Course Content

The study of environmental economics is interesting, thought-provoking, and controversial. This is both a strength and a weakness; the strength is that the inherently interesting nature of the subject matter results in greater student interest and involvement than might be the case for many of the other fields in economics. The weakness, however, is that the emotionally-charged nature of the topic tends to lead to fuzzy thinking—indeed, there is ample evidence that this problem is not unique to the academic setting; many of the worst examples of government legislation resulted from perceptions of a "crisis."

We begin with the application of basic economic and philosophical concepts to an understanding of the environment. This is followed by a relatively brief overview of environmental quality, of the major pollutants, and of how both are characterized. This is to give us a common environmental background. We then turn to an in depth treatment of the economic theory of environmental quality. With this as background, it is possible to turn to a consideration of appropriate environmental policy. The focus is on applications vital to a voting citizenry and to those going on to formulate, enact, and enforce environmental policies. The ultimate goal for each student to think about environmental problems and policies in a more rational way after this course than he or she did prior to taking it.

Text:


Administrative Matters:

There will be one midterm (35%) and the final (50%) and a paper (to be discussed more fully in class) will comprise the remaining 15% of the grade. The length of the paper is not critical, but think in terms of 5-10 pages—it will be more fun for both of us if you pick a topic that you are particularly interested in. The test format will be a mixture of subjective and objective questions. Class attendance will be of more than usual importance, since much that is new has been added to the course since the publication of the text. My office is in Economics 223 (Northwest corner, 2nd floor of the Economics Bldg) and office hours are on M, W at 2:00-3:30 and by appointment. The phone number is 492-7021, and there is a message machine.

Course Outline and Reading Assignments:

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<th>Week</th>
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<td>1,2</td>
<td>Overview: Logical matters of rationality; ordinary goods and environmental goods; efficiency versus equity (yachts and E.Q.); MSB=D? MSC=C?; Use of $s; &quot;Values&quot; (what the</td>
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market does); externalities; public goods; the role of property rights and enforcement (endangered species, but also air, etc).

3 An Environmental Background: Discharges and environmental quality; air (TSP, SO₂, HC, CO, NOₓ, Lead & the major polluters); water (BOD, DO, fecal coliform, pH, solids, hardness, conductivity, turbidity, salinity & the major polluters); other (hazardous substances, sources).

4 Overview of an Interdisciplinary Approach to Environmental Analysis (5-Box Diagram) Costs of policy and impact on emissions; dispersion; benefits of policy (damage reduction); spatial adaptations in policy; incidence of policy (who is helped and hurt?).

5,6 The Microeconomic Theory of Environmental Quality The consumer optimum (excess pollution in the uncontrolled case); the firm optimum (excess pollution in the uncontrolled case); the law of conservation of matter and energy and the summation of individual emissions into the environmental quality we all consume; social welfare functions and implications in the environmental setting.

7 Interdisciplinary Approach (Boxes 1 & 2) Policy costs, emissions, and environmental quality (Midterm about here)

8 Interdisciplinary Approach (Box 3) Approaches to benefit estimation (referenda, survey/experimental, use of known relations among environmental and other goods); sum of specific damages; hedonic approaches; philosophical issues again--the "statistical value of life"

9 Interdisciplinary Approach (Box 4) The spatial dimension in environmental policy; local, regional and global damages
10,11 Benefit-Cost Analysis (certainty and uncertainty)
Ben Franklin quote; government failure; consumer and producer surplus; four approaches to project evaluation (and why "net present value" is to be preferred); B&C as S&D in disguise.

12 The Coase Theorem
Why there are not more environmental problems than there are--the Coase theorem; applications to the steel plant/laundry and to the reserve clause of baseball.

13 An Ecological Doomsday Model
Assimilative capacity, externalities, and the downward spiral

14 Miscellaneous Topics
International environmental responsibility (foreign, alternative economic system, global); baby certificates and pollution permits; the carrying capacity of a wilderness area;

15 Epilog
The future (the "boomsters" versus the "doomsters" and the Simon/Ehrlich bet); intergenerational equity; summary and review

(Final Exam--Good Luck!)