EEOS 120
Study List 1

1.) Define environment. Define science. What is environmental science? What does it mean to say environmental science is "multidisciplinary"?

2.) What is the difference between a hypothesis and a theory? How do you

3.) Can you design a sustainable ecosystem? Why or why not? Be specific.

4.) What are the unique properties of water that make it necessary for life? How do changes in the hydrological cycle affect ecosystem function? Climate change?

5.) How can mankind supply the freshwater to support its population's needs? Where do greater Boston residents get their water? Where does this water go? With what affect on coastal ecosystems (Boston Harbor and Massachusetts Bay)?

6.) What are some types of water pollution? Where do they come from? What do they harm? How can we "fix" this problem?

7.) How has Boston Harbor gotten "cleaner"? What evidence can you show?

8.) Draw a water treatment plant and explain the various components. A septic system? A natural wetland?

9.) Draw the CO_2 concentration versus time at Mauna Loa for the last 5 years. What are the major features? Explain them.

10.) Write the chemical equation for photosynthesis. Write the equation for respiration. What are autotrophs? Heterotrophs?

11.) What three major factors control productivity? What is a limiting nutrient?

12.) Give an example of an efficient marine food chain, a long marine food chain, and a terrestrial food chain.

13.) Draw a diagram representing the carbon cycle. The nitrogen cycle. How is man affecting these cycles?

14.) What is a species? What is an ecological niche? What are specialists and generalists? Define indicator species, native species, introduced species, and keystone species. Give examples.

15.) What are three ways in which different species interact. Define each and give examples from both the plant and animal kingdoms.

16.) What is an ecosystem? How does energy flow through an ecosystem? What is the 10% rule?

17.) Why does high biodiversity allow an ecosystem to adapt to large environmental changes? How do you measure biodiversity?