



- Chapter 60  
*Conservation Biology*

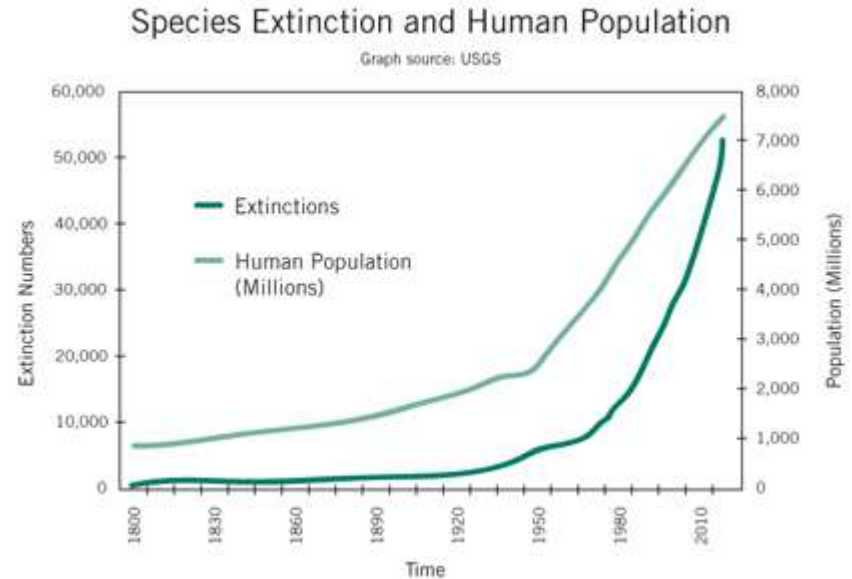
QOD



- In your opinion, what are the most significant threats to biodiversity?

# Biodiversity crisis

- **Extinction** ~ natural phenomenon, however, rate is of concern.....
- Major Threats:
- **Habitat destruction** ~ single greatest threat; cause of 73% of species designation as extinct, endangered, vulnerable, rare; 93% of coral reefs
- **Competition by exotic (non-native) species** ~ cause of 68% of species designation as extinct, endangered, vulnerable, rare; travel
- **Overexploitation** ~ commercial harvest or sport fishing; illegal trade



# Biodiversity: Human welfare

- 25% of all medical prescriptions
- Genetic variability
- Aesthetic and ethical reasons
- Species survival



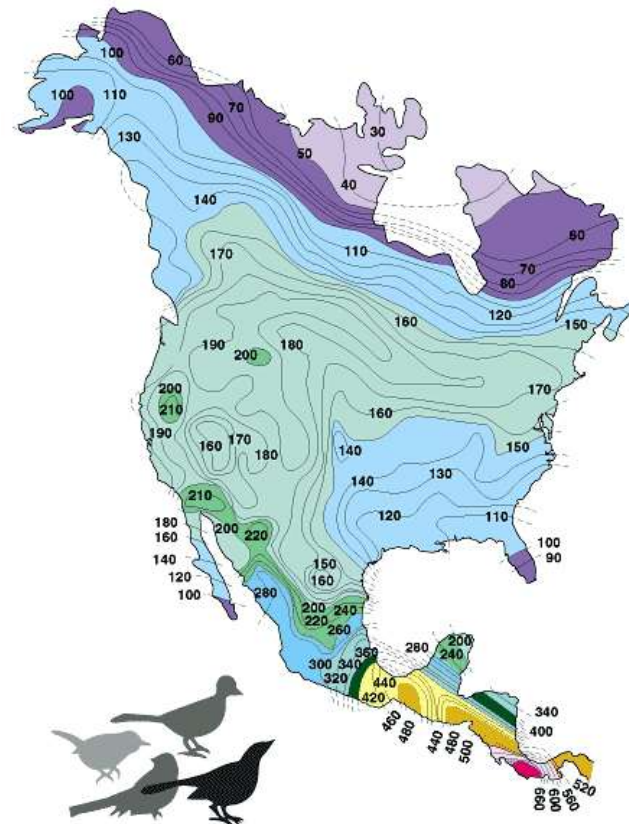
# Conservation biology focus

- **Preservationism:** setting aside select areas as natural and undeveloped
- **Resource conservation:** public lands to meet the needs of agriculture and extractive industries, i.e., "multiple use"
- **Evolutionary / ecological view:** natural systems result from millions of years of evolution and ecosystem processes are necessary to maintain the biosphere



# Geographic distribution of biodiversity

- **Energy availability** ~ solar radiation
- **Habitat heterogeneity** ~ environmental patchiness
- **Niche specialization** ~ narrow resource range specialization
- **Population interactions** ~ complex population interactions



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# Population & species level conservation

- **Biodiversity hot spot:** small area with an exceptional concentration of species
- **Endemic species:** species found nowhere else
- **Endangered species:** organism “in danger of extinction”
- **Threatened species:** likely to become endangered in the foreseeable future
- **Bioremediation:** use of living organisms to detoxify polluted systems

FUNDING ALLOCATED FOR ENDANGERED SPECIES ACT AND NUMBER OF SPECIES LISTED

