**Study Guide for Unit 7 Test**

March 30 & 31, 2016

**Unit 7: Ecology**

**Chapter 13: Principles of Ecology**

1. **Five Levels of Organization** (define each & explain biotic/abiotic interactions at each level)
2. **Observation, Experimentation, & Modeling**
3. **Biotic & Abiotic Factors** (definition & examples)
4. **Biodiversity** (define & explain its importance)

**Chapter 14: Interactions in Ecosystems**

1. **Niche** (define & explain what happens when two organisms occupy the same niche)
2. **Competitive Exclusion** (define & explain how it can lead to loss of a population)
3. **Interspecific & Intraspecific Competition** (explain the difference)
4. **Predator-prey Interactions** (explain & provide examples of adaptations of successful predators and prey)
5. **Symbiotic Relationship** (define & explain the difference between the three main types)
6. **Population Density**  (define, be able calculate, & explain why density is used to describe a population)
7. **Techniques to Estimate Population Size** (explain 3 methods & understand accuracy limitations)
8. **Population Growth - Exponential & Logistic** (compare & explain environmental factors leading to each)
9. **Carrying Capacity** (define & explain role of limiting factors in determining carrying capacity)
10. **Density-Dependent & Density-Independent Factors** (know the difference & give examples)
11. **Population Size Cycles** (why a population’s size might cycle & how two species may affect each other’s cycles.)
12. **Ecological Succession** (explain the two types & identify examples of each)

**Chapter 15: The Biosphere**

1. **Local Climate & Microclimate** (define & explain how they change environments that are near to one another)
2. **Biomes** (define , give two factors that determine their classification & give examples)
3. **Uneven Heating of Earth** (why it happens & how it affects the environments around the world)
4. **Aquatic Ecosystems** (understand their importance in the biosphere & know different types)

**Chapter 16: Human Impact on Ecosystems**

1. **Human Population Growth** (name factors contributing to exponential growth & list scientists’ concerns)
2. **Human Impact** (provide both positive & negative impacts humans have on communities)
3. **Negative Impacts** (define & explain effects of global warming, eutrophication, acid rain, pollution, & ozone damage)
4. **Impacts on Biodiversity** (explain effects of habitat destruction, introduced species, & overexploitation)
5. **Introduced Species** (define & provide an example that has had a negative impact on a community)
6. **Conservation Biology** (explain the goals of focusing on hot spots, understanding habitats, balancing resource demands, and planning for a sustainable future)