Homework 10

1) What is ecology?

2) What is an ecosystem? Is the extent of an ecosystem the same for all organisms in the ecosystem?

3) Briefly explain three factors that can lead to the extinction of species.

4) What characteristics favor the survival of species?
The following figure shows a simplified food web for a temperate forest ecosystem. The heavy lines mean that the particular food source is twice as important compared to the light lines. Any particular organism can be on several trophic levels at the same time. To determine the exact trophic level for the organism, weight the various energy sources. For example, if an organism gets 50% of its energy from the second trophic level and 50% of its energy from the third trophic level, it is on trophic level 3.5. —For the following questions, assume an ecological efficiency of 10%.

a) Name the primary producers.

b) Name the primary consumers

c) Name the secondary consumers

d) What is the trophic level for the rabbit?

e) What is the trophic level for the eagle?

f) For every 1000 calories of energy in the grasses, how much of this energy ultimately ends up in the fox?

g) For every 1000 calories of energy in the herbs, how much of this energy ultimately ends up in the eagle?