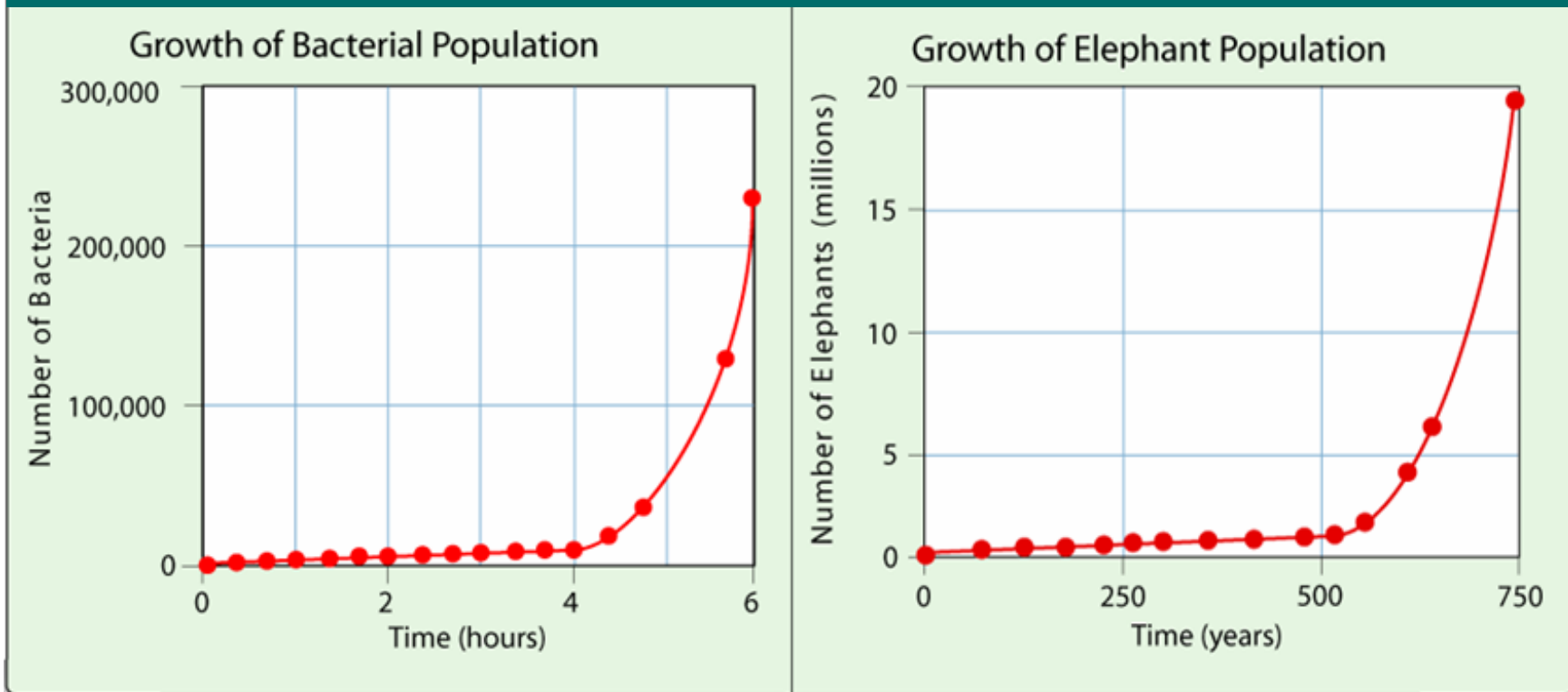
**Habitat disruption**

Which type of populations more prone to density-dependent factors? Density –independent?

**Under ideal conditions with unlimited resources, a population will grow exponentially.**

**J-Shaped curve**

### Exponential Growth

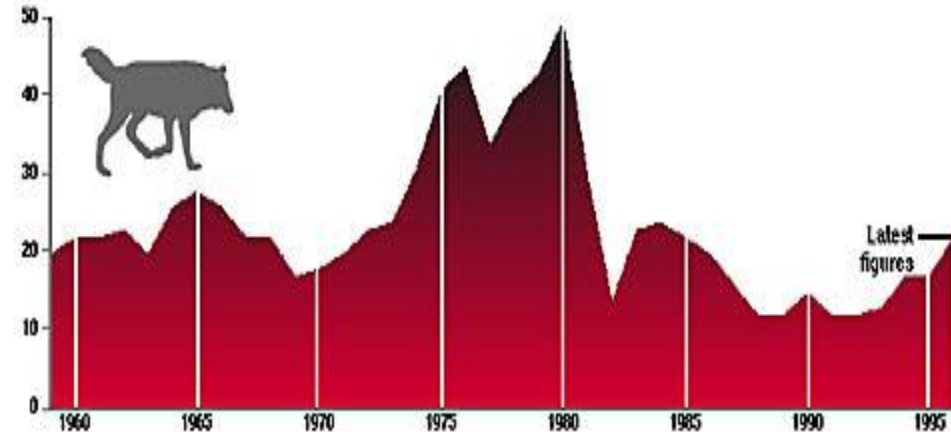
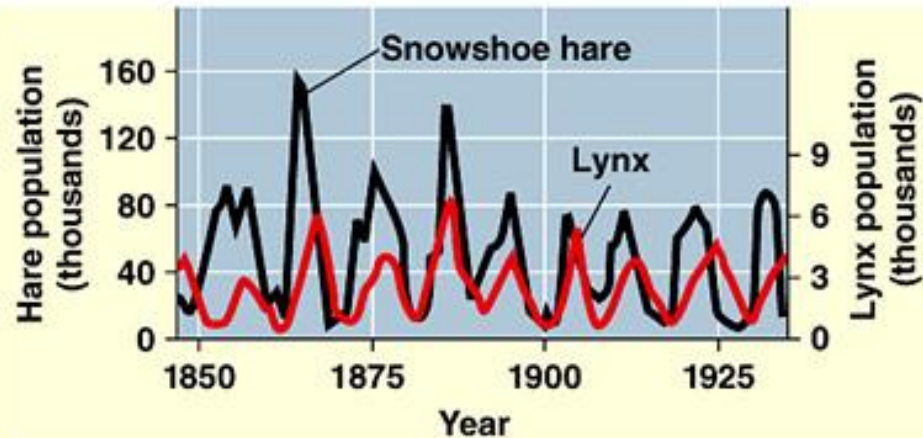


Logistic growth is characterized by an S-shaped curve. What causes this type of growth?



What?  
Why?

## 5-1 How Populations Grow ➡ Predatory Prey cycles



Source: "The Wolves of Isle Royale," Dr. Paul G. Pearson (McGraw-Hill Press)

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Many of our animal populations are in danger

## Current Situation

What are some things we are trying to do to ensure survival of many of our species?