Biol. 221
Study Questions for Articles 1-3

Article 1- Stuart et al. 2004

1) What fraction of amphibian species are considered to be either globally vulnerable, endangered, or critically endangered? Is this fraction more or less than the value for bird species?

2) What finding was thought to be pivotal in convincing herpetologists that amphibian declines are nonrandom and unidirectional?

3) What is meant by "enigmatic decline" and what causes could be included in this category?

4) Why do they suggest that factors causing enigmatic declines drive species toward extinction at a particularly rapid pace?

5) Geographically, where is overexploitation the dominant cause of rapid decline and why?

6) What appears to be the dominant cause of decline in: A) Europe, and B) the mountains in the US, including Appalachia?

7) What four amphibian families contribute overwhelmingly to the total number of rapidly declining species?

Article 2 – Kolbert 2011

1) What is a stratigrapher?

2) How many major mass extinction events have occurred on Earth in the last half billion years? And what conditions did they coincide with?

3) What is an epoch, and what is used to distinguish the boundaries between geologic epochs?

4) What large, human-caused changes in the global environment are **unlikely** to be recorded in the geologic record of the distant future?

5) What large, human-caused changes in the global environment are **likely** to be recorded in the geologic record of the distant future?

6) What is a "reef gap"? When have they occurred in the past? And, are reef gaps likely to occur as a result of current, human-caused changes in the global environment?

Article 3 – Meadows 1995

1) What do each of the terms in the I = PAT equation stand for?

2) One of the original proponents of this equation was John Holdren. Who is John Holdren and what position does he currently have?

3) If you were to apply the equation for estimating the impact of cars on CO_2 emissions, what would the units for each term be?

4) In the satellite images of Earth at night that were shown in class, do the dots of light result from any of the terms in the I = PAT equation?

5) What are some of the limitations of this equation that are noted by Meadows?

6) In the last sentences of her essay, what was the fundamental lesson that Donella Meadows leaves the reader with?