**Chapter 2**

**Environmental Laws, Economics, and Ethics**

**Lecture Outline:**

1. A Brief Environmental History of the United States
   1. During the 18th and 19th centuries, most Americans had a *frontier attitude* toward nature and its resources
   2. Protecting forests
      1. Numerous men contributed to the protection of American forests throughout the 19th and 20th centuries
         1. Influential artists and authors (i.e., John James Audubon, Henry David Thoreau, George Perkins Marsh) aroused widespread public interest in wildlife, ecology, and environmental change
         2. Theodore Roosevelt designated 21 new national forests and removed 43 million acres of forest from logging as per the General Revision Act of 1891
      2. *Utilitarian conservationists* are those who view forests in terms of their usefulness for people – such as in providing jobs
   3. Establishing and protecting national parks and monuments
      1. In 1916 Congress created the National Park Service (NPS) to manage the national parks and monuments for the enjoyment of the public “without impairment”
         1. Yellowstone National Park, the world’s first national park, was established in 1872
         2. Today there are 58 national parks and 73 national monuments under NPS management
      2. John Muir, a *biocentric preservationist*, was largely responsible to the establishment of Yosemite and Sequoia National Parks in California
   4. Conservation in the mid-20th century
      1. Franklin Roosevelt was an influential advocate for conservation
         1. During the Great Depression he established the Civilian Conservation Corps, employing more than 175,000 men to perform various activities to protect natural resources
         2. In 1935 he formed the Soil Conservation Service in response to the *American Dust Bowl*
      2. Aldo Leopold argued persuasively for a land ethic and the sacrifices such an ethic requires in numerous writings (i.e., *Game Management and A Sand County Almanac*)
      3. An essay written by Wallace Stegner helped create support for passage of the Wilderness Act of 1964
      4. Rachel Carson’s writings (*Silent Spring*) led to restrictions on the use of certain pesticides
      5. Paul Ehrlich’s book (*The Population Bomb*) raised public awareness of the dangers of overpopulation and triggered debates on how to deal effectively with population issues
   5. The environmental movement of the late 2oth century
      1. The first Earth Day, held in 1970, awakened U.S. environmental consciousness to population growth, overuse of resources, and pollution and degradation of the environment
      2. Environmental awareness and the belief that individual actions could repair the damage humans were doing to Earth became a pervasive popular movement
      3. By the end of the 20th century, the focus had shifted from the importance of individual actions to pressuring governments and large corporations to make environmentally appropriate decisions
2. U.S. Environmental Legislation
   1. The Environmental Protection Agency (EPA) was formed in 1970
   2. The National Environmental Policy Act (NEPA) was also signed into law in 1970
      1. NEPA requires the federal government to consider the environmental impact of any proposed federal action
         1. NEPA provides the basis for developing detailed *environmental impact statements* (EIS’s)
         2. NEPA established the Council on Environmental Quality to monitor the required EISs and report directly to the president
      2. NEPA revolutionized environmental protection in the United States
   3. Environmental policy since 1970
      1. Congress has passed many environmental laws that address a wide range of issues, such as endangered species, clean water, clean air, energy conservation, hazardous wastes, and pesticides
      2. Through the late 1980s and early 1990s, EPA and a number of states engaged in environmental prioritization exercises (aka, Comparative Risk Analyses), that evaluate the health, economic, and ecosystem impacts of a range of environmental issues
      3. In 1994, Executive Order 12898 required that all new environmental regulations take *environmental justice* issues into account
      4. Implementation and enforcement of environmental regulations often fall to state governments, which must send the EPA detailed plans showing how they plan to achieve regulatory goals an standards
      5. The last decade has witnessed increased interest in *regulatory reform*, in which environmental health, safety, and other regulations are selected based on cost-effectiveness
3. Economics and the Environment
   1. Economics is the study of how people use their limited resources to try and satisfy unlimited wants
      1. Economists who work on environmental problems must take a systems perspective
      2. Economics, as applied to public policy, relies on several precepts
         1. Economics is utilitarian
         2. Economists assume that all individuals know what goods and services are worth to them, and spend their limited resources in a way that provides them the most *utility* (*rational actor model*)
         3. In an ideal economy, resources will be allocated efficiently
      3. Environmental problems arise when market failures occur due to inefficiencies and/or externalities
      4. *Externalities* occur when the producer of a good or service does not have to pay the full costs of production
   2. Strategies for pollution control
      1. Historically, many environmental regulations have been *command and control* solutions
         1. The EPA or other government agency requires a particular piece of equipment to be installed to limit emissions to water, air, or soil
         2. Industries object that this discourages development of lower-cost alternatives that would achieve the same level of pollution control for less money
      2. Preference among economists is for *incentive-based* or cost-benefit-based regulation such as environmental taxes, tradable permits, and emission charges
         1. Environmental taxes are designed to identify and replicate the social cost of pollution
         2. Tradable permits rely on identifying the optimal level of pollution
         3. Emission charges are a tax on pollution (i.e., “green taxes”)
      3. *Cost-effectiveness analysis* is an increasingly common regulatory tool and evaluates how much an established regulation will cost to achieve an outcome
   3. Critiques of environmental economics
      1. It is difficult to assess the true costs of environmental damage by pollution and the cost of abatement
      2. It is not agreed upon that economics is an appropriate decision tool for environmental science
         1. The risks of unanticipated environmental catastrophes may not be taken into account
         2. Dynamic changes over time may not be considered
   4. Natural resources, the environment, and the national income accounts
      1. *National income accounts* represent the total income of a nation for a given year
         1. Gross domestic product (GDP) and net domestic product (NDP) provide estimates of national economic performance used to make important policy decisions
         2. These measures (GDP and NDP) are misleading and incomplete because they do not account for environmental factors, costs and benefits of pollution control and depletion of *natural capital*
      2. Economic development experts have expressed concern that some poor countries, in attempting to raise their GDPs as quickly as possible, overexploit their natural resources and impair the environment
      3. One tool that may be used alongside the GDP is the *Environmental Performance Index* (EPI)
         1. EPI assesses a country’s commitment to environmental and resource management
         2. To date, 133 countries have been assessed using EPI, the U.S. ranks 28th
4. Environmental Ethics, Values, and Worldviews
   1. *Ethics* is the branch of philosophy that is derived through the logical application of human values
      1. *Values* are the principles that an individual or society considers important or worthwhile and change as societal, cultural, political, and economic priorities change
      2. *Environmental ethics* examines moral values to determine how humans should relate to the natural environment
         1. It considers the rights of people living today, both individually and collectively, and also the rights of future generations
         2. Addressing issues of environmental ethics puts us in a better position to use science, government policies, and economics for long-term environmental sustainability
   2. Human-centered and life-centered *worldviews*
      1. *Environmental worldviews* lead to behaviors and lifestyles that may or may not be compatible with environmental sustainability
         1. The *western worldview* (expansionist worldview) is anthropocentric and utilitarian
            1. It aims to conquer and exploit nature as quickly as possible
            2. It advocates the inherent rights of individuals, accumulation of wealth, and unlimited consumption of goods and services to provide material comforts
         2. The *deep ecology worldview* is biocentric and represents a radical shift in how humans relate themselves to the environment
            1. It stresses that all forms of live have a right to exist
            2. It advocates that humans have an obligation to themselves and to the environment, and to sharply curb human growth