Chapter 2 Summary

2.1 Populations and Resources

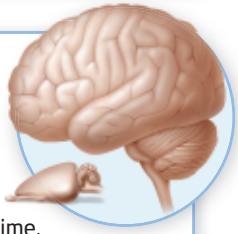
Key Concepts

- Populations tend to increase exponentially when there are available resources.
- When resources that are needed by populations become limited, the carrying capacity of an ecosystem has been reached.
- Human alterations of an ecosystem, such as through urban sprawl, often reduce the carrying capacity of the ecosystem for other species.

2.2 Interactions Among Species

Key Concepts

- Each species occupies an ecological niche, which has biotic and abiotic components.
- Many species, such as bog plants, occupy narrow niches for which they are superbly adapted.
- Predation, competition, mutualism, and parasitism are four major kinds of relationships between species.
- These relationships help to define a species' niche and influence the distribution and abundance of the species.



2.3 Human Niches and Population

Key Concepts

- The ecological niche of humans has been broadened by our intellectual abilities and the development of technology.
- Humans have altered the ecosystems that support us, so our carrying capacity is high.
- Modern human societies are still subject to the ecological principle of carrying capacity.
- Human growth has rapidly accelerated over the past 400 years, with a current doubling time of less than one human lifetime.
- An ecological footprint is used to describe the impact of a person's or population's consumption habits on the supporting ecosystems.

2.4 Ecosystem Services

Key Concepts

- When a species occupies its niche, it provides ecosystem services for other organisms.
- Forests influence climate and play a vital role in the regulation of watersheds.
- Insects provide many ecosystem services, including pollination and decomposition.
- The health of migratory bird populations is dependent on the health of the ecosystems they visit during their migration.
- Ecological connectivity means that international co-operation is necessary to keep ecosystems sustainable.
- Visual beauty and spiritual appreciation are two services that ecosystems provide for humans.