

ENVIRONMENT

THE SCIENCE BEHIND THE STORIES

Jay Withgott • Scott Brennan

Ch 3

Environmental Policy: Decision Making and Problem Solving

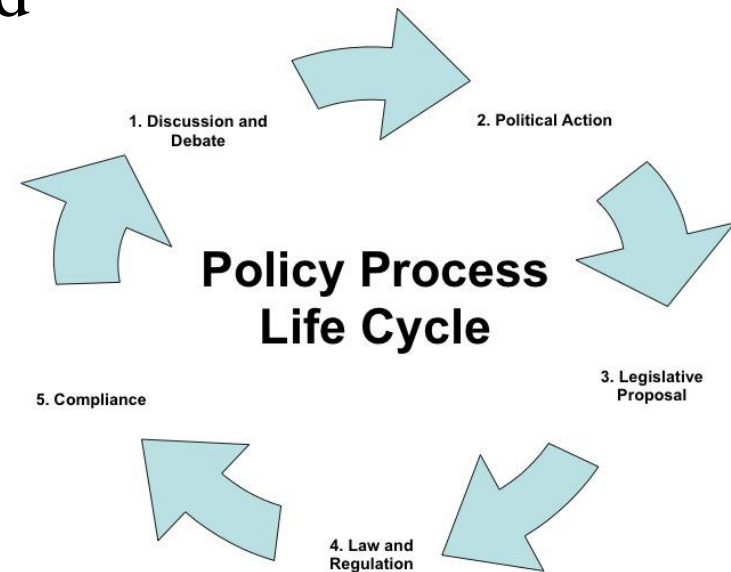
Part 1: Foundations of Environmental Science

PowerPoint® Slides prepared by
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Environmental policy

- **Policy** = a formal set of general plans and principles to address problems and guide decisions
- **Public Policy** = policy made by governments that consists of laws, regulations, orders, incentives, and practices
- **Environmental Policy** = pertains to human interactions with the environment
 - Regulates resource use or reduce pollution



Environmental policy and equity

- **Free Riders** = reducing pollution tempts any one person to cheat
 - Private voluntary efforts are less effective than mandated efforts
- **External Cost** = harmful impacts result from market transaction but are borne by people not involved in the transaction



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Environmental policy goals = protect resources against the tragedy of the commons and to promote equity by eliminating free riders and addressing external costs

Early U.S. environmental policy

- Involved management of public lands, 1780s to the late 1800s
 - Promoted settlement
 - Extraction of natural resources

1. *The Homestead Act of 1862*

2. *The General Mining Act of 1872*

3. *The Timber Culture Act of 1873*



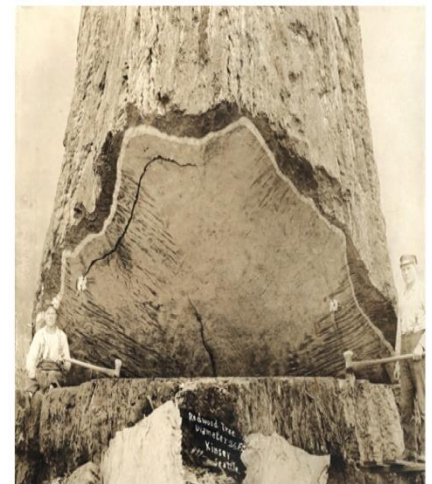
(a) Settlers in Custer County, Nebraska, circa 1860

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(b) Nineteenth-century mining operation, Lynx Creek, Alaska

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(c) Loggers felling an old-growth tree, Washington

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- Addressed impacts caused by the first wave
- Public perception and government policy shifted
 - Mitigated environmental problems associated with westward expansion
 - *Yellowstone National Park, the world's first national park, opened in 1872*
- Other protected areas were created
 - *National wildlife refuges, parks, and forests*
- Reflected a new understanding that the West's resources were exhaustible and required legal protection

The second wave of U.S. policy



The third wave of U.S. environmental policy

- Mid-to late-20th century
 - Better off economically
 - But dirtier air, dirtier water, and more waste and toxic chemicals
- 1962: *Silent Spring* (by Rachel Carson) described the negative ecological and health effects of pesticides and industrial chemicals
- First Earth Day April 22, 1970



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The National Environmental Policy Act (NEPA)

- 1970 began the modern era of environmental policy



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- Created the Council on Environmental Quality
 - Requires an Environmental Impact Statement (EIS) for any federal action that might impact the environment

NEPA forces the government and businesses to evaluate the environmental impacts of a project

The EPA shifts environmental policy

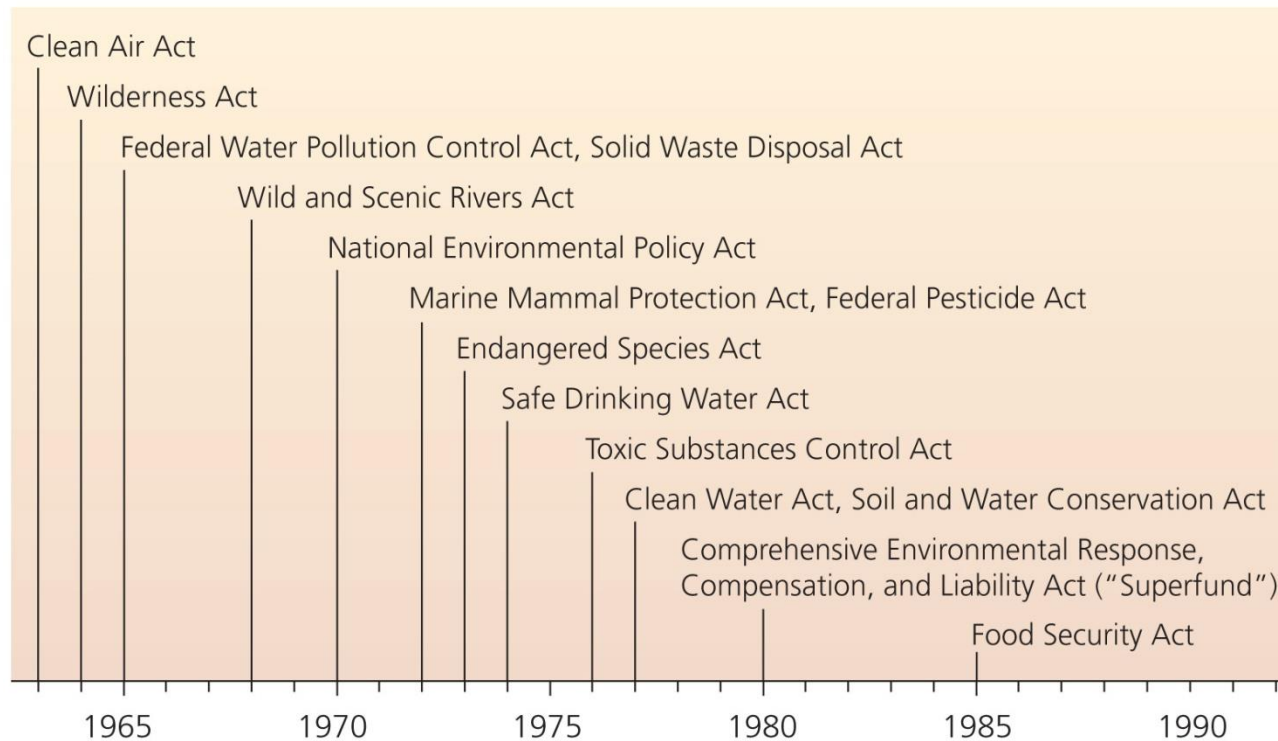
- Nixon created the Environmental Protection Agency (EPA)
 - Conducts and evaluates research
 - Monitors environmental quality
 - Sets and enforces standards for pollution levels
 - Assists states in meeting standards and goals
 - Educates the public



Significant environmental laws

- The public demanded a cleaner environment and supported tougher environmental legislation

Key Environmental Protection Laws, 1963–1985



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Command and Control Policy

- Most environmental laws of recent decades, and most regulations enforced by agencies today, use a command-and-control approach
 - A regulating agency prohibits certain actions, or sets rules, standards, or limits and threatens punishment for those who violate these terms.
- Most current environmental laws
 - Have resulted in safe, healthy, comfortable lives

What's an example of an agency that uses this policy?

International Environmental Policy

- International issues can be addressed through creative agreements
- **Customary law** = practices or customs held by most cultures
- **Conventional law** = from conventions or treaties
 - Montreal Protocol: nations agreed to reduce ozone-depleting chemicals
 - Kyoto Protocol: reduces fossil fuel emissions causing climate change



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An international
wastewater treatment
plant

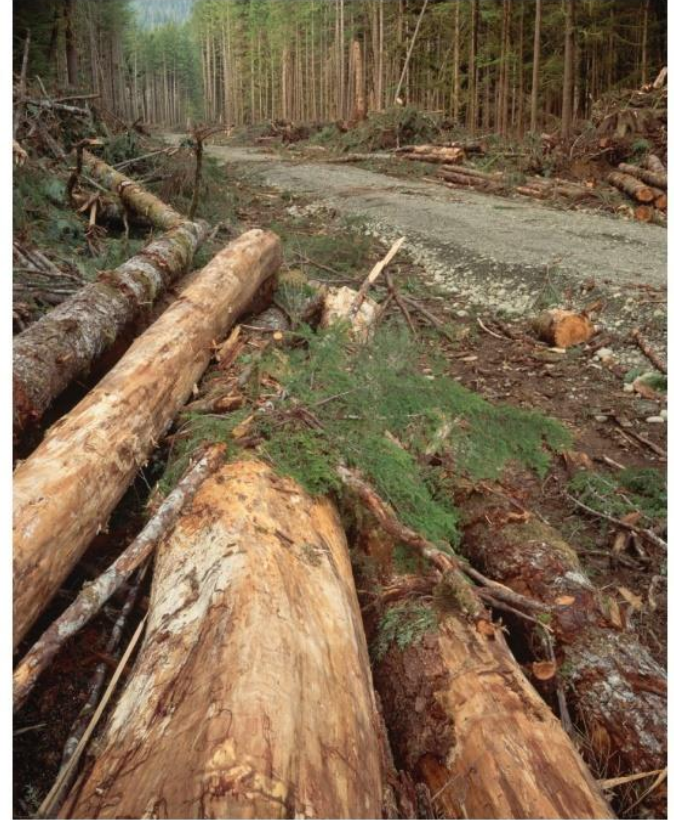
Major Players in International Environmental Policy



- The **European Union** seeks to promote Europe's unity and economic and social progress
- The **United Nations** who created the **United Nations Environment Programme (UNEP)** = helps nations understand and solve environmental problems
- The **World Bank** is one of the globe's largest sources of funding for economic development, in 2009 they provide \$47 billion in loans to the poorest people in the poorest countries around the world.

Widespread economic policy tools

- **Tax breaks** = encourage desirable industries or activities
- **Subsidy** = a government giveaway of cash or resources to encourage a particular activity
 - Have been used to support unsustainable activities



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In 2003, \$58 billion of taxpayer's money was spent on 68 environmentally harmful subsidies such as building logging roads

Another economic policy tool



- **Green taxes** = taxes on environmentally harmful activities
 - Polluter pays principle = the price of a good or service includes all costs, including environmental degradation (full-cost)
 - Gives companies financial incentives to reduce pollution
 - **But, costs are passed on to consumers**

Market permitting and incentives

- **Permit trading** = government-created market in permits
 - Businesses buy, sell, trade these permits
 - **Emissions trading system** = government-issued permits for an acceptable amount of pollution and companies buy, sell, or trade these permits with other polluters
 - **Cap-and-trade system** = a party that reduces its pollution levels can sell this credit to other parties
 - Pollution is reduced overall, but does increase around polluting plants
- Companies have an economic incentive to reduce emissions