Ch 7 - Biodiversity

- I) Biodiversity & Our Planet of Life
 - A) Ecologists break down an area's overall biodiversity into three major categories:
 - 1) species diversity- Species diversity is the number or variety of species in a particular area
 - 2) genetic diversity- Genetic diversity describes the differences in DNA among individuals of a population or species
 - 3) ecosystem diversity- Ecosystem diversity refers to an area's variety of ecosystems, communities, or habitats.
 - B) Biodiversity varies among taxonomic groups and geographic regions.
 - 1) Bugs have CRAZY biodiversity
 - 2) Near equator has more than poles
 - C) Biodiversity benefits
 - 1) Biodiversity enables ecosystems to provide economically valuable services and products, such as clean water, food crops, medicines, and recreation areas.
 - (a) Hidden benefits like clean water and air are often overlooked.
 - 2) Medicine about 80% of new medicines are discovered in nature
 - 3) Make money
 - (a) Tourism, etc
 - 4) Biodiversity creates stability at all levels, it helps:
 - (a) prevent change (resistance)
 - (b) deal with change (resilience)
 - D) Taxonomy system for organizing and classifying life on earth
 - E) Terms
 - 1) biodiversity (200)
 - 2) species diversity (201)
 - 3) genetic diversity (202)
 - 4) ecosystem diversity (202)
- II) Extinction and Biodiversity Loss
 - A) Scientists monitor biodiversity closely and have noticed many significantly higher than normal extinction rates in recent decades.
 - 1) Endangered species are at serious risk of extinction. Threatened species are likely to become endangered soon throughout all or part of their range.
 - B) Habitat change and loss, invasive species, pollution, and overharvesting are the major causes of biodiversity loss.
 - C) Conservation status
 - 1) Extinct
 - 2) Extinct in the Wild
 - 3) Critically Endangered
 - 4) Endangered
 - 5) <u>Vulnerable</u>
 - 6) (Conservation Dependent)-not a status anymore
 - 7) <u>Near Threatened</u>
 - 8) Least Concern

- D) Climate change is a global factor and may become a greater one in the future.
- E) Terms
 - 1) extirpation (207)
 - 2) endangered species (208)
 - 3) threatened species (208)
 - 4) habitat fragmentation (209)
 - 5) poaching (211)
- **III**) Protecting Biodiversity
 - A) Nations can pass <u>laws</u> (such as the Endangered Species Act) and sign international <u>treaties</u> (such as CITES) that protect biodiversity.
 - Agreements between independent nations are called <u>treaties</u>. and there enforcement is dependent on the terms.
 - B) Species can be targeted
 - 1) Species Survival Plans manage, protect, and reintroduce threatened and endangered species.
 - Captive breeding is what it sounds like
 (a) Zoos etc.
 - C) Strategies that manage whole ecosystems and habitats, protect many species at once.
 - 1) The hotspot approach involves focusing conservation efforts on areas with especially high numbers of endemic species that are rapidly losing biodiversity
 - Conservation concessions are agreements in which countries are paid to protect their natural resources.
 - 3) Wildlife corridors connect habitat fragments, enabling populations to interbreed.
 - D) Terms
 - 1) Endangered Species Act (ESA) (212)
 - 2) captive breeding (214)
 - 3) Species Survival Plan (SSP) (214)
 - 4) biodiversity hotspot (215)
 - 5) endemic (215)