1 Study questions for week 8

• What is a metapopulation?
  Metapopulation is a set of local populations connected by migrating individuals.

• What are the assumption of a metapopulation?
  The assumptions are:
  1. Habitat patches are discrete
  2. All populations have a substantial risk of extinction.
  3. Equal dispersal among all patches.
  4. Dispersal is fairly rare.
  5. Ignore population dynamics within a patch.

• What is the size of a metapopulation?
  Metapopulation size is the number of occupied patches.

• If in a metapopulation the extinction rate is higher than the colonization rate, what is the effect on the patch occupancy?
  Occupied patches are a balance of extinction and colonization. If the extinction rate is higher than the colonization rate the patch occupancy and hence the metapopulation declines.

• Explain the features of a source-sink metapopulation.
  A high quality habitat is called a source population and it yields a demographic surplus whereas habitats of low quality, called sink population, yields a demographic loss. In a source-sink system, dispersal from a source population is necessary to prevent the sink population from going extinct.

• What is a keystone species? Why are these species important?
  Keystone species is the one with a disproportionate effect on community structure. It’s important because it helps to support the ecosystem of which it is a part and extinction of this species might consequently lead to the extinction of other forms of life in the community.

• Why is Conservation biology concerned about species communities?
  In a community species interact with each other and form a fine balance. Any changes in the numbers or extinction of one species might potentially destroy the whole community. Hence to conserve any habitat it is important to study and understand the species communities.