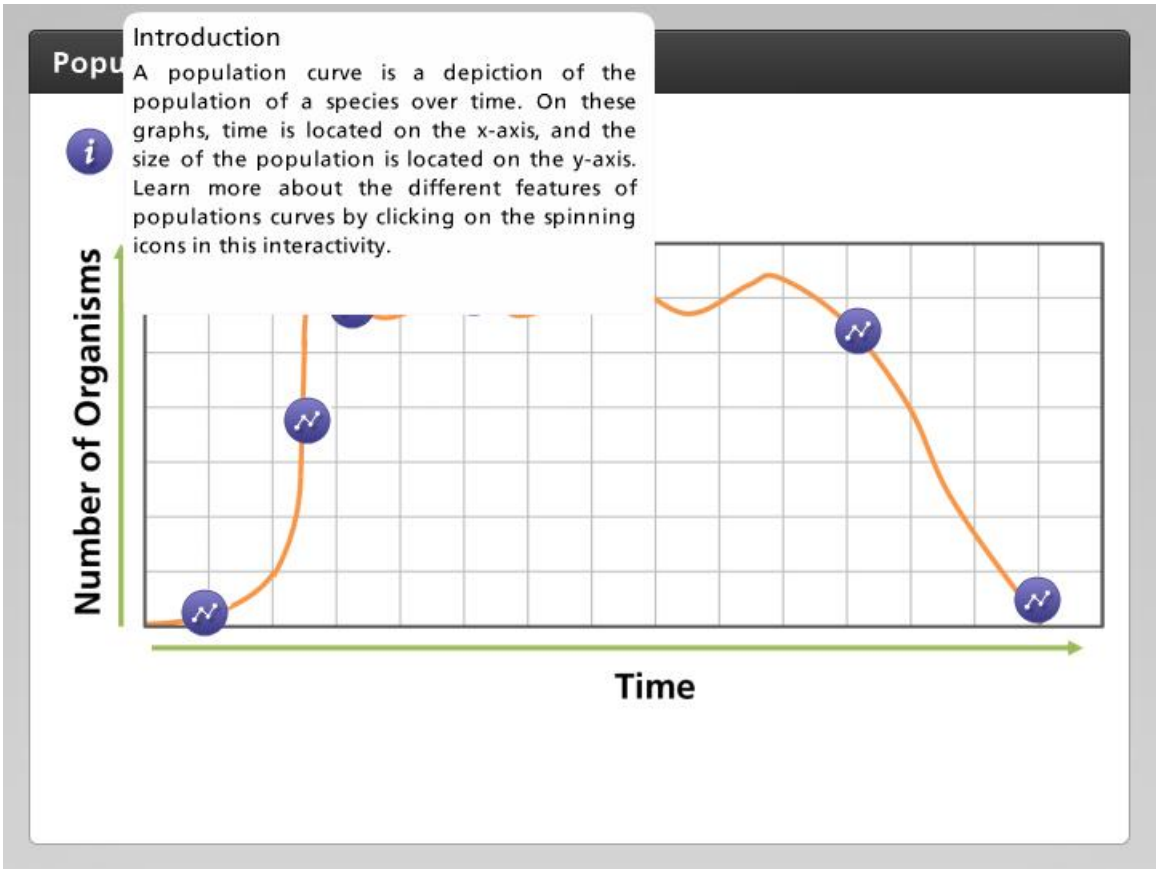
Module 11: Ecology
Topic 2 Content: Population Curves Notes

Introduction



A population curve is a depiction of the population of a species over time. On these graphs, time is located on the x-axis, and the size of the population is located on the y-axis. Learn more about the different features of populations curves by clicking on the spinning icons in this interactivity.

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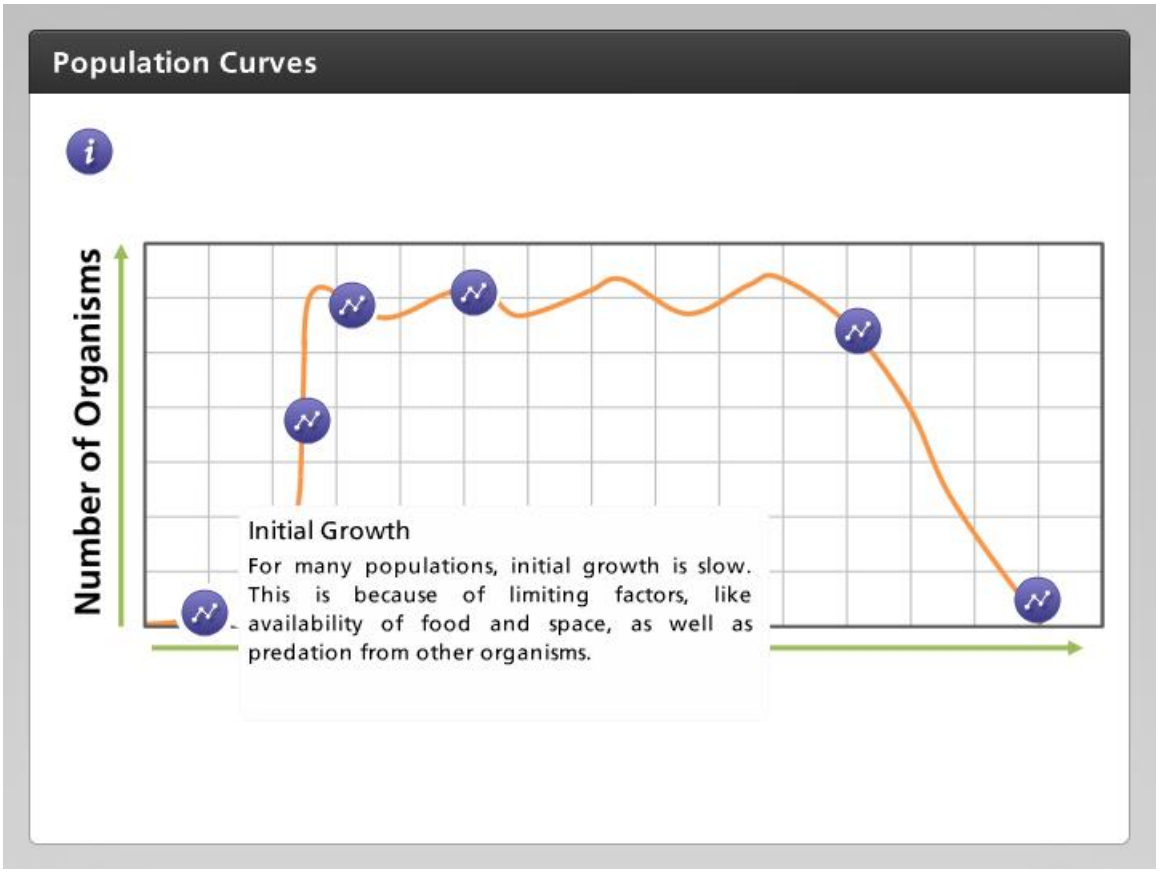
Initial Growth



For many populations, initial growth is slow. This is because of limiting factors, like availability of food and space, as well as predation from other organisms.

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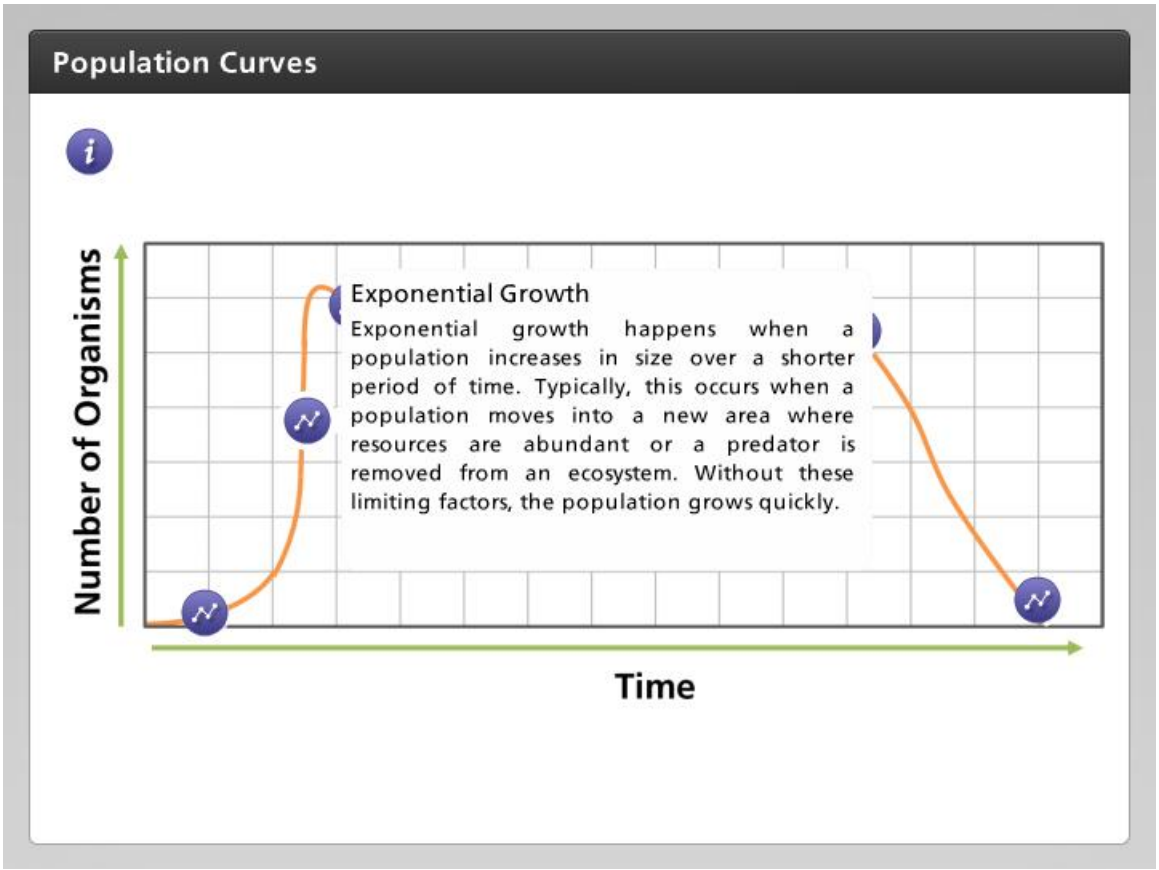
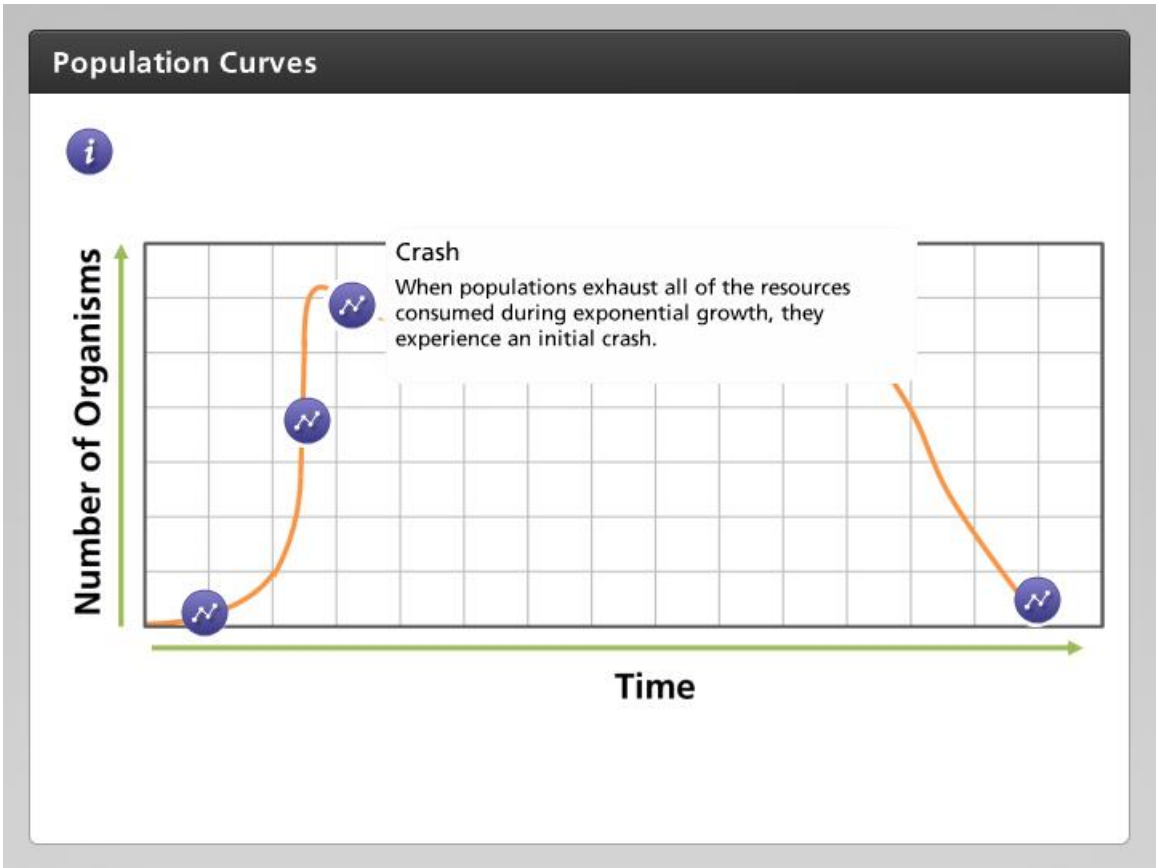
Exponential Growth



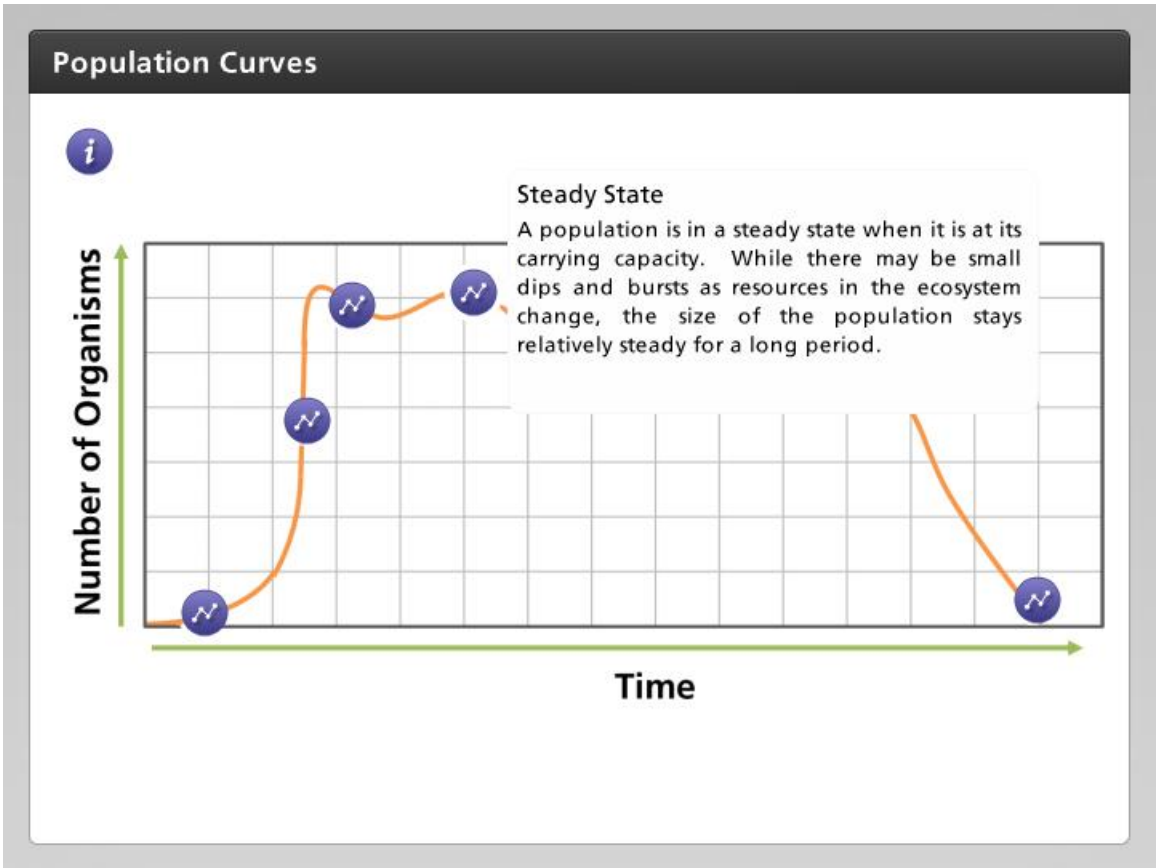
Exponential growth happens when a population increases in size over a shorter period of time. Typically, this occurs when a population moves into a new area where resources are abundant or a predator is removed from an ecosystem. Without these limiting factors, the population grows quickly.

Crash



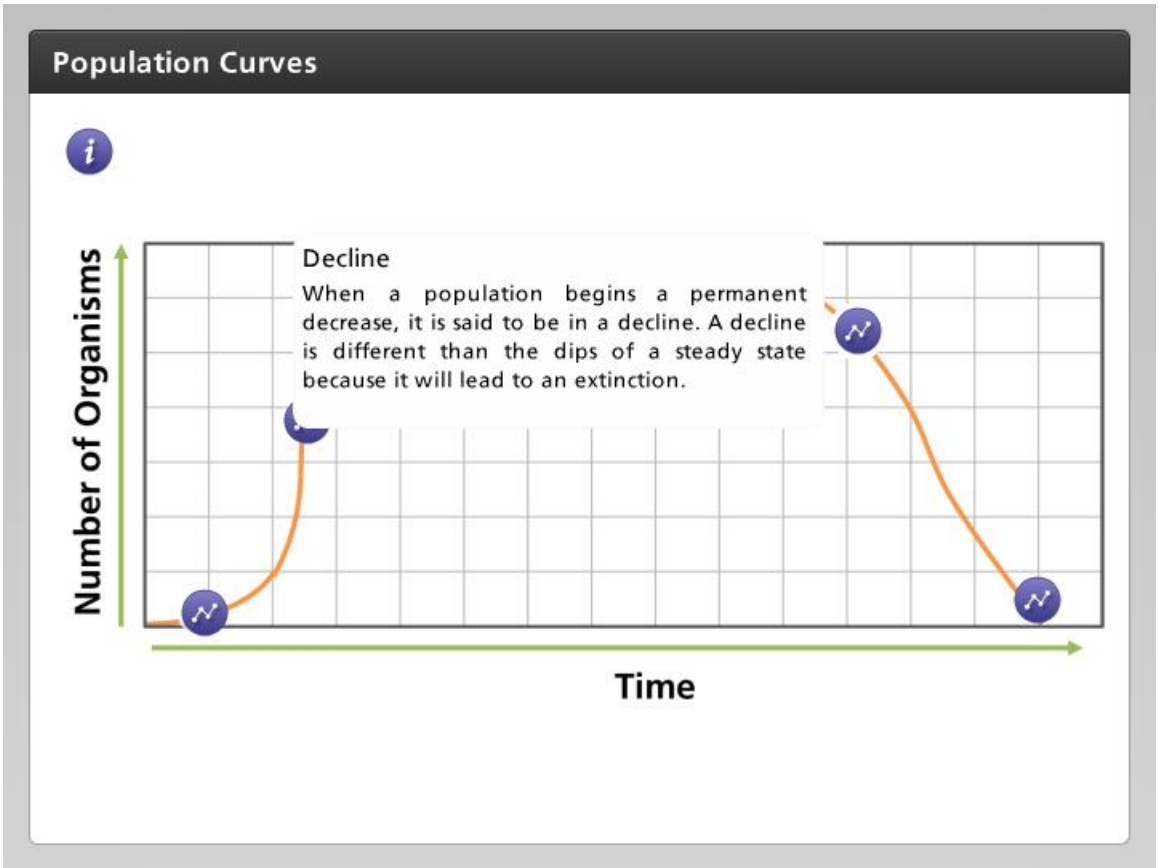
When populations exhaust all of the resources consumed during exponential growth, they experience an initial crash.

Steady State



A population is in a steady state when it is at its carrying capacity. While there may be small dips and bursts as resources in the ecosystem change, the size of the population stays relatively steady for a long period.

Decline



When a population begins a permanent decrease, it is said to be in a decline. A decline is different than the dips of a steady state because it will lead to an extinction.

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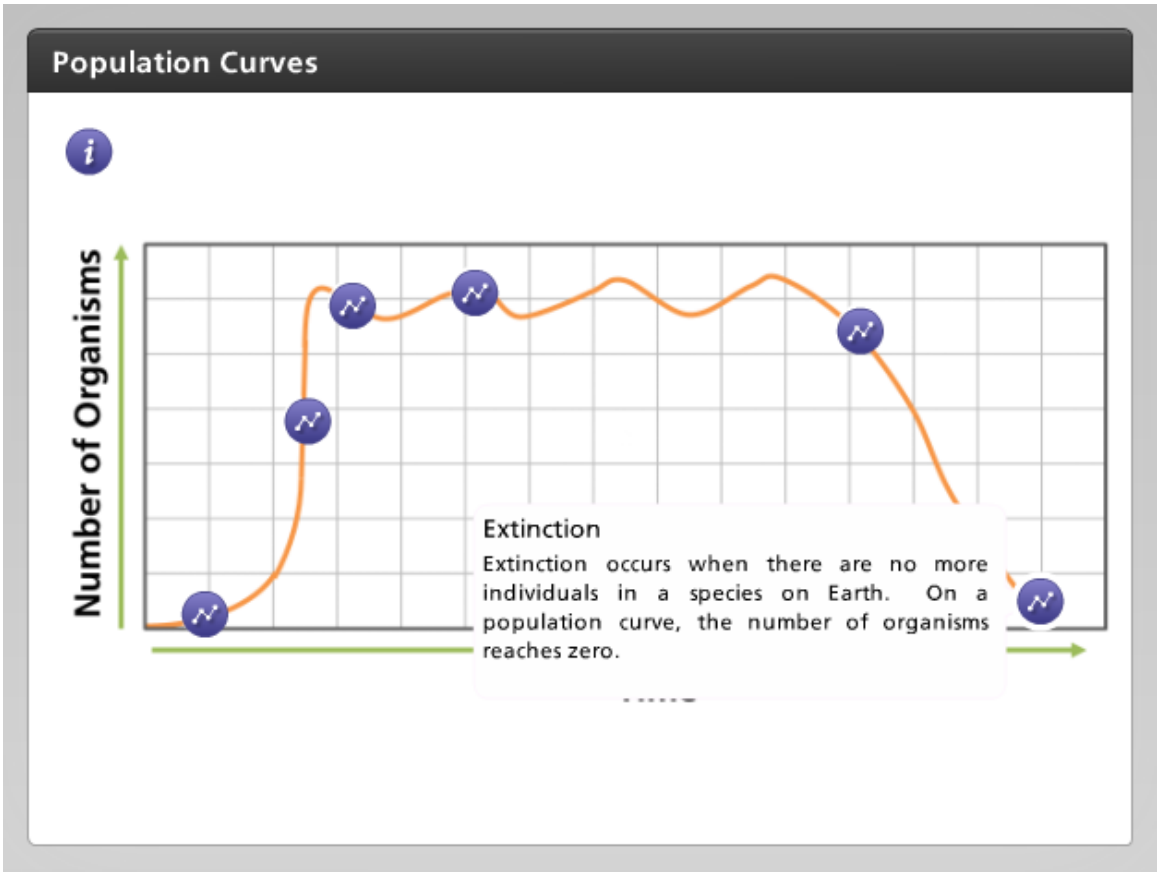
Extinction



Extinction occurs when there are no more individuals in a species on Earth. On a population curve, the number of organisms reaches zero.