

MIDTERM 2 Review Sheet

This review sheet is a guide to the type of questions I will ask on the exam. The purpose of this review sheet is to point out the most important topics so that you may focus your studying. Be sure to use specific data, accurate information, correct terminology, and concrete examples.

Topics and Information Covered by this Midterm

- Lectures 13-20
- Forest Resources
- Biodiversity Crisis
- Aquatic Diversity
- Wetland Restoration
- Environmental Regulations
- Video: *Natural Connections*



Typical Questions on Forest Resources

- How much of the earth's terrestrial surface supports rainforest and what percent of the earth's biodiversity is estimated to be there?
- What are three ecosystem services provided by forests? How does forest loss negatively affect humans?
- How much of the world's forests are in old growth, secondary growth, and plantations? What 5 countries have the greatest amount of the world's forests?
- How much rainforest has been cut worldwide and why is this occurring?
- What percent of U.S. forests were logged by the 1890s? What measures did we take to protect forests? How has forest cover changed the situation since 1890?
- What methods are being used to make naturally functioning, uncut rainforests valuable to people?
- What approach has Costa Rica taken to preserving its rainforests?
- What are old growth forests and how much currently remains in the US? Why are old growth forests so important to people and species?
- How do subsidies for the forest industry affect forest preservation in the US?
- What economic, regulatory, and protection measures do we need to take to ensure sustainable forest use?

Typical Questions on the Biodiversity Crisis

- Evidence shows we are experiencing a mass extinction event. When was the last such event and what caused that event?
- How does the current extinction crisis differ from the last major mass extinction event?
- There is no doubt that extinction is a natural process. Define "background rate of extinction". What is the estimate of this rate? How much greater is the current rate of species loss?
- If extinction is natural, why are we worried about the current extinction crisis?
- Why should we care about protecting species? What do they do for us?
- Define "biodiversity". What are the estimates for the number of species on earth? What ecosystems contain most of the world's biodiversity?
- What are the specific causes of species extinction?
- Why are non-native invasive species a threat to terrestrial and aquatic biodiversity? Give an example of the impact of one non-native species on native biodiversity.
- What is the primary law protecting species in the US? What agency has jurisdiction over "listed" species? List three species that have been helped by this law and describe how.
- Ecologists say that, "Extinction is forever". Why is this the case?

- If new species are evolving naturally, why should we worry that human activities are causing some species to become extinct?

Typical Questions on Aquatic Diversity and Wetlands Restoration

- What are the major centers of aquatic biodiversity?
- Describe two major services provided by aquatic habitats to humans. How much in economic worth each year do environmental economists say aquatic habitats provide?
- Describe the ecological and economic services provided by coral reefs.
- Give four reasons aquatic biodiversity is threatened.
- What is over-fishing and why is it occurring? What percent of commercially valuable species are affected and what can be done to protect commercially valuable species?
- What is “by-catch”, what species are affected, and how much of commercial catches is wasted in this way?
- Describe commercial bottom trawling and its effect on the world’s oceans.
- What is the Tragedy of the Commons and how does it relate to fisheries?
- Why are protected marine reserves so important?
- Describe what you know about the Marine Stewardship Council.
- What percent of US wetlands have been destroyed?
- Name three ecosystem services of wetlands.
- What is ecological restoration and what is the role of this activity in the protection of biodiversity?
- What is the role of restoration in the San Francisco Bay and how much restoration is expected to occur?

Typical Questions on Environmental Regulation

- What does the Endangered Species Act do and which agency is responsible for administering it? What are habitat conservation plans?
- Define environmental policy. Describe the four stages of the development of environmental policy in a democracy. For each stage, give at least 4 examples of major environmental problems that are at that stage of the policy life cycle.
- What can you do to influence environmental policy?
- What are the five types of environmental laws in the United States? Give at least one example of each type.
- Describe the environmental impacts of war.

Typical Questions from the Video

- *Natural Connections* provides lots of good information on the current extinction crisis from some of the world’s most famous and well-respected ecologists. The video also presents these ecologists’ ethical views on nature. What are some of those views? Specifically:
 - What is Bob Paine’s view on whether putting a dollar sign on nature can save it?
 - What is Jerry Franklin’s mission in life and why?
 - What does E.O. Wilson say about our responsibility toward creation?