

Name: _____ KEY _____ Dr. Reichler's Bio 311D Spring 2010 Quiz 4/26-27

1) What would increase the carrying capacity of humans on earth?

Increasing resources, which are limited. Decreasing consumption.

2) Does the fact that there are about 6.9 billion people on earth mean that the earth's carrying capacity for people is greater than 6.9 billion people?

No, species can increase above the carrying capacity and then decrease in number to the carrying capacity.

3) Why might increasing human population lead to a decrease in biodiversity?

Humans compete for resources with other species. We also tend to homogenize ecosystems, removing niches.

4) Two species of frogs both have 50 individuals. Species A has very low egg hatching rates while species B has high egg hatching rates. What can account for the difference?

Species A has lower genetic diversity leading to low reproductive rates.

5) What could be more deleterious, setting the number of individuals to conserve from a species too high or too low?

Too low could lead to extinction of the species, which is permanent.

6) Give an example of a species that in one instance you would want many of them, but in another instance you would want few or none.

Something like an insect, like ants, that in their normal ecosystem serve as an important resource for other species, but in a city or house might destroy wires become a pest.

7) Which would involve maintaining more animals, if you were saving the animals so they could provide a critical ecosystem function or if you wanted humans to be able to receive a direct benefit from the animals?

For humans to receive a direct benefit, we need enough of the species so humans can harvest/kill some of them and keep the ecosystem functioning and the species from losing too much genetic diversity.

8) Why are wolves such effective predators?

They hunt in packs.

9) Why were the wolves that were reintroduced to Yellowstone NP kept initially in large enclosures?

So they would realize that they were not in other wolves territories.

10) Who/what has benefited from the reintroduction of wolves to Yellowstone NP?

Grizzly bears are getting more food via scavenging wolf kills. People are benefiting from increased revenue from tourism. Riparian habitats are benefiting from changes in elk behavior.

11) Are wolves and bears in Yellowstone NP in competition for the same resources?

Yes, but not by much. The bears do steal some of the wolves food, but the wolves still eat most of what they kill.

12) Does this competition benefit wolves or bears?

It benefits the bears without much problem for the wolves.