

PLS 209 – Environmental Politics
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Topic: Governing is Choosing, But Who Gets to Choose and How do You Choose?

What Is Federalism?

- Latin *foedus* means covenant
- A federal system has both central and sub-national levels of governments with substantive powers assigned to both levels of government
 - Sharing of powers between different levels of government
 - Stands in contrast to a unitary (centralized) system (e.g., France and Great Britain)
 - Political rationale is that it prevents all governmental powers from accumulating at the top level of government and thereby safeguards against having a national dictatorship
 - Chiefly concerned with the structural characteristics of a government system - constitutional authority, legal power, questions of jurisdiction
- Dominant model of federalism is one based on a matrix structure or polycentric institutional arrangements
 - Polycentric (noncentralization - multiple centers) is different from decentralization.
 - Decentralization requires a center where decisions are made about what should be decentralized. Those who decentralize can recentralize.
 - Polycentrism refers to having more than one center of authority. Accordingly, it is different than being decentralized
- Difficult to find any governmental activity (including environmental protection) that does involve all three “levels” of government
 - State implementation of environmental programs often varies considerably
 - State and local capacity for addressing environmental problems has improved significantly
 - Problems also differ across the country. This means that local and regional differences influence environmental policy making
- Clear trend is less money & more responsibility at the state level
 - Increased use of federal mandates
 - Direct orders to comply with certain rules
 - Conditions to receive federal aid
 - Adds confusion about who is in charge
 - Shift from grants to revolving loans
 - In some cases, the federal government has given states more flexibility to tailor programs to their unique circumstances
 - Examples would include waivers for programs that don’t meet strict federal guidelines
- Increased capacity of state & local agencies
 - Modernized institutions
 - Improved budgeting processes
 - Information management systems
 - Productivity measurement
 - Increased professionalism of staff

- Expanded number and variety of administrative agencies responsible for addressing policy issues at the state level
- Capacity of state programs varies both in terms of their commitment to environmental goals and the quality of their programs
- “States as Laboratories”
 - Key innovators (e.g., economic development, environment, growth management, education, health care, welfare reform, etc.)
 - Rising role for states in domestic policy
 - Lobbying to shape federal initiatives

Constitution’s Checks and Balances

- “Checks and balances” also influences environmental policy formulation and implementation
 - The President, Congress, and the judicial branch all create environmental policy and perform important oversight functions on the other branches of government
- President
 - Uses power of executive orders, control over executive branch agencies, its power to submit and sign a budget, and can submit its own legislation
 - Has the power of the bully pulpit and can use events such as the State of the Union and the budget to press its priorities
- Congress
 - Congress exerts control during budget process, congressional oversight hearings, congressional investigations (e.g., GAO reports), and letters to agency officials
 - Oversight powers can be used to delay or speed up policy implementation
 - Congress further enlarges its powers through informal arrangements based on tradition and assertions of Congressional prerogative that are ignored by administrators at their peril
 - Members of Congress often view programs as “their programs” and see themselves as the guardians of their constituencies interests
 - Legislative power is dispersed between two chambers and a multitude of committees and subcommittees.
 - Local and regional loyalties often impinge on party loyalties
 - See Tables in Rosenbaum (1998, 72 - 73)
 - Congress is often guilty of a “pollutant of the year mentality” where they respond quickly to some perceived problem quickly, sometimes without careful consideration of the issues at hand
 - 1988 Ocean Dumping Act was passed hastily in response to bathing beaches in the New York area being contaminated from what they thought was offshore dumping when it really was poor sewage treatment
 - Losers are the “unsexy” environmental problems that fail to captivate the public or media’s interests.
 - Examples might include absence of OSDS regulation, groundwater contamination problems, nonpoint source pollution, MTBE in gasoline, etc.
 - Congress often micromanages aspects of federal laws and their implementation
 - In some areas it can be criticized for providing too much guidance, and in others not enough – raises question whether the cure is worse than the disease

- The use of detailed provisions, deadlines, and hammer clauses is often the result of congress being
 - Less than fully satisfied with the EPA’s implementation of a program
 - Is a mechanism to prevent the President from exerting too much control over an agency
 - Prevents the agency from being captured by a specific interest group and exercising its discretion in ways counter to that desired by congress
 - Demonstrates to some degree the lack of trust congress has in EPA
 - Pro-environment members fear it will not be protective enough while others fear that they will be too restrictive if given too much discretion
- In order to reach agreement on statutory provisions, statutes are sometimes conspicuously silent on controversial matters
 - This complicates agency implementation and pushes the conflicts from policy formation to the implementation phase
 - This allows congress to avoid the tough questions but forces unelected bureaucrats to answer them
- Judicial branch
 - Federal courts enforce the Administrative Procedures Act as well as environmental laws
 - Ensures that environmental policies and their implementation complies with constitutional standards (e.g., regulatory takings)
 - Federal judiciary was often seen be environmental groups as the “great equalizer”
 - Citizen suit provisions and a broad standing to sue led to many environmental lawsuits during the 1970s and 1980s
 - Trend reversed itself during the 1980s and 1990s as industry groups used the courts to challenge environmental laws resulted in limits on environmental suits and challenges to agency discretion
 - Litigation often used as a tactical weapon
 - Can use to wage a new battle against a policy that was previously lost
 - Can be used as a stalling tactic
- Bureaucracy
 - Many of the statutes give considerable discretion to agencies to formulate and implement policy
 - This assemblage of political appointees and career civil servants often lobbies congress and the President to push its own agendas
 - The bureaucracies also compete amongst themselves for “turf” – policies, budget and staff resources, political support, etc.
 - Bureaucracies and their associated laws, plans, regulations, programs, policies, etc. are often created to protect or advance the interest of specific constituencies
 - EX: Department of Agriculture protects interests of agriculture and forestry.
 - Debates and conflicts between departments help ensure that different aspects of issues are considered.

Who is in charge? Everyone and No one

- *Fundamental question:* Whose interests and priorities should drive the formation and implementation of environmental policy?
 - Rise of state/local government capacity and maturation of existing federal environmental programs that generally take a “command and control” or regulatory approach (e.g., Clean Air Act, Clean Water Act, etc.) have led some to suggest that states should have more control and flexibility
 - Continual battle for control
 - Should future environmental policy place dominant control at the federal level or should state and local governments be granted more freedom and flexibility to tailor their programs to their unique situation?
 - Many state and local officials and industry trade groups think state and local governments should be granted greater control because they are closer to the problem and are the ones that typically are the “frontline” and actually implement the programs.
 - Others suggest the current “one size fits all approach” that is embedded in federal environmental statutes fails to respond to many of today’s environmental problems that are context specific such as nonpoint source pollution.
 - Others suggest that environmental policy should be standardized across the states otherwise states would weaken environmental controls to attract business or upstream states would send their pollution to downstream states
 - Many environmental groups reject proposals to decentralize control or provide more flexibility because they have a great deal of influence when lobbying at the federal level but are not well organized when it comes to lobbying at the state and local level and business typically is.

Federal government exercises control over environmental policy in various ways

- *Grants:* The federal government controls most of the money
 - Establishing federal grant program with specific priorities and limitations on how money can be spent forces state and local governments to implement federal environmental policies
 - Accepting grant money can also make state and local officials subject to oversight by the federal agency
- *Mandates* are federally imposed intergovernmental regulations that requires the government receiving a federal grant to advance specific social and national goals, or meet certain national standards, which may or may not pertain to the accompanying grant
 - States impose mandates on local governments as well
 - Governors and mayors have a valid complaint about the federal government -- it imposes costly rules and supplies no money to pay for them
 - Columbus Ohio study of complying with 14 environmental mandates would cost the city \$1.6 Billion over 10 years -- \$856 a year per family for 10 years
 - One study found that nearly 1,300 federal regulations have been placed on state and local governments and the average number of regulations affecting these jurisdictions was 570 regulations per government
 - Rationales for mandates

- Federal or state government believes that the mandated activity is of such importance that discretion for engaging in the activity can not be left to state or local officials
- The mandate could be justified on the grounds of achieving some desirable public purpose (e.g., clean water, protecting public health)
- Federal or state officials may decide that uniformity in services is essential (e.g., baseline set of air and water quality standards)
- It is a way to save federal or state governments money that they can use in other ways

Congressional and Legislative Oversight of Environmental Policies (Fiorino 1995)

- “To the key committee and subcommittee chairs, these are *their* laws, and statutory intent means their intent.”
 - This leaves little room for agency discretion and experimentation
 - Many critics charge that Congress attempts to micromanage agencies and provides little responsible or constructive legislative oversight
 - Many Congressional members use their positions of authority to push through their own legislative agendas and draw attention to their pet issues
 - Tendency for Congress to dramatize problems, call for solutions to problems by EPA and other agencies, impose strict requirements for action, and then criticize them for failing to eliminate the problem. At the same time, Congress fails to think through what is needed to address problems, fails to allocate appropriate levels of resources, and does not provide the political support to implement programs and sanctions
 - Defenders of the oversight process charge that many times the EPA would not have acted without strict deadlines and that the Whitehouse can not always be trusted to faithfully execute the laws without penalties
- Main cause of fragmentation is the fragmented committee structure in Congress
 - Several committees and subcommittees share authority over the EPA’s programs. Some have jurisdiction over a specific subject area while others have broad “oversight and investigations” authority
 - In the Senate the single most important entity is probably the Senate Environment and Public Works Committee
 - Situation is more complicated in the House. No single committee has jurisdiction as broad as the Senate Environment and Public Works Committee.
 - Committee structure in house was reorganized in early 1995. May no longer coincide with the discussion in Fiorino (1995, 66).
 - Different committees often exist for environmental programs administered by the Army Corps of Engineers (COE), Department of Interior (DOI), Department of Agriculture (USDA), the Department of Transportation (DOT), and the National Oceanic and Atmospheric Administration (NOAA)

Mechanisms for Congressional Oversight (Fiorino 1995)

- Hearings are perhaps the most visible of the oversight tools
 - EPA administrator and other officials are routinely called to testify
- Reports to Congress
 - Most major programs have some sort of requirement to produce annual or biennial reports to Congress

- General Accounting Office (GAO) - Congress's auditing and evaluation arm - study's issues and offers recommendations
- Letters to EPA from members of Congress
 - Answering routine requests from constituents
 - Chastising the agency for decisions it has made (or failed to make)
 - Stressing a members preferences on a given issue
- Appropriations process
 - Testimony during budget hearings
 - Responsiveness in the past to inquiries may influence appropriation levels
 - Requirements attached to authorization bills
- Fragmented structure, the sense of ownership of specific laws and issues, the need to claim credit back home for aggressively protecting constituent interest, a genuine interest in solving a problem that is of special concern, and separation of powers between the Whitehouse and Congress all affect the oversight process

Whitehouse Oversight (Fiorino 1995)

- Appointments
 - Administrator and many others serve at the pleasure of the President
- Office of Management and Budget's (OMB's) Control over the Budget Process
 - President's budget is an important statement about agency priorities
- OMB also reviews proposed regulations
 - E.O. 12291 requires agencies submit all rules before issuing them. Agencies are only to issue rules whose benefits exceed their costs and that they had chosen the most cost-effective way to achieve the agency's goals
 - In practice, E.O. 12291 has given the OMB the power to veto rules because the agency can not proceed until the issues raised by OMB are addressed
 - 10 days for minor rules, 60 days for proposed major rules, 30 days for final major rules
 - Overall, EPA rules constitute about 10% of all OMB E.O. 12291 reviews. However, these rules tend to be among the most important ones that the OMB reviews
 - Delays the rule-making process. Often OMB does not meet time deadlines. Delay not always because of anti-environment sentiments, but can also be because of poorly formulated regulations
 - Criticism is that OMB lacks the resources to second-guess agency decisions
 - Clinton gave the OMB more power to use qualitative data to compare costs and benefits, but continued the policies of the Reagan and Bush administrations
- Whitehouse Council on Competitiveness originally headed by Vice President Dan Quayle was to act as an appeals board for agencies unhappy with OMB decisions
 - One of most controversial decisions was to relax the criteria for defining wetlands
- E.O. 12372 Intergovernmental Review Process
 - Lets all federal, state, and local agencies review grant requests and other actions by federal agencies

Judicial Review (Fiorino 1995)

- Federal judges are not elected, but rather appointed for life
- Three levels of federal courts
 - Supreme Court
 - Circuit Court of Appeals (13)
 - Can file in the Circuit you are located or the Circuit Court of Appeals for the District of Columbia
 - U.S. District Courts
 - Original rather than appellate jurisdiction
- Courts have had a significant affect on the polices and administration of the EPA
- Citizen suits

Importance of policy networks

- Lots of actors involved in developing and implementing policies.
 - Most programs are implemented through a collection or “network” of organizations
 - This creates uncertainty: participants lack knowledge of other actors’ true preferences.
 - Complicated structure of the network and its interconnectedness may introduce additional uncertainties.
 - Creates problems of monitoring and enforcement
 - Introduces potential for conflicts and competing priorities
 - Organizations often join coalitions to enlarge their political influence
- These groups of individuals and organizations go by a wide range of names such as:
 - Policy networks
 - The collection of organizations (governmental and nongovernmental) involved in developing and implementing policy
 - Within environmental policy, policy networks might be defined in terms of the media (air, water, solid waste, etc.) where overlapping sets of organizations are interested in different issues. They can be further classified in terms of:
 - Coalitions based on human health concerns
 - Coalitions the emphasize ecological health and diversity
 - Coalitions based on global geochemical change
 - Coalitions concerned with sustainable resource consumption
 - Coalitions formed for the purpose of ethical or spiritual renewal (Hemple 1996)
 - Arrayed against environmental advocates are an equally powerful set of business, industry, and governmental advocacy coalitions organized around
 - Energy industry (coal, oil, natural gas, and nuclear power)
 - Forestry and wood products
 - Food and agricultural enterprises
 - Real estate developers and marketers
 - Automotive manufacturers, sellers, repairs, and associated interests
 - Chemical industry
 - Government (e.g., national association of counties)
 - Advocacy coalitions

- Advocacy coalitions are groups of policy advocates from different organizations who attempt to have their views of policy problems, solutions, and legitimate actors accepted
 - It is organized to fight a protracted war and often appears stable when viewed over long periods of time, perhaps a decade or more
- Interest group competition plays an energizing role in policy formation
 - Policy subsystem is characterized as competing coalitions and policy brokers who try to influence decisions by legislators/regulators which then influences agency resources, policy outputs and outcomes.
 - These actions then can influence the beliefs of competing coalitions or lead to changes in the external system
- Other terms used include implementation structures, interorganizational networks, and epistemic Communities
- Competing networks (advocacy coalitions) are important because
 - They help ensure that various interests and perspectives are represented when formulating and implementing policy
 - They stimulate policy-oriented learning, which can lead to policy change
 - Much of this learning occurs within an epistemic community
 - Networks of professionals from various disciplines and backgrounds that share normative principals, beliefs, and values.
 - While the epistemic community may constitute a relatively small proportion of an agency, profession, issue network, policy community, or advocacy coalition, they can have a disproportionate affect on organizational learning and behavior

Environmental management strategies can focus on inputs, the production process, or outcomes

Inputs \Rightarrow Production Process \Rightarrow Outcomes

- Input Strategies
 - Preventative approach. Regulates the use of inputs to minimize environmental problems. Manage the inputs to ecosystems. Minimize potential impacts
 - Example: Low sulfur coal, water conservation, low phosphorus detergents, total nitrogen loading in an estuary, total phosphorus loading to a lake, total maximum daily loading in a watershed
 - Advantages: Allows for tradeoffs among projects and alternatives, watersheds are a good unit of analysis
 - Problems: Often difficult to know what the system can handle, need to know spatial arrangements, difficult to account for inputs from other sources, ecosystems and spatial relationships are often complex, limited ability to estimate acceptable inputs.

- Production Strategies
 - Regulates the way inputs are used and pollutants are generated to minimize potential environmental problems
 - Example: Scrubbers, secondary waste treatment, erosion and sediment control standards, buffer zones and setbacks, emissions standards
 - Advantages: Easy to develop regulatory standards
 - Problems: cumulative impacts, not necessarily preventative, little connection to nature of ecological system
- Outcome Strategies
 - Define limits to acceptable resource degradation and then allow activities that meet these standards. Activities that do not change resource conditions beyond a prescribed threshold are acceptable
 - Example: Ambient air or water quality standards, fishable swimmable standards, anti-degradation strategies
 - Advantages: Goal oriented approach, focus on resource monitoring
 - Problem: Often don't know what the system can handle - difficult to define response thresholds, hard to translate goals into evaluative criteria (e.g., preservation of ecological systems), hard to evaluate a single project without others

Policy Tools (Instruments)

- In terms of environmental policy, regulation may be the most frequently and possibly overused policy tool
 - Increasingly, there is a greater call for increased use of other policy instruments
- Regulation (Command and control/Standards and enforcement) (Rosenbaum 1998)
 - Common approach is regulation requiring polluters to obtain permits for engaging in a prescribed activity
 - Approach is very useful in ensuring a common baseline of activity such as making sure all air or water discharges meet some prescribed criteria or use some prescribed technology
 - Approach can be understood as going through five phases
 - *Goals*: Congress decides what the ultimate objectives are to be accomplished by the regulation. They are often broadly or vaguely worded. Sometimes Congress decides to “press technology” and force industry to develop control technologies that are not currently available
 - *Criteria*: technical data commonly provided by research scientists indicating what pollutants are associated with environmental damage. Criteria must be established for each regulated pollutant. Determining numerical criteria is complicated by the absence of data and scientific understanding.
 - *Quality standards*: These follow setting goals and establishing criteria. They specify what contaminants will be regulated and what variations in levels will be permitted. Criteria documents rarely provide public officials with a single number that defines unambiguously what effect a specific concentration of pollutants will have. While the small differences in pollution standards may seem trivial (e.g., arsenic in drinking water, particulate size in air) small differences in numbers can mean huge differences in implementation costs.

- *Emission standards*: Prescribe the acceptable pollutant discharges from important sources of air and water contamination. In terms of water quality emission controls are based on available technologies in which emission levels are set primarily based on the best available or practical technologies.
 - Criteria and standards can be quantitative but in many cases in the area of water quality they are narrative or qualitative in nature.
- *Enforcement*: Adequate enforcement must carry enough force to command the respect of those subject to regulation.
- Regulation is fundamentally a political enterprise
 - Political influence and conflict are bound to occur whenever administrative discretion exists in the regulatory process
 - Congress often shifts responsibility for resolving contentious issues to the administrators when they develop regulations
 - There is often flexibility in compliance deadlines and industry and environmental groups seek to influence when the deadlines will occur
 - There is often flexibility in defining and proscribing appropriate control technologies. Advocacy groups seek to influence this process as well
 - Much of the standard setting process occurs behind closed doors with limited opportunities for public comment. This can arouse suspicion and create conflict
 - How aggressive should enforcement efforts be is another potential source of conflict.
 - For example, how much should you rely on voluntary compliance? How aggressive should you be in imposing fines?
 - Numbers can also be misleading. Does a low number of violators mean high compliance rates or poor enforcement?
 - Use of administrative discretion also lets the agencies play a game of “lets make a deal” in which more might be achieved than by simply imposing fines.
 - Conversely, discretion means that it can be abused. For example, state administrators may be reluctant to crack down on big industries or major cities
- Common criticisms are:
 - Soaring regulatory costs
 - Mounting dissatisfaction with the pace of clean-up
 - Approach can create incentives not to clean-up quickly because incentives do not work in that direction – new requirements may come in the future, cheaper to pay the fines
 - Puts the burden on the regulators to proscribe technology and develop criteria for wide range of impacts, processes, and outcomes
 - Other policy tools may be cheaper to administer and achieve similar or even superior results
 - The public might be more supportive of new environmental policies if other policy instruments are used
- Direct expenditures
 - Government can use its resources to build environmental infrastructure (e.g., sewage treatment plants, stormwater detention ponds, etc.)
 - Government can use its resources to clean-up superfund sites
 - It can spend money to acquire land thereby preventing future development

- It can spend money to restore habitat
- Grants-in-aid
 - Government can provide grants to individuals, organizations, or governmental entities to encourage desirable activities
 - EX: grants to support demonstration projects for best management practices (BMPs) addressing NPS problems grants to support the construction of sewage treatment plants
- Loans
 - Government can provide loans to individuals, organizations, or governmental entities to encourage desirable activities
 - EX: creation of state revolving loans to finance the construction of sewage treatment plants
- Economic incentives
 - Use of market-based strategies such as the development of emission trading programs under the Clean Air Act
 - Flaws in emission trading programs are that:
 - They fail to create true markets
 - Environmentalists often object to allowing a polluter to buy permission to pollute
 - It assumes that what is traded is actually equal but an air or water discharge in one location might actually be worse than another for the environment even though the same amount of a pollutant is discharged.
 - Modifications to the IRS code to encourage investments in environmental remediation technology or the installation of a BMP
 - Some environmental groups object to this tool because they say it subsidizes polluters. However, building a sewage treatment plant could be viewed as subsidizing business and homeowners
- Planning
 - Lots of ways to prevent problems before they occur
 - Pollution prevention programs and pretreatment programs can be established to remove pollutants before they enter the waste stream
 - Land use planning can be used to mitigate cumulative and secondary impacts of development by protecting habitat and steering development to appropriate areas
 - Increased focus on watershed or ecosystem-based plans to manage a collection of uses and problems as some geographic scale
 - Stormwater management and erosion and sediment control programs often use planning to force developers to consider the myriad of ways that they can reduce and mitigate runoff problems
 - Impact assessments would be another form of planning
- Education
 - Provide funding to educate homeowners, businesses, government officials on better practices (e.g., recycling) or resource management (e.g., options for improved growth management)
 - Create training programs (e.g., stormwater, soil erosion and sediment control, etc.)
- Scientific research/data collection
 - It can fund research to better understand problems

- It can fund efforts to monitor environmental conditions (or provide grants to support volunteer efforts to collect data)
- The problem with using science as a policy tool is that funding more research is often used as a way to forestall making more difficult policy choices

Rational decision making model

- Model of decision making is commonly attributed to economists who have a clear and consistent system of preferences, knowledge choices, and computation tools that permit the selection of the optimum choice
 - Concepts such as “maximum sustainable yield” are based on finding the “optimum” level of resource use
 - Techniques such as C/B analysis are based on finding the “optimal” choice yielding the greatest net benefits
 - Risk assessment and Environmental impact assessment are also based on the rational model
- Assumptions
 - Decisionmaker is a rational person who follows logical steps to make perfect decisions
 - Problem is clearly and objectively defined
 - Requires clear and uncontested definition of values and goals to be maximized by the decisionmaker
 - Complete knowledge of all alternatives and the full consequences of each alternative
 - Clear preferences exist and are constant such that decision-making criteria and alternatives can be consistently ordered
 - Choice among alternatives is based exclusively on the facts presented and the preferences expressed
 - Final choice is one that provides the maximum benefits (optimizing). Decisionmakers will choose the alternative yielding the highest perceived value will be chosen
 - Adequate time, skill, and resources are available during the planning process
- Specific steps of the rational decision-making process
 - Define the problem clearly and accurately
 - Develop all relevant alternatives
 - Gather complete information about each alternative
 - Establish complete criteria of cost, time, and other specifications
 - Evaluate the criteria according to goals
 - Assess each alternative on each criterion
 - Calculate and select the alternative with the optimum value
- Limits to Strict Rationality
 - Typically there is uncertainty about both means and ends
 - Can almost never clearly determine the risks and payoffs associated with each alternative
 - Rarely are all alternatives and their consequences known
 - Preferences are often unformed and changing
 - Rarely have the time, resources, energy, or mental capacity to evaluate all alternatives and their consequences
 - Too mechanical an approach to what is a much more complex process
 - De-emphasizes role of politics, bargaining, human behavior, and other subjective factors

- Concept of “satisficing” or bounded rationality was developed by Simon (1947)
 - For large-scale decisions there is too much information and uncertainty which overloads the cognitive capacities of managers
 - Managers are intendedly rational in that they strive for rationality
 - They do not optimize, they satisfice instead of “optimize”
 - Even if the thorough search and deliberate choice associated with strict rational choice model were possible, the effort might not be worth the reward due to the high decision costs it would impose

Cost-Benefit Analysis

- Cost-benefit analysis is a method for determining the desirability of prospective projects and involves enumeration and valuation in money terms of all relevant costs and benefits no matter when they occur to whom they accrue
 - All presidential administrations since President Kennedy have promoted sensitivity to the economic costs and benefits of environmental policies.
 - Reviews are typically done by the President’s Office of Management and Budget (OMB) and it is not unusual for them to require changes in proposed regulations/programs
 - Reagan’s E.O. 12291 was most aggressive attempt and required the use of regulatory impact analysis (RIA) – although not that successful
 - Clinton continued the policy and similarly required some use of C/B analysis during rulemaking much to the disdain of environmentalists
 - Congress has enacted its own review requirements in the 1990s
 - Unclear if any of these provisions have had much impact because they are easily circumvented by agencies – appears to be before of a paper tiger
- All cost-benefit techniques are generally designed to assist a decisionmaker in choosing among alternative policies or projects. They have the following steps in common
 - Identification of some feasible alternative
 - Prediction of outcomes for each alternative
 - Valuation of outcomes in commensurate units, almost always money
 - Choice of alternative is based on some decision criterion
- C/B Analysis is typically opposed by environmentalists
 - Some view it simply as being inappropriate for use in setting environmental policy, often due to objections of placing values on environmental resources
 - Others are against it since it can be used to block environmental policies
 - Some values simply defy monetizing – how do you value a life?
 - It ignores equity considerations that are the basis of some environmental policies including the environmental justice movement

Key Aspects of Cost-Benefit Analysis

- Direct costs/benefits
 - Closely related to the main objectives of the project
 - Immediate and controllable. Out of pocket costs. Revenue streams resulting from the project. Opportunity costs of the forgone benefits attached to options not chosen. Cost savings from elimination of inefficiencies.

- Indirect costs/benefits (Externalities/Spillovers)
 - By products of the project
 - Intended and unintended opportunity costs and risks. Second order savings and costs resulting from the program/project. Externalities attributable to the project. Multiplier effects.
 - Often more difficult to measure
- Side-Payment exclusions
 - Cost-benefit analysis ignores the transactions associated with programs or projects that involve no net benefit or cost. For example, the sale of land whose value is enhanced or diminished because of a project.
- Marginal Costs
 - Incremental costs incurred as you move from one option (e.g., pollution control technology) to another
- Tangible & intangible costs/benefits
 - Tangible are observable and countable money, goods, and services
 - Intangible consequences of social actions are much more difficult to measure. Examples include changes in public attitudes, air or water quality, reduced or increased risks
 - Important questions surrounding a cost-benefit analysis are who actually benefits and who incurs costs
- Time is important.
 - May face costs in the near-term with benefits stretching into the future.
 - Adjust future costs and benefits to present by discounting them.
 - Discount factor adjusts future dollars to current dollars.
 - Present value = Future value/(1 + r)ⁿ where r = discount rate; n = time period
- Decision Rules: need rules for selecting among alternatives or deciding whether to proceed. Two common rules are:
 - Greatest net benefit = B - C
 - B/C ratio > 1 (efficiency)
 - Example: Army Corps of Engineers Dredging Project
- Utilitarian calculation. Concerned only with efficiency.
 - Not concerned about other possible goals like equity and democratic accountability which may be associated with the long-term impacts of the proposed action

Criticisms of Cost-Benefit Analysis

- Difficulties in attaching values to quantified costs (e.g., aesthetic impacts)
- The question of who bears the costs and who benefits is not addressed
 - C/B problem doesn't deal with redistributive equity
- The problem of aggregation
 - There are practical and theoretical difficulties associated with value weighting and summing of several measures in an analysis to give an overall composite figure
 - Conventional CBA can make any proposition incomprehensible by misguided quantification and faulty aggregation which attempts to add together disparate factors in a problem like noise, pollution, travel time, capital cost, etc.
- Choice of a discount factor can change the results
- Costs may exceed benefits but action is still warranted on other grounds

- Efficiency isn't the only goal or criterion decisionmakers are concerned with. Equity and accountability are often equally important
- How do you account for opportunity costs of the decision
 - C/B analysis does not question the objectives.
 - ES: You can determine the lowest cost solution to combined sewer overflow (CSO) remediation techniques but it does not question whether money is better spent on NPS pollution runoff
- Some additional lessons
 - There is no substantial evidence that the costs of environmental regulation have become so burdensome that C/B analysis should be used on every proposed regulation
 - C/B analysis can be a useful tool that suggests better solutions when used correctly
 - It matters a great deal who does the calculating
 - It is vulnerable to partisan manipulation and as a result the results are often discounted
 - Industry tends to overestimate benefits
 - Environmental groups overestimate benefits and underestimate costs
 - Congress should be explicit in environmental laws about how it expects agencies to weigh economic criteria alongside other legitimate criteria when making decisions
 - Regulatory costs might be greatly reduced not by using C/B analysis per se, but by greater use of economic incentives and other policy tools other than command and control regulation

Risk Assessment

- Risk assessment is a common tool used to assist in making environmental policy
 - EPA has performed thousands of risk assessments to aid in setting environmental policy
 - Interestingly, risk assessment has grown increasingly controversial even though its popularity and use has grown
 - Risk assessment now engenders the criticisms once reserved only for C/B analysis
 - Lies in that treacherous zone between science and politics
- It focuses on the probability or likelihood of a harm (e.g., health effects, ecological effects)
 - Should the focus be on health effects or ecological effects?
 - The distinction is important because it forces you to pose different kinds of questions and presents different choices with competing values
 - Severity of the harm is its magnitude or significance (e.g., death, illness, etc.)
 - Acute (immediate) vs. chronic (long-term)
 - Seriousness
 - Reversible?
 - Numbers of people affected
- How do people perceive risks?
 - People tend to overestimate the risks from unusual, catastrophic, and lesser known sources but underestimate risks associated with common causes
 - EX: people tend to think driving a car is safer than it really is and overestimate the risk of flying
 - Perceptions about risk affect views about what levels of risk are acceptable
 - This leads to a disconnect between scientific analysis and public's perceptions of risk.

- Is perception reality?
- Critics of risk assessment argue that public opinion based on faulty understandings of risk has intimidated decisionmakers into following the wrong environmental priorities
 - How does a decisionmaker side with experts when they contradict an aroused and concerned public?
 - See Table in Rosenbaum (1998, 129)
- *De minimus* risk
 - Risks too small or trivial to require a response - below regulatory concern
 - Except in one case, no chemical with a lifetime cancer risk above 1×10^6 was regulated
- *De manifestis* risk
 - Risks so large that any reasonable person would require a regulatory response
 - Every chemical with a lifetime cancer risk above 4×10^3 was regulated
- Problems with risk assessment
 - Process is full of uncertainty
 - Assumptions made early in risk assessment process can influence results by several orders of magnitude
 - Most of assumptions tend to make risk assessments more conservative, that is they overestimate risks
 - Many of the assumptions have value judgments attached.
 - It is not a purely technical value free side of policy
 - Many studies rely on animals and use extrapolations
 - To demonstrate with 95% confidence that a certain low-level dose causes less than one cancer case per million subjects would require a mega-mouse experiment involving 6 million mice
 - Most experiments use a relatively small number of animals and then extrapolate the effect on humans from a low-level dose, but this can be off by a factor of 100,000
 - Animals differ significantly in their response to toxins (Dioxin is 5,000 times more toxic to guinea pigs than hamsters)
 - Because of the uncertainty involved, it may make more sense to use it as a rough guide for making decisions and evaluating policy choices rather than as way to make decisions
 - It may not be conservative enough.
 - Reductionist perspective may not capture all of possible means of exposure.
 - Multiple pathways may drastically increase risk.
 - More troubling is the possibility of synergistic affects
 - Risk assessments tend to focus on 1 chemical in isolation from others
 - When combined with other chemicals risks might increase significantly
 - Risk analysis can constrain individual liberty because it does deal with the fact that everyone is willing to accept different levels of risk (House and Shull 1991)
 - Who decides what level of risk is “acceptable”?
 - The question of how safe should working conditions be cannot be answered unless everyone has similar preferences with respect to risk and the costs of safety.
 - Not a mathematical question but rather one which must be addressed through institutional and political processes (House and Shull 1991)

Environmental impact statements (EIS)

- Required by the National Environmental Policy Act (NEPA) of 1969
 - Some states have an analogous process
 - Many federal, state, and local environmental regulations require permit applicants for significant projects to perform some sort of assessment of the environmental impacts of a potential project
 - The various types of impact analysis arose as a reaction to the deficiencies of cost-benefit analysis
 - It allows you to aggregate benefits and impacts and is not constrained by the inability to provide monetary values for costs and benefits
- Environmental Impact Assessment (EIA)/Environmental Impact Statement (EIS) describe
 - Present conditions
 - Proposed action(s) (including alternatives)
 - Impacts of each alternative
 - Preferred alternative
 - A more detailed description of preferred action(s) and its impacts
 - Steps that will be taken to minimize harm
- Assumptions
 - Future can be predicted with enough reliability to make it worthwhile to consider potential changes which might be caused by new projects or technologies
 - Policymakers will understand the assessment and respond by modifying the decisions they might have otherwise made (Carley 1980 123)
- Common Dimensions of Impact Assessments
 - Direct vs. indirect impacts
 - Direct impacts are immediately related to a project or program
 - Indirect impacts, or secondary or tertiary impacts, are impacts induced by or associated with a project (Carely 1980, 123)
 - Gross vs. net impact
 - Gross impact is the projected future environment with the proposed project or program
 - Net impact is the gross impact minus the likely future environment without the proposed project or program
 - Impacts can be concentrated or dispersed
 - This raises the question of drawing boundaries for the study
 - It also raises a question of threshold effects -- At what level does an impact become large enough to be considered in an analysis
 - Impacts have duration, which last over time.
 - This raises questions about discounting costs and measuring benefits and costs over time (Carely 1980)
- Other impact assessment techniques
 - Technology assessments
 - Systematic study of effects on society that may occur when a technology is introduced, extended, or modified
 - Social impact assessments

- Systematic study of the social, economic, and cultural aspects of a proposed project. Often used in international development projects

Incremental model is also used to explain policy change

- Incremental model is generally associated with politics and the political approach to public administration. Dual argument for its use:
 - It is the approach most characteristic of American public administration
 - It is the model that *should* be used
- Lindbloom (1959, 1980) and others view the policy-making process as a response to short-term political conditions, by small increments, according to events and developments, and not according to rational, information-based analysis
 - Agrees with the notion of bounded rationality
- Incremental decisionmaker is more concerned with reaching an agreement on a final outcome than making an “optimal” decision
- Assumptions
 - Model does not assume a clear definition of goals (objectives) of decisions
- Steps
 - Approach begins with an existing situation where means and ends are often intermixed
 - Analysis is limited and focused on alternatives that can be agreed upon or accepted
 - Decision-making process is pragmatic and concerned with reaching agreement among the parties involved
 - The decisional tools and calculations are less objective and less systematic than the rational model
 - Tends to use bargaining and compromising techniques that provide for the proportional representation of interests, minimize conflict, and lead to agreement
 - Administrators strive for satisfactory decisions after examining a rather limited set of alternatives
- This model helps explain
 - The bargaining and negotiation that surrounds many policy changes
 - EX: many statutory reauthorizations contain policy changes that are better described as “incremental” changes in peripheral policies rather than large-scale changes in core policies
- Limitations of the rational model are not necessarily the strengths of the incremental model.
 - It undermines many of the traditional values of public administration such as economy, efficiency, and effectiveness
 - Often results in political alliances and power centers that dominate decision processes in organizations.
 - Often criticized for its inherent conservative outlook that seeks adjustments to the status quo and avoids radical departures
 - It is based on a bargaining concept, which often doesn’t work well when there are limited resources. Bargaining also obscures the real desires of participants in the decision making process. Accordingly, it can get too wrapped up in political gamesmanship
 - Incrementalists often downplay the use of models which provide clear information and delineate alternatives
 - It creates a prison for your imagination in that there is no way to do something “new”.

- Only a little more or less of the same.
- It is inherently conservative.
- It stifles policy innovation

“Nonrational” Decision-Making Models

- Basics of “nonrational” models
 - Choices are made, but they do not result from a deliberate balancing of pros and cons or costs and benefits
 - Choices are generally described as decision outcomes resulting from the interaction between two structures or sets of rules
 - *Decision structures* are sets of rules that determine what problems and solutions will be allowed for discussion and how disagreements will be resolved
 - Rules-based on majority vote, consensus, or arbitrary authority will obviously yield different results
 - *Access structures* are sets of rule that define which individuals or groups have standing and are allowed to participate in decision making
 - Nonrational models suggest that decision outcomes result from the interaction of *decision* and *access* structures rather than by the calculation of expected utility or maximizing objectives
- Nonrational models suggest that determining and enforcing rules of the game is more important to the decision-making process than is careful analysis
 - Accordingly, nonrational models are inherently political in nature

Garbage-Can Model

- It gives a sense for how decisions are made when decisionmakers have pervasive differences of opinion. Accordingly, it is primarily an organizational model -- organized anarchies
 - Goals are unclear and often conflict
 - Participation in decision-making is unpredictable and fluid
 - An agency is more or less a loose collection of ideas and proposals rather than a well ordered structure
 - Information comes into play at multiple points in the decision-making process and is interpreted in various ways
 - Organization is a collection of choices looking for problems, issues and feelings looking for decision situations in which they might be aired, solutions looking for issues to which they might be the answer, and decisionmakers looking for work
 - Decisions are made in when different streams come together
- Organized anarchies have three characteristics
 - Members of the organization do not define their preferences about policies and goals very precisely. In those rare occasions when they are defined precisely, they often conflict with each other. Organization is a “loose collection of ideas” instead of a coherent structure. It discovers its preferences through action more than it acts on the basis of preferences.
 - Technology is as unclear as the preferences. Many members do not understand what all aspects of organization do.

- Participation in decision making is extremely fluid and even erratic. Participants drift in and out of the decision making process. Sometimes a member will attend critical meetings other times they will not.
- Organizations tend to be “loosely coupled” in that the members have loose control and communication with one another. It is often unclear who has the authority to make certain decisions. Remain loosely engaged, even for important issues, because other matters will preoccupy them
- Decision-making process is composed of four separate streams
 - Problems
 - Problems arise and disappear, change shape or significance, and are combined and separated over time - Issues come to be defined as problems and become the focus of government action
 - Solutions
 - Policymakers draw their solutions to problems from a standard “tool kit” or entrepreneurs may advocate and win approval for innovative solutions that define new ways of responding to problems on the agenda
 - Participants
 - Participants move in and out of situations in which choices are made termed “choice opportunities” in which they look for chances to promote their ideas or themselves. Ideas, analyses, arguments, persuasion, and less visible participants (Bureaucrats, congressional staff, lobbyists, and think tanks) may influence the most.
 - Choice opportunities
 - Problems, political, and policy streams rarely connect. When they do connect - “Coupling” - policy entrepreneurs take advantage of these windows of opportunity to make major policy changes.
- When the four streams do connect with each other, the result is often a major decision.
 - Decisions are the function of a mix of problems, solutions, participants, and participants resources (i.e., the garbage can) and how that mix is processed
 - “Choice opportunity” is the mix that occurs within the garbage can
 - Streams often connect when there are “windows of opportunity” or “focusing events”
 - Effectiveness is measured in terms of the ability to reach consensus on matching a problem with a solution
 - This model can explain many group decision-making processes in organizations or politics
- This model can explain
 - Many group decision-making processes
 - Legislative process
 - Advisory committees
 - Consensus-based processes
- Implications of the garbage can model for understanding government decision making
 - Turf battles and other struggles over who has access to deliberations and who has the right to make choices are a central element of decision making
 - Solutions and problems may arise independently
 - At times, decisionmakers invent novel solutions for problems

- Other times, decisionmakers have solutions and look for problems in which to use them, or advance their use
- It describes how decisions are guided and manipulated. The particular mix of problems, solutions, and actors is not necessarily accidental

Trends in Environmental Management (Cortner and Moote 1994)

- Paradigm shift away from the scientific model of natural resource management
 - New paradigm appears to have at least two principles
 - Collaborative decision-making
 - Ecosystem-based management
 - Paradigm = a framework of understanding that is accepted by an entire professional community.
 - Dominant paradigm consists of the set of values, theories, methodologies, tools and techniques that is sanctioned and utilized by the professional community. It results in consistent actions and reflects consensus about how professionals view the world
 - Paradigm shift occurs when an existing paradigm doesn't do a good job of explaining things
- Dominant paradigm for years has been sustained yield
 - Best use is human consumption and the purpose of natural resource management is to provide a continuous supply
 - Typically associated with single uses (e.g., fisheries catch, visitors to a park, etc.)

Collaborative Decision-Making Approaches (Selin and Chavez 1995)

- Collaboration = the pooling of appreciation's and/or tangible resources (e.g., information, money, etc.) by 2 or more stakeholders to solve a set of problems which neither can solve independently
 - Emerging process - It is unclear to what extent it improves natural resource management
- Implications of paradigm shift
 - Requires new skills as you go from expert opinion role to an empowerment role as a mediator, catalyst, or broker
 - Requires lateral decision-making instead of hierarchical
 - Need to conceptualize problems from organizational perspectives
 - Need a domain perspective where an agency is just one of many actors joined by a common set of interests or problems
 - Need more flexible organizational procedures
 - If truly collaborative and participative, then there is no guarantee that you will end up with an optimal solution that maximizes environmental protection
 - Bargaining and compromise can purchase consensus at the cost of disarray and contradiction in resulting policies
- Examples: Standing committees, associations, friends groups, open decision-making
 - All emphasize sustained dialog between stakeholders to resolve differences and to advance a shared vision
 - Public input must be tailored to the unique demands of a situation rather than using the same approach in all situations or for all issues

Obstacles to Collaborative Decision Making (Cortner and Moots 1994)

- Institutional
 - Culture may hinder collaboration, may be resistant to decentralized decision making, lack the necessary flexibility in agency procedures
 - Environmental advocacy groups may resist collaboration because they view compromise as watering down of their principles
- Relational factors
 - Organizations that have been bitter adversaries in the past often find it difficult to reach consensus on anything
 - Attempts at collaboration could actually deepen divisions by encouraging parties to “protect their turf” and find other avenues to achieve their desired outcomes
- Power differences
 - Collaboration may be hindered when power differences exist between parties. Some participants may not be perceived as having a legitimate right to participate in consensus based forums which tend to view participants as equals
- Obstacles to collaboration may be particularly difficult to overcome when:
 - Conflict is rooted in basic ideological differences
 - One stakeholder has the power to take unilateral action
 - Constitutional issues are at stake or legal precedents are sought
 - Past interventions have been unsuccessful
 - Issues are too threatening because of historical antagonism
 - A legitimate conveyer can't be found
 - These instances are likely to result in litigation or limited collective action. Negotiators and convenors need to make a realistic assessment of their ability to overcome these obstacles