**Study Guide**

**Biodiversity, Conservation and Human Impacts**

**Lecture learning goals**

* Understand how human population size and activities are affecting our ecosystem (global warming, loss of biodiversity, chemical contaminants...).
* Explain how human activities negatively impact us and the planet.

**Guiding questions**

1. Biodiversity is most commonly defined as the number of distinct species in a habitat, though sometimes this is slightly modified to include the number of different classes or families of organisms. At what levels can biodiversity be considered?

2. If extinction is a natural process, why is the current rate of extinction considered a biodiversity crisis? Which type of extinction is natural and which type of extinction is a concern?

3. Why should we protect biodiversity?

4. What are biodiversity hotspots? Where are they usually located? Why here?

5. Discuss three factors that influence biodiversity.

6. How does disturbance and succession influence biodiversity?

7. What are the some human-related causes for the loss of biodiversity?

8. What is overexploitation? What are some things that we can do to stop it?

9. What is global climate change and how is it caused by human activities?

10. Name two key characteristics that make an invasive species particularly harmful.

11. How does deforestation influence both biodiversity and carbon dioxide levels (i.e. greenhouse gases)?

12. What are the byproducts of the burning of fossil fuels and what are the impacts of these byproducts on the ecosystem?

**Blasts from the past (i.e. old test questions)**

Why do scientists say we are going through a mass extinction rather than a background extinction event right now?

A. Because humans are hunting more animals than our ancestors, leading to increased overexploitation.

B. Because human-induced changes in climate change, deforestation and habitat degradation are accelerated and thus impacting thousands of species in a very short period of time.

C. Because acid rain is leaching important minerals out of our soil, decreasing primary productivity and thus the base of our food webs.

D. Scientists believe we are going through a background extinction not mass extinction.

With biological magnification, a \_\_\_\_\_ will have the highest pollutant load.

A. Producer

B. Herbivore

C. Carnivore

D. All will have similar levels of pollutants.

Acid rain has both direct and indirect effects on an ecosystem. Which of the following is matched correctly?

A. direct – leaching of essential elements from the soil

B. direct – decrease in calcium content of shells and thus increased predation on these organisms.

C. indirect – loss of leaves from trees

D. All of the above are matched correctly

E. None of the above are matched correctly