

Name: _____ Dr. Reichler's Bio 311D Spring 2009 Quiz for lectures 5/6-8

- 1) Why does channelizing a waterway reduce biodiversity?

- 2) What are two ways that new storm sewer designs can mimic the water flows in non-urbanized areas?

- 3) Does an ecosystem have emergent properties?

- 4) How did researchers induce the exit of forager ants from the mound? What criteria was critical?

- 5) Under what conditions would a system run by emergent properties not work well?

Answers:

- 1) *It reduces resource and habitat diversity. The quantity of resources may not change, but the ways in which those resources can be accessed has been decreased which means fewer species can exist.*
- 2) *They keep water from flowing directly to stream which minimizes flooding during moderate rains. They hold water for release during dry times to keep water flow levels from dropping too much. They filter contaminants from the water.*
- 3) *Yes and no. The ecosystem functions because of interactions between the individual species that make up the ecosystem, but the species do not necessarily communicate their intentions as individuals in an emergent system do.*
- 4) *By dropping patroller exudate covered beads on the mound at 1 bead/10 sec. The timing of patroller return.*
- 5) *When individuals can easily manipulate others perceptions of their surroundings. When local conditions are not relevant or an accurate depiction of what is happening.*