Warm-Up 04APR2016

1. Be prepared to discuss your plan to politically, economically, socially, and environmentally address climate change. AKA, Be prepared to discuss what your paper was about.

Turn In: Klein Paper and Take Home Test.

Chapter 18
Conservation of Biodiversity

The 6th Mass Extinction

- Extinction- when there are no longer any of the species in the world.
- We are currently losing approximately 50,000 species per year.

Genetic Diversity

- Scientists want to conserve genetic diversity so that the species can survive environmental change and inbreeding will not occur.
- Inbreeding occurs when individuals with similar genotypes, generally relatives, breed with each other.

Categories of Endangerment

- Extinct- no known species exist today
- Threatened- species with a high risk of extinction in the future
- Near-threatened- species that are likely to become threatened in the future
- Least concern- species are widespread and abundant

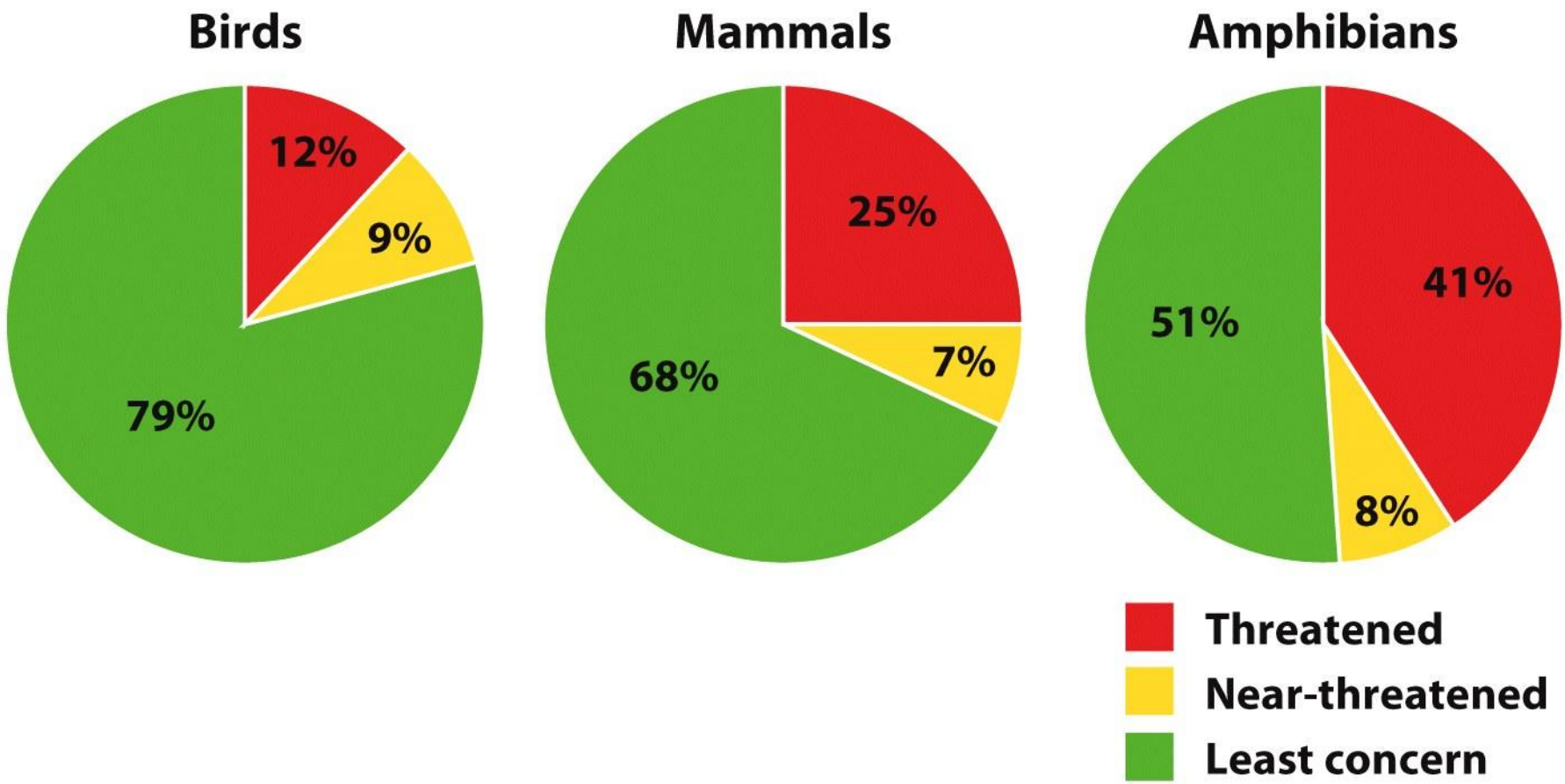

Figure 18.4
Environmental Science

HIPCO

- H- Habitat Loss
- I- Invasive Species
- P- Pollution
- C- Climate Change
- O- Overharvested

Habitat Loss

- For most species the greatest cause of decline and extinction is habitat loss.
- Most habitat loss is due to human development

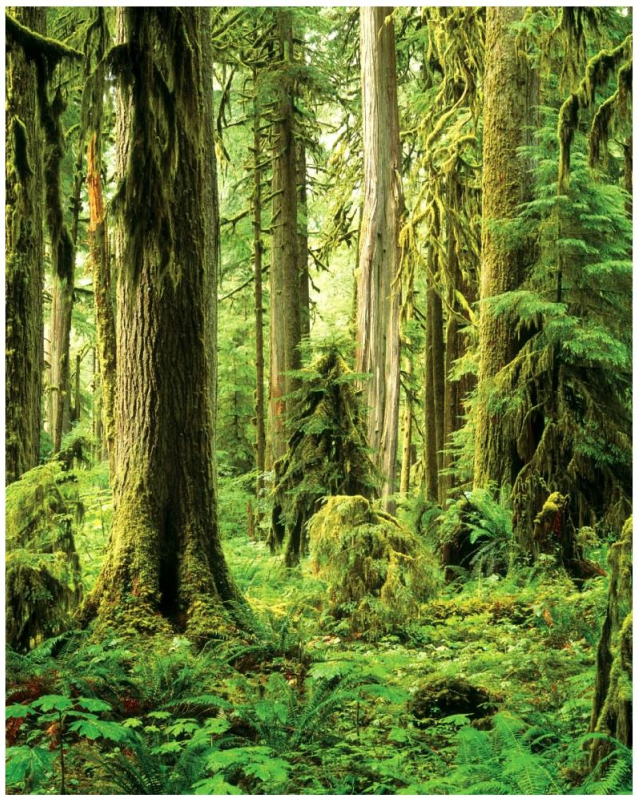

Figure 18.5a
Environmental Science

Figure 18.5b
Environmental Science

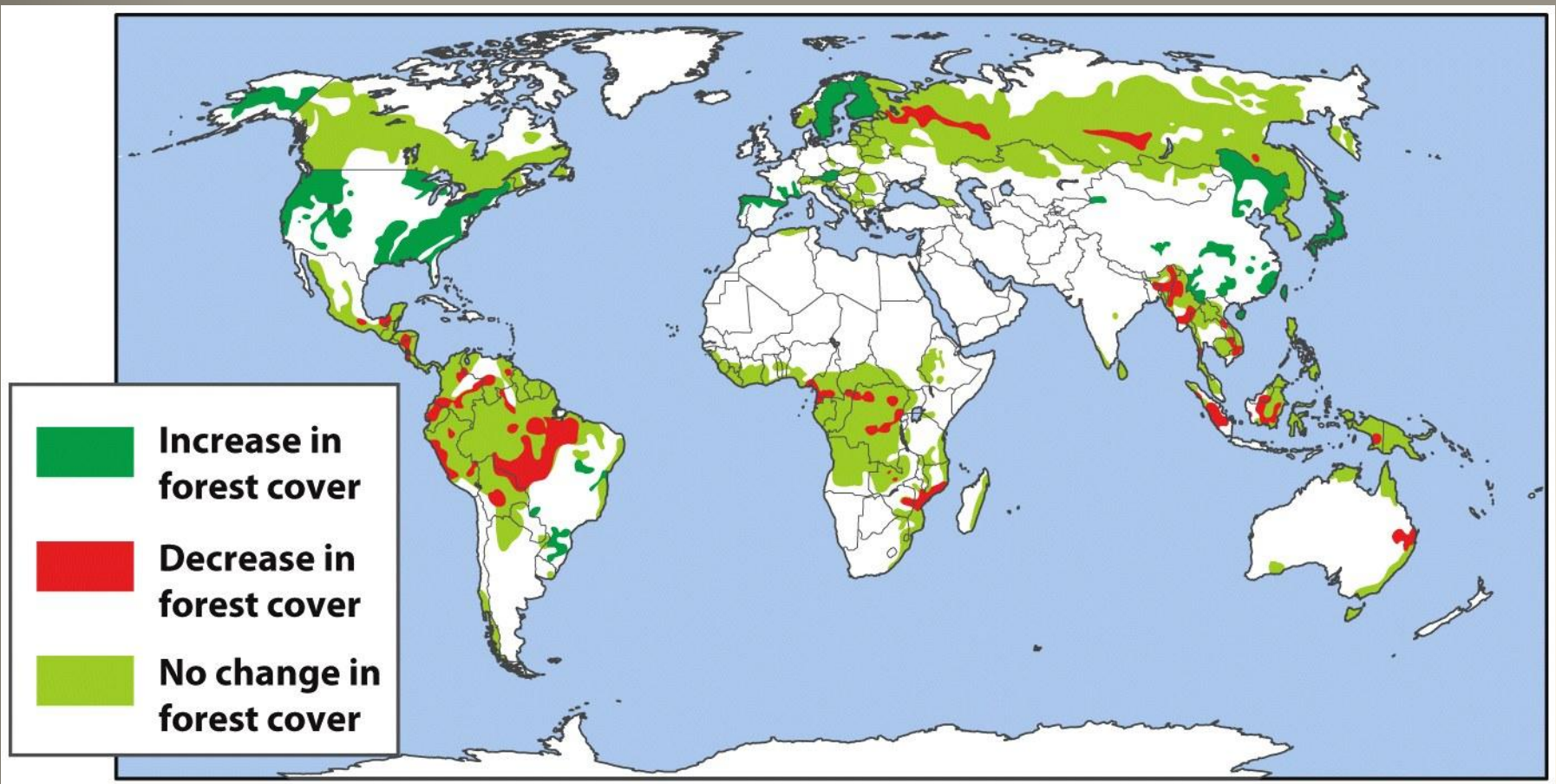

Figure 18.6
Environmental Science

Invasive Species

- Alien species (exotic species)- species that live outside their historical range.
- Invasive species- when alien species spread rapidly across large areas.
- Ex- Kudzu Vine, Zebra Mussel, Silver Carp

Figure 18.9a
Environmental Science

Figure 18.9b
Environmental Science

Pollution

- Threats to biodiversity can come from toxic contaminants such as pesticides, heavy metals, acids, and oil spills.

Climate Change

- The concern is how climate change will affect temperature and precipitation around the world, and how this will impact biodiversity.

Overharvesting

- When individuals of a species are removed at a rate faster than the population can replace them.
- Ex- dodo, American bison, passenger pigeon.

Figure 18.11
Environmental Science

Lacey Act

- One of the earliest laws in the U.S. to control the trade of wildlife.
- First passed in 1900, the act prohibited the transport of illegally harvested game animals, primarily birds and mammals, across state lines.

CITES

- Convention on International Trade in Endangered Species of Wild Fauna and Flora
- Developed in 1973 to control the international trade of threatened plants and animals.
- Today, CITIES is an international agreement between 175 countries of the world.

Red List

- The IUCN keeps a list of threatened species, known as the red list.
- Each country has its own way to monitor and regulate the import and export of animals on the list.

Conservation Legislation

- Marine Mammal Protection Act- prohibits the killing of all marine mammals in the U.S. and prohibits the import or export of any marine mammal body parts.

Figure 18.13a
Environmental Science

Figure 18.13b
Environmental Science

Endangered Species Act

- Endangered Species Act- first passed in 1973, it authorizes the U.S. Fish and Wildlife Service to determine which species can be listed as threatened or endangered and prohibits the harming of these species.
- Trading these species is also illegal.
- The act also authorizes the government to purchase habitat that is critical to the species.

Convention on Biological Diversity

- In 1992, nations came together and made a treaty to protect biodiversity.
- The treaty had three objectives: conserve biodiversity, sustainably use biodiversity, and equitably share the benefits that emerge from the commercial use of genetic resources such as pharmaceutical drugs.

Size, Shape and Connectedness

- When designing and managing protected areas we must consider how close to another area they should be, how large the area is, and the amount of edge habitat the area contains.
- Edge habitat- the area where two different communities come together, typically forming an abrupt transition. Ex. A grassy field meeting a forest.

Biosphere Reserves

- Protected areas consisting of zones that vary in the amount of permissible human impact.

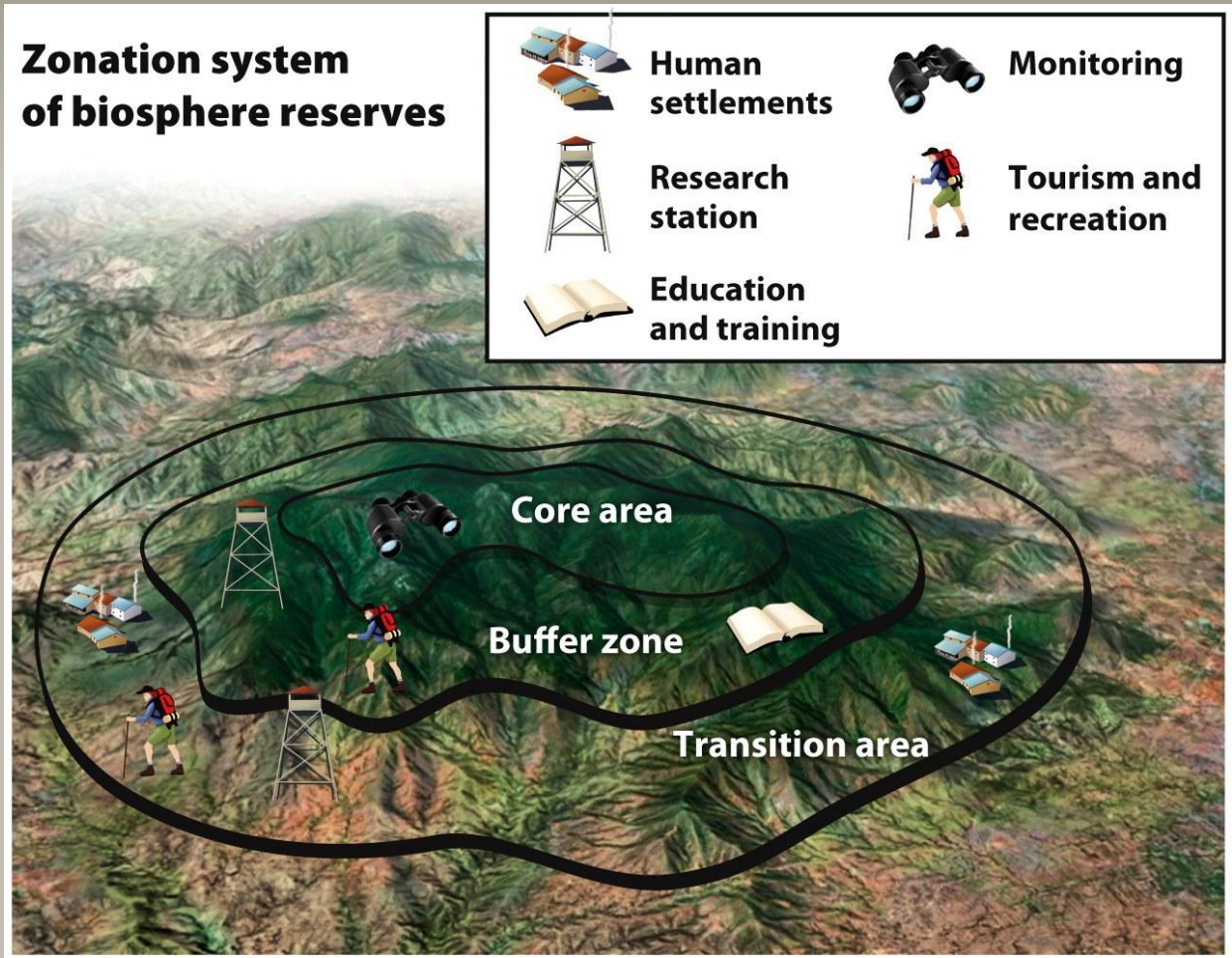

Figure 18.17
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