

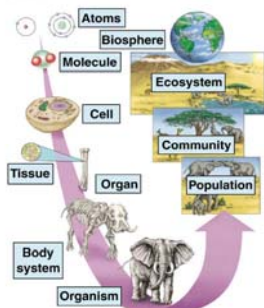
LS 2X03 - Lecture 13 – Biodiversity

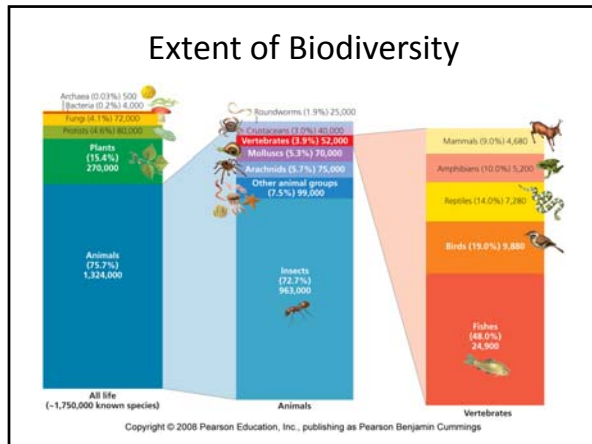
1. What is Biodiversity?
2. Biodiversity and Human Health
3. Biodiversity and Infectious Diseases
4. Biodiversity and Food
5. Biodiversity and Extinction Rates

Key Concepts

- What is Biodiversity?
- Examples of how Biodiversity may help cure Human disease and promote health
- Examples of links between Biodiversity and Infectious Diseases
- Examples of how Biodiversity may support agricultural systems
- The state of Biodiversity

1. What is Biodiversity?













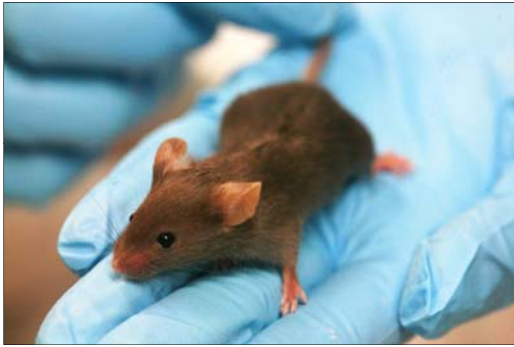


Coral Reefs as Sources of Medicine

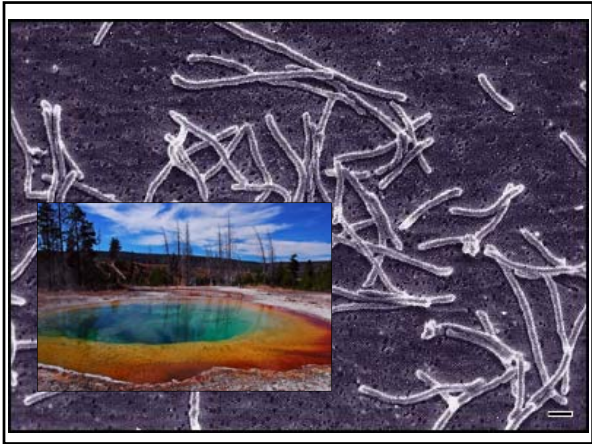
- Tropical coral reefs are the “rainforests of the seas” because they are home to vast biodiversity

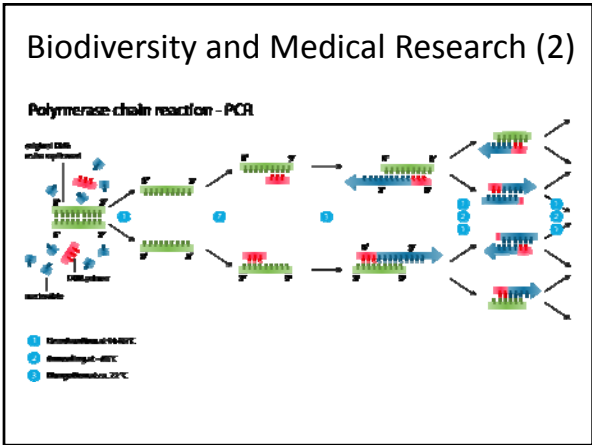


Biodiversity and Medical Research







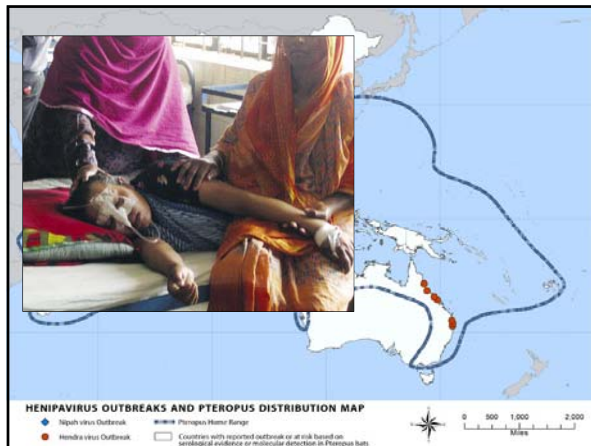


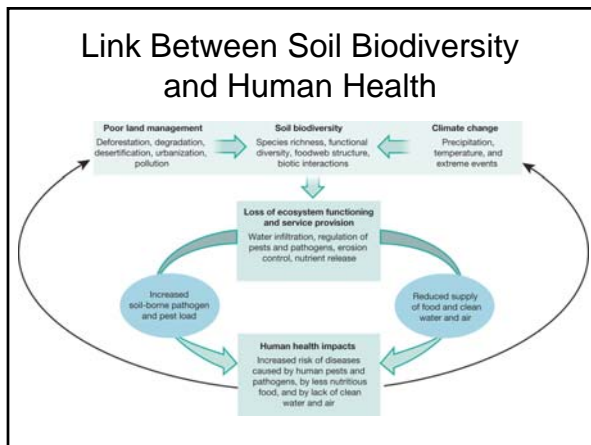


- For approximately 60% of human infectious diseases:









***Bacillus anthracis*: Anthrax**

- 1** The bacteria known as *Bacillus anthracis* are found in soil.
- 2** When spores get into the body of an animal or person (a place rich with waters, sugars and proteins), they can be "activated" and turn into bacteria.
- 3** When they become active, the bacteria can multiply, spread out in the body, produce toxins (poisons) and cause severe illness and death.

4. Biodiversity and Food

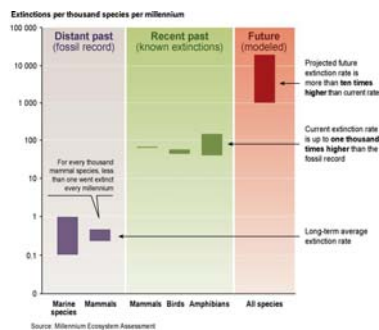


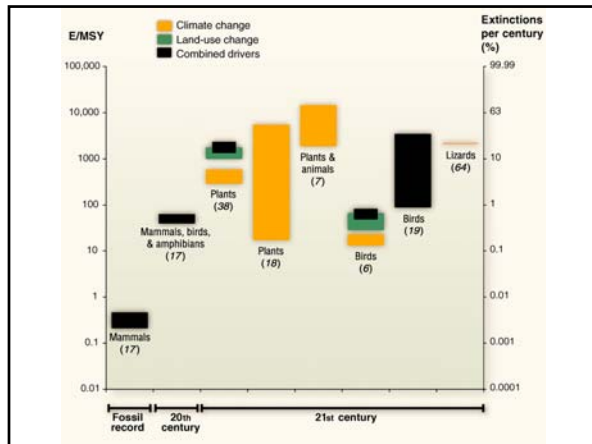


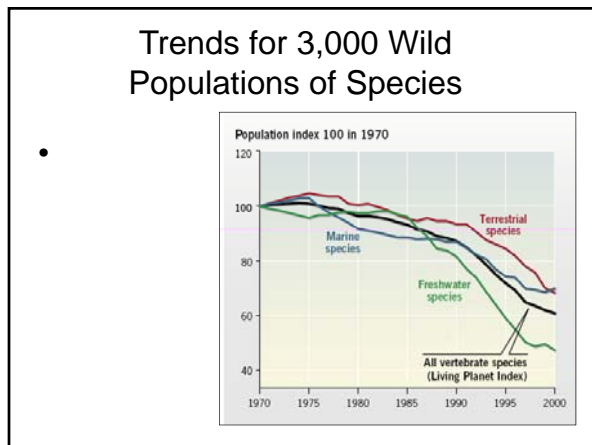
4. Biodiversity and Extinction Rates

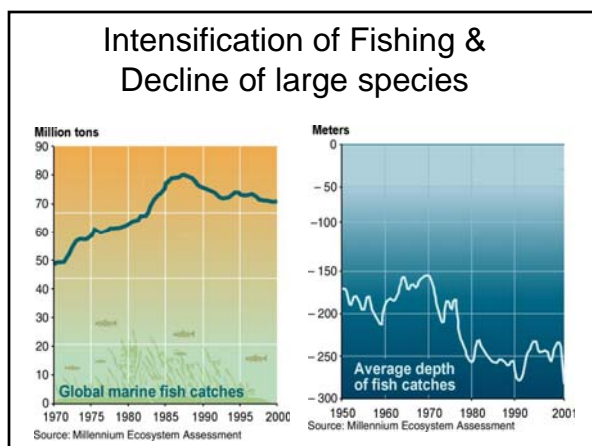
- Natural background, baseline:

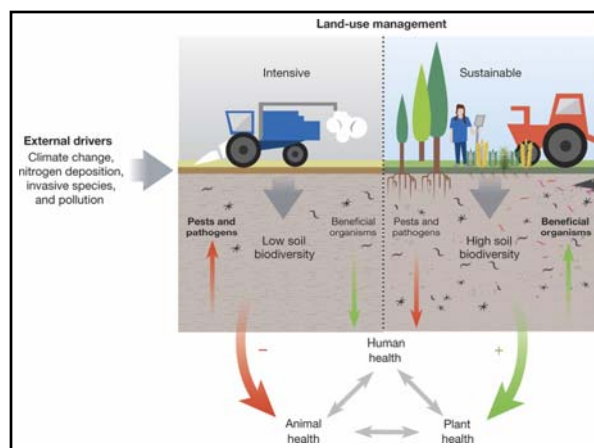
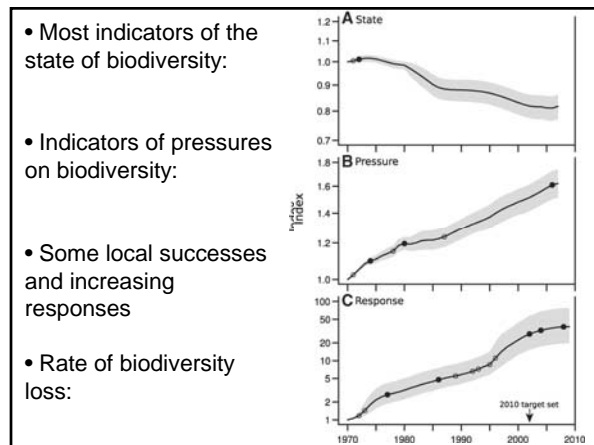
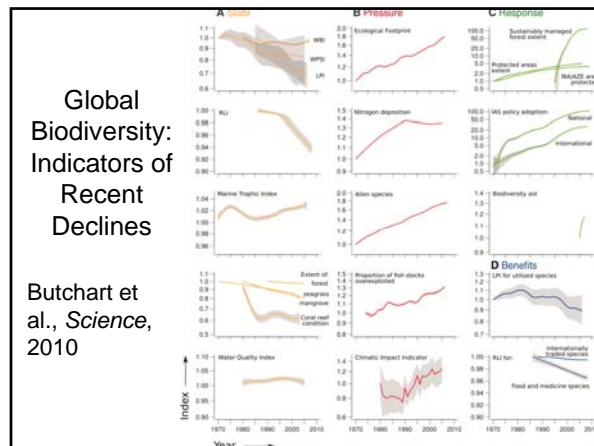
- Now:











Conclusion

- The extent on biodiversity on Earth has yet to be properly quantified
- Earth's biodiversity contributes in multiple ways to human health, particularly through advances in biomedical research
- The disruption of remote ecosystems has exposed humans to novel pathogens
- Extinctions are increasing at rates comparable to the major extinctions

TO DO!

1. For next Lecture: read Article 12
2. Tutorials next week: Group Presentations
 - Files for presentations for **all groups** (i.e. everyone presenting the weeks of March 13, March 20, March 27) are due in the Dropbox on A2L no later than 4:30 p.m. **next week**, the day **before** your tutorial
 - Print and bring enough copies of the Evaluation Sheet
