Chapter 3 Summary

3.1 Measuring Biodiversity

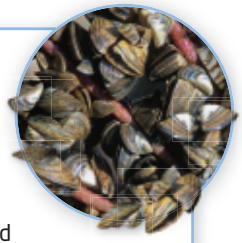
Key Concepts

- Biodiversity is the number and variety of organisms found within a specific region.
- Scientists have identified about 2 million species on Earth.
- Biodiversity is measured using several different methods.
- There are places on Earth where there is an exceptionally large number of species in a relatively small area.
- Most biodiversity hotspots are in tropical areas.

3.2 Communities

Key Concepts

- Species live in communities where relationships among different species are very important.
- Dominant species are very common primary producers.
- Keystone species are especially significant in maintaining an ecosystem through their relationships with other species.
- Ecosystem engineers alter a landscape in a way that makes it suitable for additional different species.
- Succession is the series of changes in an ecosystem that occurs over time, following a disturbance.



3.3 Threats to Biodiversity

Key Concepts

- Threats to biodiversity include habitat loss, the introduction of alien species, overexploitation, and breaking the connectivity among ecosystems.
- Deforestation and draining wetlands can result in habitat loss.
- Extinction is a natural event that has occurred throughout Earth's history.
- Current extinction rates may be accelerated due to human activities.

3.4 Restoration Ecology

Key Concepts

- Restoration ecology includes reforestation, wetlands restoration, controlling alien species, bioremediation, and bioaugmentation.
- The flow of nutrients through ecosystems can be interrupted by human activities, and restoration techniques can offset those interruptions.
- Alien species are extremely difficult to eradicate in most situations.
- There are many ecosystems that require restoration, and the Alberta tar sands will be a major challenge.