

Appalachian State University  
Economics 4621/5621 – Advanced Environmental Economics  
Midterm Test  
Due March 18, 2015 by 5PM

Attempt all questions. Neatness counts.

1. In the Amoco Cadiz oil spill off Northern France, fisheries, water fowl, and beaches were temporarily negatively impacted. List 5 types of consumers, identify the nature of the goods these consumers demand that might be injured by the spill, and indicate the nature of demand for a contaminated environment (use, non-use, bequest, altruistic, etc). (This is Question 4 page 150 in text.)
2. Suppose we have a small island with 3 residents and a volcano that generates air pollution. Two people live upwind and one person lives downwind. It will cost \$21,000 to clean up the volcano with a smoke guzzler. The two upwind people would pay \$1,000 each to get rid of the smoke and the downwind person would pay \$15,000. Is it efficient to install the smoke guzzler? What is another term to describe economic efficiency in a context such as this? Two alternatives are proposed to finance the smoke guzzler. Plan A calls for a head tax (per person tax) of \$7,000. Plan B calls for the downwind person to pay \$21,000 and everyone else nothing. Which plan would be selected under majority rule? Is this efficient? Why or why not? (This is portions of Question 2 page 64 in text.)
3. In class I presented several different production functions for public goods. Greenhouse gas reduction is a global public good. Which of the production functions presented best describes the provision of this public good? Explain. Does this suggest a reason for the failure to date to control the emission of greenhouse gases? Explain.
4. Consider a program to improve access to a remote national park. A benefit-cost analysis is required. Describe a method you would use to obtain estimates of the benefits from this program. Discuss any shortcomings of your approach.
5. The Environmental Kuznets Curve (EKC) has been widely studied. The empirical evidence is strongest for local environmental quality (water quality and regional air quality). Explain the EKC concept. Does the evidence of an EKC suggest that environmental quality is a normal good?
6. Apply the Expected Utility (EU) model to explain the persistence of regulatory standards that mandate exposure to toxic materials to be at very low (approaching zero) levels. Is it rational to set such low levels of exposure as a standard?