FREC 150
Assignment 8

NATURAL AND ENVIRONMENTAL RESOURCES

1. A recent article in the News Journal indicates that the State has completely banned the number of horseshoe crabs that fishermen can harvest for bait next year. The reason given was that the red knot shorebird feeds on the eggs of the horseshoe crab. Thus, fewer crabs mean fewer birds. Environmentalists view the loss of the birds as a loss to society. Draw and use the economic model (graph) presented in class for “externalities” to economically analyze this situation described. Specifically, answer the following questions.

   a. Label the axis and all lines/curves on the graph.
   b. Label the optimum amount of crab harvest from the fishermen’s perspective as O₁.
   c. Label the optimum output amount from society’s (including environmentalists) perspective as O₂.
   d. Carefully explain why O₁ and O₂ are different (if they are)?

2. The Obama administration has recently announced plans to build the first off-shore wind turbine farm (numerous turbines) off the shore of Cape Cod, Massachusetts. The purpose is to provide clean, cheap electrical power for the country. Several groups (environmentalists, the Audubon Society and local residents) are protesting the plans and intend to sue to stop it. They cite loss of fish and birds, and a “ruined” view of the ocean as their reasons.

   As a newly trained economist, you are asked to present an un-biased economic analysis of this situation to President Obama so he can make a final decision whether to proceed or not.

   Using any of the economic models (i.e., graphs) from this course, carefully explain how an economist would present this situation. Your answer must include at least one graph that has been discussed in class with all parts labeled. (10)

   Think before you write!

3. a. Economists argue that public goods are different that private goods based on two characteristics. Identify and carefully explain these two characteristics of public goods.

   Cite a specific example of a public good that exhibits these two characteristics.

   b. Explain why public goods are not sold in markets (stores) like private goods – be specific. (4)
4. Complete the following table based on our discussion in class of the three (3) major types of “market failure” found in the use of natural and environmental resources today.

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<thead>
<tr>
<th>Type</th>
<th>Definition</th>
<th>Example</th>
<th>Solutions (2)</th>
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