



The Guardian: Origins of the EPA

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Introduction

American environmentalism dawned as a popular movement on a mild spring afternoon in 1970. Wednesday, April 22nd, brought blue skies, light breezes, and temperatures in the 60s to New York City and Washington, D.C. Much of the rest of the country enjoyed similar conditions. On that day, the influence of nature had particular meaning; the nation held a celebration of clean air, land, and water. Encouraged by the retreat of winter, millions participated.



The first Earth Day may have been prompted, in part, by the recent moon landings. When the astronauts turned their cameras homeward, capturing the image of a delicate blue planet, the world looked upon itself with fresh

understanding. The context of Earth Day 1970, however, was far from celestial, reflecting the turbulence of the time. Since the mid-1960s, the streets has become a common outlet for political and social discontent. Yet Earth Day, forged in an era of strife and change, had its own personality; marijuana smoke may have hung in wisps over some of the day's festivities, but violence and confrontation were nowhere to be seen.

In America's largest city, Mayor John V. Lindsey decided to commemorate the day in high style, closing traffic for two hours on Fifth Avenue, from 14th Street to Central Park. Along its broad path, multitudes choked the streets and sidewalks. Much of the crowd's interest centered on Union Square, a crossroads of political ferment during the 1930s. This day, "many more than" 100,000 onlookers saw teach-ins, lectures, and a non-stop frisbee game at the famous intersection. An ecological Mardi Gras lasting from noon to midnight sprang up along 14th Street from Third to Seventh Avenues. While folksinger Odetta sang "We Shall Overcome," a rock band played the Beatles' anthem, "Power to the People." In Washington, D.C., Congress suspended business as most of its members, regardless of ideology, felt compelled to appear before their constituents. President Nixon kept a regular schedule at the White House.

Predecessor: Conservation

While Earth Day launched the idea of environmentalism in its present sense, the realization of the value of wilderness and an appreciation of the consequences of its destruction dates back several centuries in America. For example, as early as 1652, the city of Boston established a public water supply, a step followed in the next century by several towns in Pennsylvania. By 1800, 17 municipalities had taken similar measures to protect their citizens against unfit drinking sources. Still, anyone living in the great cities of New York, Philadelphia, Charleston, and Boston just after the American revolution could not escape the ill-effects of expanding urbanization: the stench of sewage in near-by rivers; the unwholesome presence of animal and human wastes underfoot; the odors of rotting food; the jangling shouts of vendors in narrow lanes; and the constant grinding of hooves and iron wagon wheels on unpaved streets.

Industrialism in the nineteenth century widened the impact of environmental degradation. Literary people were the first to sense the meaning of this trend. Herman Melville's epic novel *Moby Dick* (1851) and Henry David Thoreau's *Walden, or Life in the Woods* (1854) emphasized, respectively, the power and the tranquility of nature. A second generation of writers, perhaps sobered by the final settlement of the American West, wrote without fictional guise. John Burroughs published 27 volumes of intimate, experiential nature essays. John Muir, the Scottish prophet of the rugged outdoors, set down his observations in a series of books, beginning with *The Mountains of California* in 1894.



President Theodore Roosevelt, who undertook a western camping trip with Muir in 1903, came to symbolize the campaign for conservation, which gained steadily in political popularity. During and after his Administration, the use and retention of natural resources became a preoccupation of government.

President Franklin Roosevelt's New Deal enacted a number of natural resource measures. The Soil Conservation Service, founded in 1935, applied scientific practices to reduce the erosion of agricultural land. The depletion of animal life received recognition in the passage of the 1937 Pittman-Robertson Act, establishing a fund for state fish and wildlife programs from the proceeds of federal taxes on hunting and fishing equipment. Most ambitious of all, the Tennessee Valley Authority erected nine dams and a string of massive generating stations.

From Ecology To Environmentalism

The definition of wilderness as an immense natural storehouse, subject to human management, changed after the Second World War. Life on the battle front, as well as the home front, curbed the country's appetite for colossal federal projects. Moreover, the almost immediate demobilization of the armed forces in 1945 and 1946 resulted in an unprecedented national birthrate. Cheap home loans for veterans pushed suburban settlement far beyond the city skylines. As the middle class found itself living on the edges of open lands, political questions surfaced about the preservation of the landscape just over the back fence. The concept of **ecology**--which valued esthetics and biology over efficiency and commerce--began to penetrate the public mind.



The growth of the cities also made plain the evils of pollution. Media stories covered radioactive fallout and its effect on the food chain, dangerous impurities in urban water supplies, and the deterioration of city air. The subtle metaphor of a "web of life," in which all creatures depended upon one another for their mutual perpetuation, gained common currency. Hence, the powerful reaction to Rachel Carson's 1962 classic *Silent Spring*, a quietly shocking tale about the widespread pesticide poisoning of man and nature. Her book elicited a public outcry for direct government action to protect the wild; not for its future exploitation, but for its own innate value.

In the process of transforming ecology from dispassionate science to activist creed, Carson unwittingly launched the modern idea of environmentalism: a political movement which demanded the state not only preserve the Earth, but act to regulate and punish those who polluted it. Sensing the electoral advantage from such advocacy, Presidents Kennedy and Johnson added the environment to their speeches and legislative programs. In his 1964 and 1965 messages to Congress, Lyndon Johnson spoke forcefully about safeguarding wilderness and repairing damaged environments.

Richard Nixon showed as much eagerness as his predecessors to profit from the issue, and he invoked it during the bitter presidential election of 1968. As President, however, he acted with ambivalence, moving in two directions at once. On one hand, he raised eyebrows by appointing a National Pollution Control Council, a Commerce Department body comprised solely of corporate executives. He also vetoed the second Clean Water Act. At the same time, in 1969 and 1970, he approved and directed a succession of sweeping measures which vastly expanded the federal regulatory protections afforded the environment.

An Environmental Revolution

Just four months after his January 1969 inauguration, President Nixon established in his cabinet the Environmental Quality Council, as well as a complementary Citizens' Advisory Committee on Environmental Quality. Opponents denounced both as ceremonial and Nixon, ever sensitive to criticism, rose to the challenge. He had already asked Roy L. Ash, the founder of Litton Industries, to lead an Advisory Council on Executive Organization and submit recommendations for structural reform. In November, the President's Domestic Council instructed Ash to study whether all federal environmental activities should be unified in one agency. During meetings in spring 1970, Ash at first expressed a preference for a single department to oversee both environmental and natural resource management. But by April he had changed his mind; in a memorandum to the President he advocated a separate regulatory agency devoted solely to the pursuit of anti-pollution programs.



Forging such an institution actually represented the final step in a quick march towards national environmental consciousness. Congress recognized the potency of the issue in late 1969 by passing the National Environmental Policy Act (NEPA). This statute recast the government's role: formerly the *conservator* of wilderness, it now became the *protector* of earth, air, land, and water. The law declared Congressional intent to "create and maintain conditions under which man and nature can exist in productive harmony," and to "assure for all Americans safe, healthful, productive, esthetically and culturally pleasing surroundings." Henceforth, all federal agencies planning projects bearing on the environment were compelled to submit reports accounting for the likely consequences--the now famous Environmental Impact Statements (EISs).

Secondly, NEPA directed the President to assemble in his Cabinet a Council on Environmental Quality. Undersecretary of the Interior Russell E. Train agreed to be its first chairman. The Council's three members and staff would assist the President by preparing an annual Environmental Quality Report to Congress, gathering data, and advising on policy. Signing the Act with fanfare on New Year's Day 1970, Nixon observed that he had "become further convinced that the 1970s absolutely must be the years when America pays its debt to the past by reclaiming the purity of its air, its waters, and our living environment. It is," he said, "literally now or never."

Pressing the initiative in his State of the Union Address three weeks later, the President proclaimed the new decade a period of environmental transformation. On February 10, he presented the House and Senate an unprecedented 37-point message on the environment, requesting four billion dollars for the improvement of water treatment facilities; asking for national air quality standards and stringent guidelines to lower motor vehicle emissions; and launching federally-funded research to reduce automobile pollution. Nixon also ordered a clean-up of federal facilities which had fouled air and water, sought legislation to end the dumping of wastes into the Great Lakes, proposed a tax on lead additives in gasoline, forwarded to Congress a plan to tighten safeguards on the seaborne transportation of oil, and approved a National Contingency Plan for the treatment of petroleum spills.

An Agency For The Environment

Having dispatched these initiatives in spring, by early July the Administration could concentrate its full attention on the capstone of its program. Acting on Roy Ash's advice, the President decided to establish an autonomous regulatory body to oversee the enforcement of environmental policy. In a message to the House and Senate, he declared his intention to establish the U.S. Environmental Protection Agency (EPA) and left no doubts about its far-reaching powers. Nixon declared that its mission would center on:

- The establishment and enforcement of environmental protection standards consistent with national environmental goals.
- The conduct of research on the adverse effects of pollution and on methods and equipment for controlling it; the gathering of information on pollution; and the use of this information in strengthening environmental protection programs and recommending policy changes.
- Assisting others, through grants, technical assistance and other means, in arresting pollution of the environment.
- Assisting the Council on Environmental Quality in developing and recommending to the President new policies for the protection of the environment.

The President accompanied his statement with Reorganization Plan Number 3, dated July 9, 1970, in which he informed Congress of his wish to assemble the EPA from the sinews of three federal Departments, three Bureaus, three Administrations, two Councils, one Commission, one Service, and many diverse offices. The Interior Department would yield the Federal Water Quality Administration, as well as all of its pesticides work. The Department of Health, Education, and Welfare would contribute the National Air Pollution Control Administration, the Food and Drug Administration's pesticides research, and the Bureaus of Solid Waste Management, Water Hygiene, and (portions of) the Bureau of Radiological Health. The Agriculture Department would cede the pesticides activities undertaken by the Agricultural Research Service, while the Atomic Energy Commission and the Federal Radiation Council would vest radiation criteria and standards in the proposed agency. Finally, the Council on Environmental Quality's ecological research would be transferred to EPA.



The hearings on EPA, held in summer 1970, essentially supported the President. The House Government Operations Subcommittee on Executive and Legislative Reorganization, chaired by Congressman Chet Holifield of California, convened

on July 22, 23, and August 4, to take testimony on Reorganization Plan Number 3. Lead witness Russell Train gave it unqualified support, predicting that its "vision of clean air and water...will provide us with the unity and the leadership necessary to protect the environment." Roy Ash testified the following day about the fragmented state of pollution control, the continuation of which "will seriously limit our solving the problem even as we expand our commitment to preserve and restore the quality of our environment."

Meanwhile, witnesses appeared on July 28 and 29 before the Senate Government Operations Subcommittee on Executive Reorganization and Government Research, chaired by Senator Abraham Ribicoff of Connecticut. During these hearings, Senator Jacob Javits of New York perhaps expressed the prevailing mood of the Congress when he described the new organization as a "very strong and overdue effort to arrest and prevent the erosion of the priceless resources of all mankind and also to preserve that most priceless asset, the human being himself, who, in a singularly polluted atmosphere, may find it impossible to exist."

Congressman John Dingell of Michigan presented the only serious alternatives to Reorganization Plan Number 3. A strongwilled conservationist, Dingell wondered why the EPA encompassed neither water and sewer programs in the Departments of Agriculture and Housing and Urban Development, nor the environmental operations of the Defense and Transportation Departments. He proposed that instead of erecting EPA, the House consider a more comprehensive, cabinet-level Department of Environmental Quality. Despite his suggestion, both subcommittees approved the President's proposal and issued reports: the Holifield Committee on September 23, the Ribicoff panel six days later. Having cleared all its statutory hurdles, on December 2, 1970, the Environmental Protection Agency would at last open its doors.

The First Administrator



While the EPA plan underwent Congressional scrutiny, practical preparations proceeded at the Office of Management and Budget. A nine-man Task Force on EPA Organization met through summer and fall 1970 to design the structure of the new institution. By early October, the participating government Departments informed their employees of the transfer of functions and personnel entailed in establishing the new agency. Finally, on November 6, 1970, President Nixon announced his intention to nominate William D. Ruckelshaus to be the first Administrator.

A graduate of Princeton University and Harvard Law School, the 38-year-old Indianan had already compiled an impressive record of government service. At the age of 28 he was appointed a Deputy State Attorney General and in that capacity drafted the Indiana Air Pollution Control Act of 1963. In 1967, Ruckelshaus sought elective office and not only won a Republican seat in the state House of Representatives, but also became the first person to be named Majority Leader during his initial term. A rising political star, he was nominated to run for the U.S. Senate, but lost in the general election. At the time of his selection to head EPA, Ruckelshaus was serving in the Department of Justice as Assistant Attorney General for the Civil Division.

During his confirmation hearings on December 1 and 2, Ruckelshaus received a warm reception from the Senate Committee on Public Works. His first words to the Senators not only laid the basis for his term as Administrator, but for the future of the Agency itself.



"I think that enforcement is a very important function of this new Agency. Obviously, if we are to make progress in pollution abatement, we must have a firm enforcement policy at the federal level. That does not mean that this policy will be unfair, that it will not be evenhanded, but it does mean that it will be firm.... [A]s far as I view the mission of this Agency and my mission as its proposed Administrator, it is to be as forceful as the laws that Congress has provided, and to present...firm support [for] enforcement [by] the States."

After taking the Oath of Office on December 4, 1970 the Administrator of the U.S. Environmental Protection Agency officially welcomed his staff, transferred just two days before from their former agencies and departments. William Ruckelshaus appealed to their zeal and sense of mission as they joined the newest independent federal agency, asking them to "keep moving ahead with the valuable work which is already underway [and] give us your ideas, your hard work and support in building a new and effective organization."

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Cover, NASA, Apollo 16 Earth-Moon round trip

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Corrections: This publication incorrectly spelled John V. Lindsay's name. It also incorrectly attributed "Power To The People," a solo recording by John Lennon, to the Beatles.

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The United States Environmental Law System

by Tseming Yang¹

I. Introduction to the United States Legal System

Overview

The United States operates under a federalist system with two separate sets of sovereigns. One consists of the federal (national) government which possesses specific, enumerated powers set out by the Constitution; the other consists of the fifty individual state governments each of which retains substantial powers, concurrent and overlapping with federal authority, over their geographic territory and citizens. A third set of sovereigns, though with rather narrow authority, exists in federally recognized Indian (Native American) tribal governments. The federal government is itself divided into three distinct branches, with legislative, executive, and judicial functions. Most state governments are organized in a fashion analogous to the federal government.

~~A. The U.S. Constitutional System²~~

~~The United States Constitution, originally drafted in 1787, sets out the basic system of national government. It is the evolutionary result of a number of written instruments going back to the establishment of state constitutions in 1776, the formation of a national government with the Declaration of Independence in 1776, and the Articles of Confederation in 1777.³~~

~~The Constitution sets out a broad framework for the operation of the federal government. However, unlike many other national governmental systems, the Constitution limits the power of the federal government to those specifically delegated by the Constitution and reserves the remaining powers to the states or the people. It establishes three co-equal branches, each with a distinct sphere of power and role. The legislative branch — Congress — is a bicameral body;~~

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² For a general legal treatise on the American constitutional system, see Lawrence Tribe, *American Constitutional Law* (3rd ed. 2000).

³ Article V of the Constitution allows amendments to the Constitution to be proposed either by a two-thirds vote of both houses of Congress or a constitutional convention called for by Congress on the application of two-thirds of state legislatures. Amendments must then be ratified by either legislatures in three-fourths of the states or by constitutional conventions in three-fourths of the states. The United States Constitution has been amended twenty-seven times, with the last time being in 1992.

E. The Relationship of Government Branches with regard to Environmental Regulation

A number of federal agencies have responsibilities and functions with respect to environmental laws, regulations, and rules. Primary responsibilities lie with the Environmental Protection Agency (EPA), the Council on Environmental Quality (CEQ), and the Department of Interior. The Departments of Energy, Transportation, Commerce, Agriculture, State, and Justice also have some responsibilities.

As the primary regulator of pollution, the Environmental Protection Agency (EPA) administers the major environmental statutes dealing with air pollution, water pollution, waste disposal, and toxic substances. It sets and enforces federal environmental standards and supervises the implementation of federal environmental statutes by state governments. It has regional offices throughout the U.S.¹²

The Council on Environmental Quality is an agency within the Office of the President and supervises federal agency compliance with the National Environmental Policy Act (NEPA).¹³ In that capacity, it ensures that agencies consider and evaluate the environmental impacts of their actions.

The Department of Transportation, through the U.S. Coast Guard, addresses oil spills and enforcement of U.S. maritime laws. Its Research and Special Programs Administration oversees the transportation of hazardous waste. The Department of Energy, responsible for national energy policy, is responsible for research and development, demonstration of energy technology, marketing of federal power, energy conservation and regulatory programs, and a nuclear weapons program, including clean-up.

Other agencies, such as the Department of the Interior,¹⁴ the Department of Agriculture,¹⁵ and the National Oceanographic and Atmospheric Administration¹⁶ within the Department of Commerce focus primarily on natural resource management issues.

The Department of State, through its Bureau of Oceans and International Environmental and Scientific Affairs (OES), formulates and implements international environmental policies and participates in international environmental treaty negotiations.

¹² EPA's internal organization includes offices dealing with Administration and Resources Management; Enforcement and Compliance Assurance; Policy, Planning, and Evaluation; Research and Development; Air and Radiation; International Activities; Prevention, Pesticides, and Toxic Substances; Solid Waste and Emergency Response; and Water.

¹³ 42 U.S.C. §§4321-4370e. More elaboration follows below.

¹⁴ The Department of the Interior is the lead department managing federally owned lands and natural resources and acts as administrator for Native American reservations. Its subsidiary agencies include Bureau of Land Management (BLM), National Park Service (NPS), United States Fish and Wildlife Service (USFWS), Bureau of Indian Affairs (BIA), Bureau of Reclamation (BOR), United States Geological Survey (USGS), Minerals Management Service (MMS), and the Office of Surface Mining (OSM).

¹⁵ The United States Department of Agriculture (USDA) administers all federal agriculture and forest-related programs. This includes the Natural Resources Conservation Service (NRCS) and the U. S. Forest Service.

¹⁶ The National Oceanic and Atmospheric Administration (NOAA) is responsible for assessing the planet's ecological systems to promote global environmental stewardship. The NOAA also monitors and predicts environmental changes. The National Marine Fisheries Service (NMFS), which is in charge of monitoring living marine resources, falls under the NOAA as well.

The Environment and Natural Resources Division within the Department of Justice is responsible for representing the federal government in all litigation related to protection of environmental and natural resources, acquisition, administration, disposition of public lands and resources, and protection of Native American rights and property. In particular, in cooperation with EPA, it brings civil and criminal enforcement actions against polluters, but also defends the legality of EPA rules and regulations.

All Department Secretaries and most heads of independent agencies¹⁷ serve at the pleasure of the President. Thus, the President exerts significant influence on the implementation of federal laws by them. Such influence is exercised through the issuance of official directives, such as Presidential executive orders, as well as through informal channels. However, ultimately, implementation of congressional statutes by federal agencies (Departments and independent agencies) is ultimately constrained by the terms of the authority delegated to them via the congressional act itself.

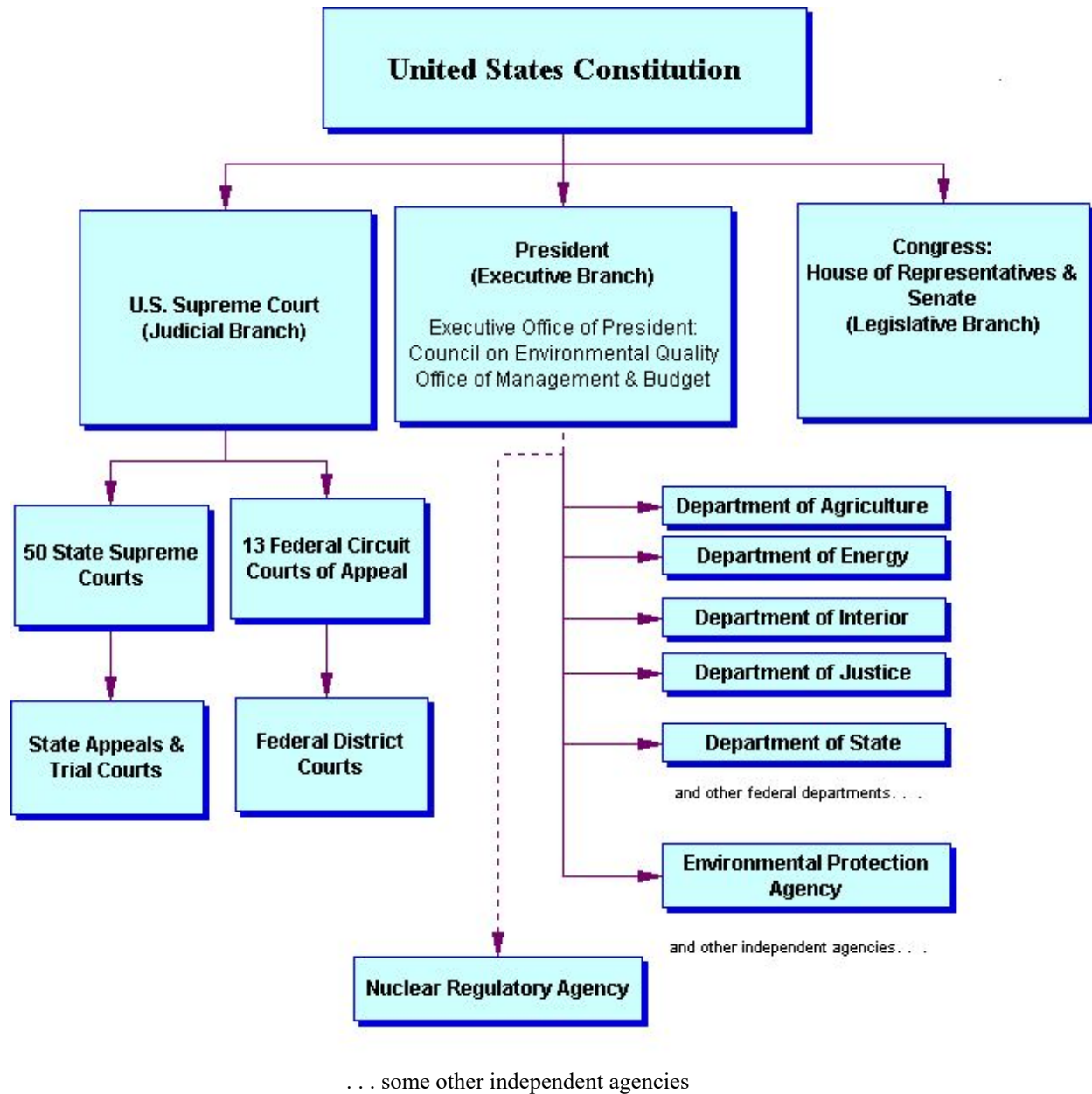
In addition to the federal agencies with responsibility for environmental matters, there are also state agencies with many of the same functions as their federal counterpart. These agencies set state standards and guidelines, administer laws, enforce state regulations, education programs, and ensure compliance. Some state agencies have also been authorized to implement and enforce federal programs under federal environmental statutes.

For a chart detailing the various government agencies and their relationships to each other, see figure 2.

¹⁷ There are a number of agencies that exist independently of the various federal Departments. Some of these agencies enjoy a certain amount of autonomy from the President, and their agency heads may not be dismissed at will by the President. However, even though EPA is an agency that exists independently of the Departments, the Administrator of the EPA serves at the pleasure of the President in the same way that Department Secretaries do. There have been discussions within the federal government in past years of giving the EPA the formal status of a federal Department.

Figure 2.

The U.S. Federal System



II. The Sources of Environmental Law and Associated Structures

Legal authority for both the federal and the state governments to engage in environmental regulation is derived from the federal (U.S.) and state constitutions, and their duly enacted laws, respectively. A number of state constitutions explicitly provide for state power to regulate environmental matters.¹⁸ However, even though the U.S. Constitution does not provide such explicit authority, other clauses of the Constitution have been interpreted to provide the federal government with such power. The authorities most frequently pointed to are the commerce, supremacy, A necessary and proper, @ property, takings, spending and taxation, and treaty clauses.¹⁹ The involvement of the President and the judiciary in environmental regulation is based either on congressional legislation enacted by Congress pursuant to these powers or by independently granted constitutional authority.

A. The Basis for Congressional Power over Environmental Regulation

The *commerce clause* is the most frequently relied-upon authority for environmental regulation. According to the eighth clause of Article II=s section 8, A Congress shall have the power . . . to regulate Commerce with foreign Nations, and among the several states, and with the Indian Tribes” Until the 1930s the courts interpreted the commerce power narrowly. However, the currently prevailing construction by the U.S. Supreme Court allows Congress to regulate not only commercial activities themselves, but also activities that have a substantial effect on commerce, materials and persons which move through the channels of commerce, the instrumentalities of interstate commerce, and the use of the channels of interstate commerce.²⁰ Contemporary courts have found few limitations in the reach of this power, as long as there is a rational basis for the regulation.²¹ The scope of this constitutional power has been construed very broadly, reaching , for example, the inter-state movement of trash as an item of commerce.²²

This broad construction of the commerce power has given Congress much leeway to impose regulations on most industrial and other polluting or environment degrading activities. While recent Supreme Court jurisprudence has shifted toward a more constrained and limited view of this power, it is unlikely that even such limitations will significantly reduce the broad powers of Congress with regard to environmental regulation.²³

The *taxing and spending clause* gives Congress the power A to lay and collect taxes . . .

¹⁸ Because of the large number and variations in these state constitutions, they are not discussed here in further detail.

¹⁹ This list is not exhaustive. For a discussion of Congress= general powers to regulate, see Lawrence Tribe, *American Constitutional Law*, vol. 1, chap. 5 (3rd ed. 2000).

²⁰ *United States v. Lopez*, 514 U.S. 549 (1995).

²¹ The court must find that the A means chosen by Congress is reasonably adapted to the end permitted by the Constitution. @ *Heart of Atlanta Motel, Inc. v. United States*, 379 U.S. 241 (1964).

²² *Philadelphia v. New Jersey*, 437 U.S. 617 (1978).

²³ *United States v. Lopez*, 514 U.S. 549 (1995).

and to pay the debts and provide for the common Defence and general welfare of the United States.²⁴ The courts have long recognized that Congress may use its taxing power not just to raise revenue but also as a means of enforcing its other regulatory powers and for producing incidental regulatory effects outside those powers. Thus, to the extent that Congress possesses the authority to regulate under another constitutional authority, it may use the taxing authority to enforce those regulations. However, because of the broad powers ascribed to Congress through the commerce clause, Congress has only had a few occasions to use the taxing clause for regulatory purposes. And while the Supreme Court has set limits on the use of the taxing power in the past,²⁵ no federal tax has been held invalid because of a regulatory motive outside federal power since the 1930s. Pollution taxes have been important in market approaches to pollution control, but they have not played as significant a role in environmental regulation as in other countries.

In contrast, the spending power has been interpreted more broadly. Through its fiscal resources, Congress can provide financial incentives, either by directly providing money or by imposing conditions on related expenditures, for the achievement of particular policy goals. While some limits have been articulated on this power,²⁶ as a matter of practical reality, those limitations have imposed few restraints on Congress.²⁷ Within the environmental context, the spending power has been used primarily to support state and local government regulatory programs as well as other efforts to control or remediate pollution problems.

An additional source of federal environmental regulatory authority can be found in the Constitution's *property clause*. On lands owned by the federal government, the property clause authorizes Congress to make all needful Rules and Regulations.²⁸ Thus, the property clause allows Congress not only to exercise proprietary powers over such lands, in its capacity as the owner, but also to act with all the powers of a state legislature over the public domain in such areas.²⁹ Thus, Congress's powers with regard to federal lands is particularly broad and is not subject to some of the limitations encountered elsewhere. It has allowed the federal government not only to protect and manage natural resources on federal lands but also to control all polluting activities on such lands.

The *treaty clause* provides an important authority for regulation of environmental matters that reach across US borders or concern the global environment. The treaty clause is exercised through the actions of the President in negotiating an international treaty and the ratification of the treaty by the Senate. The House of Representatives has no role in this process. The treaty power extends to all proper subjects of negotiation between the U.S. government and the governments of other nations.³⁰

²⁴ United States Constitution, Article 8, sec.1, clause 1.

²⁵ *United States v. Butler*, 297 U.S. 1 (1936) (limiting its use in enforcing a regulation of matters of state concern with respect to which Congress has no authority to interfere).

²⁶ *South Dakota v. Dole*, 483 U.S. 203 (1987).

²⁷ A more significant exception would be the First Amendment establishment clause's limitation on Congress's authority to support religion.

²⁸ U.S. Constitution, Article IV, sec. 3, cl. 2.

²⁹ *Kleppe v. New Mexico*, 426 U.S. 529.

³⁰ *De Geofroy v. Riggs*, 133 US 258 (1890).

In addition to these affirmative sources of federal regulatory authority, there are also constitutional provisions that give Congress ancillary powers to carry out the powers granted under the affirmative sources. For example, the *necessary and proper clause*³¹ provides an important confirmation of the ancillary power of Congress to take actions necessary to implement its other enumerated authorities to regulate. However, actions taken pursuant to this ancillary power must not conflict with other limitations on congressional powers, such as protections of individual rights.

The *supremacy clause* allows Congress to preempt state and local legislation if they conflict with or otherwise are incompatible with the accomplishment of congressional policies pursued under its other affirmative grants of power.³² The supremacy clause is particularly pertinent to environmental concerns because regulation occurs at both the federal and the state and local government level. Concurrent regulatory efforts make the potential for conflicting governmental mandates significant.

Yet, in spite of the ability of Congress to preempt state and local government regulation, federal environmental statutes have sought to preserve as much of the states' regulatory authorities as possible. That is due in large part to the recognition that the cooperation of state and local government authorities is crucial to protecting the environment. Moreover, because state and local regulation at times seek to be more protective of the environment than federal regulations, federal environmental statutes frequently only set minimum environmental standards and do not preempt state and local standards that are more stringent.³³

Finally, the Constitution also imposes limitations on the ability of the government to engage in environmental regulation. One of the most significant limitations in this regard is the *takings clause*. The takings clause, as found in the 5th amendment to the U.S. Constitution, requires that "No person shall be . . . deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation." Thus, when a governmental agency, regardless of whether it is a federal, state or local entity, engages in a taking of private property, such as when acquiring land by condemnation, the land owner must be compensated for the loss of the property.

In the past, environmental regulations have been attacked as a form of governmental taking of property that must be compensated. Referred to as "inverse condemnation," the asserted rationale is that because such regulations usually limit the activities that may take place on private lands, such regulations lower the market value of land that is affected by the regulation. Thus, a claim for a compensable 5th Amendment taking may result. While this compensation requirement has the potential to impose tremendous financial costs on environmental regulation, and thus make pollution control financially infeasible, judicially

³¹ U.S. Constitution, Article I, sec. 8.

³² The supremacy clause also applies to treaties. "This Constitution, and the Laws of the United States . . . and all the treaties made . . . under the authority of the United States, shall be the supreme Law of the Land . . . @ Article VI, cl. 2.

³³ Congress may explicitly preempt state and local regulation by explicitly providing so in a federal statute. However, state and local regulations may also be implicitly preempted by federal regulation when there is a direct conflict, such as when it is not possible to comply with both sets of regulation, or when enforcement of state or local regulations would undermine the congressional policies sought to be advanced by federal regulations. For further discussion on this, see Lawrence Tribe, *American Constitutional Law* 1172-1212.

articulated limitations on when the compensation requirement is triggered have largely allowed environmental regulations to proceed.³⁴

B. The President's Authority over Environmental Regulation

The President may also act to protect the environment. In his capacity as the head of the executive branch, the President has the responsibility to "take care that the laws be faithfully executed."³⁵ Through executive orders (presidential directives) that require or authorize some action within the executive branch, the President may shape and direct the implementation of environmental legislation. An environmental example of an executive order was President Carter's expansion of the environmental impact assessment requirements, set out by the National Environmental Policy Act for domestic activities, to activities that take place outside of the United States.³⁶ However, in issuing such executive orders, the President must act either within powers that have been granted to him directly by the Constitution or delegated by congressional statute.

C. Judicial Authority over Environmental Regulation

Since the United States is a common law country, judicial involvement in environmental regulation stems largely from its common law adjudication powers and the common law doctrines it relies upon to decide cases. With regard to the federal judiciary, specific constitutional authority for such activity can be found in Article III, section 2's grant of power to decide cases or controversy. Doctrines that federal courts have relied on to decide environmental matters include the common law of public nuisance and trespass. Of course, Congress may abrogate, and in some instances has abrogated, the applicability of common law doctrines by statute.³⁷

D. State and Local Control over Environmental Regulation

As noted above, state and local power over environmental regulation stems from the states' separate sovereign authority within the U.S. federal system. However, state regulations may be preempted explicitly or implicitly by congressional statute.³⁸ In addition, the commerce

³⁴ Compensation is due under the takings clause when a private individual's property is physically invaded by the government's actions. *Loretto v. Teleprompter Manhattan CATV Corp.*, 458 U.S. 419 (1982). Compensation is also required 1) when government regulations completely destroy a property's economically viable use, and 2) in instances of partial economic deprivation when a balancing of private and public interests favors the property owner. *Lucas v. South Carolina Coastal Commission*, 505 U.S. 1003 (1992); *Penn. Central Transportation Co. v. New York City*, 438 U.S. 104 (1978).

³⁵ Constitution, art. II, sec. 3.

³⁶ Executive Order 12,114.

³⁷ For example, the U.S. Supreme Court found in *International Paper Co. v. Ouellette*, 479 U.S. 481 (1987), that through the Clean Water Act Congress had limited the applicability of state nuisance law in inter-state water pollution cases.

³⁸ See *supra*, note 32.

clause, under the dormant commerce clause doctrine, has been interpreted by the courts to create limitations on the ability of states to impose regulations that would burden interstate commerce and other matters that reach across state borders.³⁹ These limitations include the prohibition on state regulations that discriminate against interstate commerce (in favor of intrastate commerce), that have the practical effect of regulating commerce that occurs wholly outside of that state's borders, and that impose an undue burden on interstate commerce.⁴⁰ The effect has been that in some contexts, for instance with regard to the movement of garbage across state lines, congressional intervention is necessary for regulation by states to occur simply because states have been entirely disabled from regulating in this regard. It is beyond the scope of this chapter to discuss in detail the limitations that the dormant commerce clause imposes on the states' power to regulate.

In contrast, environmental matters that implicate primarily local concern and do not reach across state borders, such as land use planning, are largely considered to be the primary responsibility of state and local governments. In fact, even though the commerce clause has been seen in the past as a broad grant of authority for Congress to regulate with regard to environmental matters, recent court decisions have imposed stricter limits on the ability of Congress to reach local matters via this power.⁴¹ State and local authorities are the primary entities involved in land use planning as well as the management of wildlife and other natural resources. However, because the federal government owns vast amounts of lands, it also has proprietary powers to regulate such resources on lands that it owns. It is through this capacity that the federal government exercises significant influence over the use and management of lands and natural resources.

It should be obvious that the vast majority of environmental issues, including the management and regulation of natural resources and wildlife, cannot be so neatly categorized into local/state and national concerns. For example, demand for wildlife in one state may influence the management and hunting of that wildlife in another. Likewise, to the extent that a local landfill receives waste from out-of-state sources, an increasingly common occurrence, or when air or water pollution moves from one state to another, interstate concerns are triggered as well.

As discussed below, various federal environmental statutes have the goal of addressing and managing certain forms of pollution, such as air emissions or water emissions, in a comprehensive manner. Yet, none of them are truly comprehensive, and there is no one comprehensive pollution prevention program that seeks to consider the problem of environmental degradation in all its forms in an integrated manner.

III. The Federal Environmental Regulatory Framework

³⁹ This has become of particular concern in the environmental concerns with respect to restrictions on the ability of states and local government to limit the flow of trash and other wastes into their state.

⁴⁰ For a more detailed discussion, see Lawrence Tribe, *American Constitutional Law*, chap. 6.

⁴¹ See, e.g., *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers*, ___ U.S. ___, 121 Supreme Court Reporter (S. Ct.) 675 (2001)

As noted previously, each of the 50 individual states has its own separate environmental regulatory system that supplements or implements the federal regulatory scheme. Because of limitations in the length and scope of this overview of U.S. environmental law, the following description of the substantive environmental regulatory framework will focus only on the federal pollution and toxic substances control statutes and will not address laws governing land use and natural resource management issues.

A. The Historical Background

U.S. environmental law find its roots in common law doctrines such as trespass and nuisance. However, over time, U.S. environmental law has seen an evolution from ad hoc, case-by-case environmental problem-solving, largely adjudicatory in character, to greater prospective and comprehensive management of environmental problems. There has also been a shift from the management of environmental problems at the local level to higher level jurisdictions, in particular to the national and supra-national level.

Under the common law, nuisance and trespass constituted the basic tools for addressing pollution problems. Pollution could be addressed through these doctrines because it infringed on somebody else's property rights. One traditional environmental problem to which they applied involved the emission of various forms of air pollution, such as smoke or odors, from an industrial facility. An adjacent or nearby landowner would suffer harm because his or her property and plants might be damaged through the deposition of smoke particles and other pollutants on the house and land.⁴²

However, such common law remedies had significant limitations. After all, even non-trespassory impacts could harm a landowner. For example, odors could make it virtually impossible to enjoy the use of one's yard for play or relaxation or even affect the indoors by forcing windows to be kept shut at all times.⁴³ Moreover, trespass and private nuisance laws presumed ownership of an interest in land that was affected by the environmental harm. Yet, harms to other interests, such as one's health, could be equally significant.

Alternative mechanisms, including common law negligence and strict liability claims were usually inadequate because they required proof of causation of harm for recovery. Most significant with regard to the inability of tort doctrines to address pollution problems was their dependence on case-by-case decision-making to address pollution-causing activity as opposed to comprehensive and prospective approaches.

These deficiencies have left tort law ineffective when pollution harms are diffuse (spread out over a large populations rather than focused on a small number of identifiable individuals), where the causes of pollution are the result of the activities of many rather than a few persons, and where establishing a cause-effect relationship between the pollution and its harm is difficult.⁴⁴ Ultimately, the inability of common law approaches to solve the vastly increased

⁴² See, e.g., *Davis v. Georgia-Pacific Corp.*, 251 Oregon Reports 239, 445 Pacific Reporter 2d 481 (1968).

⁴³ See, e.g., *Aldred's Case*, 9 Co. Rep. 57, 77 Eng. Rep. 816 (1611); *Spur Industries, Inc. v. Del E. Webb Development Co.*, 108 Arizona Reports (Az.) 178, 494 P.2d 700 (1972). See generally American Law Institute, *RESTATEMENT (SECOND) OF TORTS* § 822.

⁴⁴ Procedural devices, such as class actions and increased use of scientific expert testimony, have

pollution problems of industrialization and economic development, combined with the general failure of local and state governments to address such issues successfully, led to a much greater role for the federal government.⁴⁵

Some of these early federal efforts into water pollution, food safety and insecticides were sporadic and narrow in scope.⁴⁶ And in spite of evolutionary changes, most federal involvement remained at the level of conducting research, collecting information, and providing grants and financial assistance. All efforts were largely designed to encourage state authorities to address increasingly severe pollution issues themselves. Thus, pollution control was seen to be primarily a responsibility of state and local authorities.

The failure of these early efforts resulted in a drastic overhaul of the federal environmental regulatory system under the Nixon Administration in the late 1960s and early 1970s. During that time, Congress began the creation of the modern environmental regulatory system as we know it today, with a strong regulatory system that vests permit issuance, standard-setting, and strong enforcement authority in the federal government, most notably in the then-newly created EPA.⁴⁷ Many of these statutes are described below.

The most significant characteristic and difference of these statutes from the prior ones is the shift of the federal government's role from one supportive of primary jurisdiction by states over environmental matters to a position of direct regulatory oversight and control of pollution and other environmental matters. As a result of these developments, EPA was given the authority to set standards, issue permits, and institute civil, criminal, and administrative enforcement proceedings.

B. Approaches to Environmental Regulation

Like in many other countries, the federal environmental regulatory framework utilizes direct, indirect, and self-regulatory approaches. Such direct regulatory mechanisms are commonly referred to in the U.S. as command-and-control approaches because, in order to achieve environmental protection, they directly impose particular environmental standards and require the use of equipment or conformance with particular conduct in polluting activities. Such requirements may be imposed by statute or by administrative regulation.

ameliorated such concerns. Yet, other difficulties, such as the cost of bringing class action cases and difficulties in the proof of damages have preserved the superiority of statutory approaches to addressing environmental problems.

⁴⁵ See generally William Futrell, *The History of Environmental Law*, in ENVIRONMENTAL LAW: FROM RESOURCES TO RECOVERY (Celia Campbell-Mohn, et al. eds. 1993).

⁴⁶ Rivers and Harbors Act of 1899, Act of March 3, 1899, Ch. 425, 30 Statutes at Large (Stat.) 1121; Pure Food and Drug Act of 1906, Act of June 30, 1906, Ch. 3915, 34 Stat. 768, repealed by Public Law (Pub. L.) No. 75-717, 52 Stat. 1059 (1938); Insecticide Act of 1910, Act of April 26, 1910, 36 Stat. 331, repealed by Pub. L. No. 80-125, 61 Stat. 172 (1940).

⁴⁷ The watershed in how the Congress approached federal regulation of the environment has been ascribed in part to the uncertainty that existed over Congress's constitutional power to regulate such issues. The expansion of commerce clause support for federal social regulatory programs, in particular the Civil Rights of 1964, confirmed Congress's power in this regard and gave it freer reign to create federal environmental programs. See William Futrell, *The History of Environmental Law*, in ENVIRONMENTAL LAW: FROM RESOURCES TO RECOVERY, *supra*, at 31.

In contrast, indirect regulatory approaches rely primarily on market mechanisms to achieve desired environmental results. They do not seek to manage the polluting activities themselves. Instead, incentives and dis-incentives, such as taxes and subsidies, are utilized to encourage reduction of pollution while preserving flexibility. Polluters may still choose to engage in the same polluting activities as before, but will find that doing so is more costly. Among the instruments that fall within this category of regulatory approaches are pollution trading mechanisms. Liability law suits, such as those brought to recover costs for the clean-up of contaminated property by both the government or private individuals, also fall within this class. Liability actions force the internalization of pollution costs by those who are responsible for them. But there are also indirect regulatory mechanisms that do not rely on financial incentives. In particular, a less conventional but also wide-spread mechanism within this category is the publication and dissemination of information about the polluting activities of particular industries and companies. Such information-disclosure and dissemination mechanisms seek to harness public pressure and adverse reputational consequences of such disclosures as a means of inducing polluters to act more environmentally responsible.

Finally, approaches that could be described as self-regulatory in character are educational and voluntary compliance programs. Within these programs, regulatory agencies seek to induce polluters to act in a more environmentally beneficial fashion through education and other non-coercive means. Prominent among these approaches are EPA's environmental education programs which are directed at informing the general public about the ecological consequences of pollution as well as the regulated entities about regulatory requirements. Other approaches include encouraging adherence to industry standards, such as those supported by the International Organization for Standardization, and the use of environmental audits. The use of environmental audits has been controversial because of the risk of governmental enforcement actions associated with the discovery of regulatory violations during such self-audits. Accordingly, private companies have sought to obtain enforcement immunities and privileges from such enforcement.⁴⁸

In large part, direct regulatory approaches still pre-dominate in the federal environmental law system. However, indirect regulatory approaches have become more significant in recent years. Self-regulatory and voluntary programs have also been promoted by industry as valuable and important. EPA has actively pursued cooperative approaches to regulations, such as under its Project XL, which is discussed below. However, the efficacy of such approaches as substitutes for coercive mechanisms in reliably achieving environmentally beneficial outcomes is rather doubtful. It is unlikely that they will become significant regulatory mechanisms in the near future.

There is also one additional important tool that is designed to facilitate environmental regulation - environmental assessment mechanisms that require the consideration of environmental impacts before regulatory actions, such as the issuance of permits, are finalized. Such mechanisms facilitate environmental planning. While this tool does not directly dictate specifically how regulatory agencies should act, it does allow agencies to engage in more informed, and thus ideally more environmentally conscientious, decision-making. However, as elaborated below, many regulatory actions by EPA under its environmental statutes are

⁴⁸ Environmental audits are described in more detail below in Section V.

exempted from such environmental impact assessment requirements.

C. The Major Environmental Statutes

The federal environmental regulatory framework is a patchwork of a number of statutes that address pollution primarily on a media basis (air, water, soil) and other statutes that apply across these media. Because of space limitations, only a general overview is provided with regard to the seven major environmental statutes. These include: The National Environmental Policy Act (NEPA), the Clean Water Act (CWA), the Clean Air Act (CAA), the Resource Conservation and Recovery Act (RCRA), the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Toxic Substances Control Act (TSCA), and the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).⁴⁹ One key feature that is common to virtually all environmental statutes is their reliance on strict liability principles. Thus, culpability for a regulatory violation usually matters little with regard to civil liability under the statutes.⁵⁰ Tort law principles that address environmental regulation in the private context are discussed further below in the enforcement context.

1. Environmental Assessment - The National Environmental Policy Act

The environmental impact assessment requirements of the National Environmental Policy Act of 1970 (NEPA)⁵¹ are the closest that the federal environmental regulatory system comes to requiring a comprehensive environmental assessment mechanism that can be utilized in environmental planning.⁵² NEPA requires federal agencies to consider the environmental effects of their actions before proceeding with a proposal for agency action. NEPA, the first of the modern environmental statutes, mandates that all federal agencies prepare an environmental impact statement (EIS) for a major federal action significantly affecting the quality of the human environment.⁵³ However, unlike most other environmental statutes, NEPA does not require that agencies then act in a particular fashion to protect the environment. In fact, it does not require that agencies act protective of the environment at all -- only that agencies *consider* the environmental consequences. Thus, even if an environmental impact analysis suggests that an agency action would have profoundly destructive effects on the environment, an agency may legally engage in just such an environmentally detrimental course of action -- as long as it has carefully analyzed the destructive impacts. As a result, NEPA's requirements are solely

⁴⁹ For a more detailed discussion of these statutes, see William H. Rodgers, ENVIRONMENTAL LAW (2d ed. 1994) and Celia Campbell-Mohn, Barry Breen, and J. William Futrell, ENVIRONMENTAL LAW: FROM RESOURCES TO RECOVERY (1993). The text of most of these statutes as well as implementing regulations may be found on the EPA website at www.epa.gov.

⁵⁰ Criminal liability, however, does require a certain degree of culpability.

⁵¹ 42 U.S.C. ' ' 4321-4370d.

⁵² NEPA also creates the Council on Environmental Quality which is charged with administering the environmental impact assessment obligations of agencies and has general environmental policy and planning responsibilities.

⁵³ 42 U.S.C. ' 4332.

procedural and do not impose any substantive requirements on the outcomes of agency decisions.⁵⁴

The procedural focus of NEPA has led to criticism by commentators about its effectiveness. Yet, others have praised it as one of the most influential pieces of environmental legislation that, while not perfect, has drastically changed agency decision-making with regard to environmental impacts. By forcing agencies to change their decision-making processes, NEPA has arguably also affected substantive outcomes by elevating the attention paid to and value associated with environmental protection.

NEPA mandates that federal agencies consider the environmental impacts of federal actions, adverse environmental effects that cannot be avoided, alternatives to the proposed action, the relationship between short term uses of the environment and long-term consequences, and the irreversible and irretrievable commitment of resources by the action.⁵⁵ This statutory requirement has spawned a significant set of regulations by the Council on Environmental Quality (CEQ) as well as interpretive case law. Under the more detailed CEQ regulations, components of an EIS include analysis of the scope of the environment affected by the federal action, possible direct and indirect effects on the environment, uncertainties of the effects, potential alternatives to the proposed action, and potential mitigation measures.⁵⁶ In order for this analysis to accomplish its purpose of informing the decision-maker with regard to a proposed federal action, the analysis is to be conducted early on during the planning and development stage. Its scope must include three types of actions (connected actions, cumulative actions, and similar actions), three types of alternatives (other reasonable courses of actions, mitigation measures, and no action, i.e. the potential decision to forego the agency action altogether), and three types of impacts (direct, indirect, and cumulative).⁵⁷

However, while the environmental analysis requirement under NEPA is rather broad, the statutory language also limits the types of actions to which it applies. Thus, only actions that are major and potentially subject to federal control and responsibility trigger the EIS requirement.⁵⁸ In addition, in spite of its broad mandate to all federal agencies, there are also a number of exemptions. Some of these arise because of statutory conflicts -- because other statutes require agency actions that create clear and unavoidable conflicts with NEPA's EIS requirement.⁵⁹ In such instances, NEPA's requirements must give way. Other exemptions are directly provided

⁵⁴ *Strycker's Bay Neighborhood Council v. Karlen*, 444 U.S. 223 (1980).

⁵⁵ 42 U.S.C. § 4332(C).

⁵⁶ 40 Code of Federal Regulations (C.F.R.) part 1502.

⁵⁷ 40 C.F.R. §1508.25.

⁵⁸ 40 C.F.R. §§ 1502.5, 1508.23. Here, the "major" criterion is considered in conjunction with the "significantly affecting the quality of the human environment" criterion. Thus, "major" reinforces but does not have a meaning independent of "significantly." 40 C.F.R. §1508.18. In turn whether a federal action significantly affects the environment depends on both the context and the intensity of the environmental effects, 40 C.F.R. §1508.27, which include aesthetic, cultural, ecological, economic, health, historic, and social effects. 40 C.F.R. §1508.8. Context analyzes the setting and circumstances of the proposed action, while intensity refers to the severity of the impacts. Effects include direct and indirect impacts, as well as beneficial and adverse ones. In addition, while socio-economic impacts are usually considered when they are connected to physical impacts, they need not be considered when they arise alone and by themselves out of a project. 40 C.F.R. §1508.14.

⁵⁹ *See, e.g., Flint Ridge Development Co. v. Scenic Rivers Assn. of Oklahoma*, 426 U.S. 776, 778 (1976).

for by statutes and include most of EPA=s actions under the Clean Water Act⁶⁰ and all of its actions under the Clean Air Act.⁶¹ Finally, courts have also interpreted NEPA not to apply to many of EPA=s actions under the Afunctional equivalent@ doctrine.⁶² Under this doctrine, EPA=s environmental decision-making process in assessing health and environmental impacts of the regulations and permits it issues are deemed to be the functional equivalent of the environmental impact assessment requirement under NEPA. Requiring EPA to comply with NEPA would thus considered to be duplicative of the functions that it performs otherwise. Finally, many of NEPA=s requirements give way in emergency situations.⁶³ NEPA=s reach abroad is unclear, though it has been held to apply to U.S. activities in Antarctica.⁶⁴

While NEPA can serve as an important tool for planning activities at the federal government level, most environmental planning actually occurs at the state and local government level during land use planning decisions. NEPA usually does not reach the actions of such entities, unless there is a federal government connection. In such processes, local government agencies, such as local zoning boards, may designate particular urban or rural areas for residential, industrial, or other commercial or non-commercial uses and thus limit the types of polluting facilities that may be sited in such areas.

2. Air Pollution - The Clean Air Act

The Clean Air Act (CAA) seeks to create a comprehensive regulatory system to protect and improve air quality.⁶⁵ Created in much of its present-day manifestation in the Clean Air Act Amendments of 1970, it was most significantly and recently overhauled by the 1990 Amendments.

The CAA=s general approach toward addressing air pollution is to set national limits on the ambient concentrations of 6 conventional air pollutants: sulfur dioxide, nitrogen oxides, particulate matters, carbon monoxide, ozone, and lead. These limits, the National Ambient Air Quality Standards (NAAQS), are health-based standards. The actual task of controlling air pollution sources in any particular geographical region (an air quality control region) and achieving compliance with these NAAQS is left to each individual state, subject to EPA review and approval.⁶⁶ The 1990 Clean Air Act Amendments were largely prompted by the failure of

⁶⁰ 33 U.S.C. §1371(c)(1).

⁶¹ 42 U.S.C. §7607(e).

⁶² *See, e.g.,* Portland Cement Ass=n v. Ruckelshaus, 486 Federal Reporter 2d Series (F.2d) 375, 384 (1973).

⁶³ 40 C.F.R. §1506.11. With regard to national security concerns, agencies may keep NEPA analyses from being disclosed publicly.

⁶⁴ *Environmental Defense Fund v. Massey*, 986 F.2d 528 (1993). Executive Order 12,114 seeks to provide some direction to agencies with regard to environmental impact analyses of actions abroad. 59 Fed. Reg. 7629, Feb. 16, 1994.

⁶⁵ 42 U.S.C. §§7401-7671q.

⁶⁶ 42 U.S.C. §7410. State Implementation Plans are, among other things, to set out enforceable emission limitations on particular sources, compliance review mechanisms, air quality monitoring procedures, and enforcement authorities. When a state fails to act upon these standards by creating a state implementation program

many regions and urban areas in the U.S. to attain one or more of these ambient air quality standards. Accordingly, the 1990 Amendments impose additional requirements with regard to non-attainment areas,⁶⁷ though they do not change the primary responsibility that states have for assuring meeting NAAQS.

Toxic air pollutants, such as various organic chemicals, heavy metals, radionuclides (including radon), are addressed through a separate set of standards, the National Emission Standards for Hazardous Pollutants (NESHAP).⁶⁸ Any major source, a stationary source emitting such pollutants in excess of certain limits, is subject to stringent technology-based standards in this regard.⁶⁹

Beginning with the 1990 Amendments, EPA has also been given the authority to implement a national permitting program.⁷⁰ Similar to the National Pollution Discharge Elimination Program permit system of the Clean Water Act, the CAA permits specify enforceable emissions limitations as well as self-monitoring, record-keeping, self-reporting and certification of compliance requirements. The authority to issue permits may be delegated to states, though such state programs must conform with EPA requirements.⁷¹ Permits must be obtained by any air pollution source that is subject to the CAA's acid rain provisions, all major sources, any other sources subject to new source performance standards and NESHAP standards, sources subject to Prevention of Significant Deterioration provisions or the non-attainment provisions, as well as any other sources designated by EPA.⁷²

For new sources of air pollution or sources that are being significantly modified, additional pre-construction review and permitting requirements apply. In areas that have met ambient air quality standards, the requirements of the Prevention of Significant Deterioration (PSD) provisions⁷³ apply to major emitting facilities.⁷⁴ The New Source Review Program⁷⁵ applies to new or modified major stationary sources in areas where ambient air quality standards have not been achieved. Under both programs, technology-based standards apply. However, under the New Source Review Program, new emissions must also be offset by reductions in emissions elsewhere within the air quality control region.⁷⁶

The 1990 Amendments also seek to address acid rain problems by providing for an emissions trading program for sulfur dioxide and nitrogen oxide.⁷⁷ Under the sulfur dioxide

(SIP), EPA may step in and prepare a federal implementation program for that jurisdiction, though EPA has been reluctant to exercise that authority.

⁶⁷ See, e.g., 42 U.S.C. §§7501-7515.

⁶⁸ 42 U.S.C. §7412.

⁶⁹ 42 U.S.C. §7412(d).

⁷⁰ 42 U.S.C. §§7661a-7661f.

⁷¹ 42 U.S.C. §7671a(b).

⁷² 42 U.S.C. §7661a(a).

⁷³ 42 U.S.C. §§7470-7479.

⁷⁴ 42 U.S.C. §7475. Major emitting facilities are defined in 42 U.S.C. §7479

⁷⁵ 42 U.S.C. §§7501-7515.

⁷⁶ 42 U.S.C. §7503(a)(1)(A).

⁷⁷ 42 U.S.C. §§7651-7651o.

program, the CAA seeks reductions in the total sulfur dioxide output, but provides that allowances to emit sulfur dioxide may be traded among permit holders. Under this program, an extensive system to track the trading of emissions allowances has been created, and significant penalties are imposed if emissions exceed the allowances held by a polluter. The program has been very successful and has led to significant reductions in sulfur dioxide at a lower cost to industry than initially anticipated. The nitrogen oxide trading program has also led to important reductions in emissions.

In addition to providing for direct EPA regulation of stationary sources, such as industrial facilities, the Clean Air Act also provides EPA with authority over emissions from moving sources, primarily motor vehicles.⁷⁸ Mobile source emissions are controlled by setting emissions standards for new vehicles, regulating the content of motor vehicle fuel, forcing the development of low-emission and zero-emissions vehicles by manufacturers, and transportation control measures designed to reduce personal motor vehicle use through increased public transportation and other measures.

Finally, the Clean Air Act also regulates the use and manufacture of substances, such as CFCs, that deplete the stratospheric ozone layer.⁷⁹ Currently, these provisions implement the U.S. obligations under the Montreal Protocol on Ozone Depleting Substances.

The 1990 CAA amendments have also provided EPA with broader administrative, civil and criminal enforcement authority to address violations of permits, state implementations plans, and other requirements of the Clean Air Act.⁸⁰ Like other environmental statutes, citizen enforcement of CAA requirements is allowed as well.⁸¹

3. Water Pollution - The Clean Water Act

Water pollution is regulated by the Clean Water Act.⁸² Its origins lie in section 13 of the Rivers and Harbors Act of 1899 (the Refuse Act), a statute that was directed at preserving the navigability of water bodies. The Rivers and Harbors Act prohibited the discharge of any type of refuse, other than liquid street or sewer discharges, into navigable waters, unless permitted by the Secretary of the Army.⁸³ Even though the Act was clearly not aimed at protecting the environment, but rather designed to address obstruction to navigation, its simple prohibition on discharges, unless specifically permitted, has served as a model for the modern Clean Water Act.

The Federal Water Pollution Control Act Amendments of 1972, subsequently amended in 1977 and 1987, created the basic water pollution regulation framework that exists today.

⁷⁸ 42 U.S.C. §§7521-7590.

⁷⁹ 42 U.S.C. §§7671-7671q.

⁸⁰ 42 U.S.C. §7413, §7477. The 1990 Act created entirely new administrative penalty authority which EPA did not previously have with regard to the Clean Air Act. With regard to judicial remedies, the Act also provided EPA, among other things, with new authority to pursue past regulatory violations (as opposed to only continuing violations) through civil judicial enforcement action and the power to pursue criminal penalties for recordkeeping and filing requirements violations.

⁸¹ 42 U.S.C. §7604, §7606(b).

⁸² 33 U.S.C. §§1251-1387.

⁸³ 33 U.S.C. §407.

Heavily based on the modern Clean Air Act as it was created in the 1970s, the Clean Water Act (CWA) was intended to create a comprehensive permitting scheme to preserve and improve water quality. Its regulatory scope includes all navigable waters of the United States.⁸⁴

Under the CWA, discharges into the waters of the United States are prohibited, unless expressly permitted, such as by EPA under its National Pollution Discharge Elimination System (NPDES).⁸⁵ The NPDES program regulates effluents by industrial dischargers as well as Publicly -Owned Treatment Works (municipal sewage treatment plants). NPDES permits specify the types and numerical quantities of pollutants that may be discharged by a particular facility into a particular body of water, usually based on technological standards. However, in addition to technologically based standards, permits may also specify water quality-based effluent limitations, which can specify allowable ambient pollutant concentrations in the pollution-receiving body of water.⁸⁶

The NPDES program is primarily directed at the regulation of point source discharges, defined as discharges from any Adiscernible, confined and discrete conveyance,@ such as pipes, ditches, or vessels.⁸⁷ Even though stormwater run-off and agricultural return flows contribute substantially to water pollution and have become the primary culprits for water quality problems, the NPDES program does not address such pollution discharges because they are not point sources. As a result, the Clean Water Act has been criticized as inadequate in spite of its success in curbing point source discharges.

Like the Clean Air Act, the Clean Water Act allows EPA to authorize states to administer their water pollution regulatory programs in lieu of the federal program. However, state programs must meet EPA standards.⁸⁸ EPA continues to supervise such state programs and may withdraw authorization if the state program no longer meets EPA requirements.⁸⁹ EPA also retains the right to enforce permit violations through its own administrative, civil, and criminal actions.⁹⁰ And similar to other environmental statutes, the Clean Water Act also allows citizens to bring enforcement actions.⁹¹

One significant aspect in which the Clean Water Act differs from its air analog is its oil and hazardous substances spill liability provision.⁹² This provision prohibits the discharge of oil or hazardous substances into navigable waters and allows EPA to seek administrative, civil, and criminal sanctions for its violation as well as to recover costs for clean-up activities and damages

⁸⁴ Isolated wetlands lying wholly within a state are excluded from jurisdiction. *Solid Waste Agency of Northern Cook County V. U.S. Army Corps of Engineers*, ___ U.S. ___, 121 S. Ct. 675 (2001).

⁸⁵ 33 U.S.C. §1311. Another important permit program that the Clean Water Act provides for the discharge of dredged or fill materials into navigable waters, administered by the Army Corps of Engineers and subject to review by EPA. 33 U.S.C. §1344. This regulatory authority has been used to protect ecologically sensitive wetlands from dredging or filling.

⁸⁶ 33 U.S.C. §1311(b)(1)(C).

⁸⁷ 33 U.S.C. §1362(14).

⁸⁸ 33 U.S.C. §§1342(b) & (c).

⁸⁹ 33 U.S.C. §1342(c)

⁹⁰ 33 U.S.C. §1319.

⁹¹ 33 U.S.C. §1365.

⁹² 33 U.S.C. §1321.

to natural resources. In its design, the provision is similar to the scheme set out under the Comprehensive Environmental Response, Compensation, and Liability Act.

In addition to the Clean Water Act, there are two other significant statutes that address water pollution concerns. Enacted in the wake of the dramatic oil spill by the oil tanker vessel Exxon Valdez in Alaska, the Oil Pollution Act of 1990 addresses discharges of oil.⁹³ Like the liability provisions of the Clean Water Act and CERCLA, the Oil Pollution Act is structured as a liability and clean-up scheme. It is designed to remediate environmental harms, including the restoration of damaged natural resources and compensate those harmed by the spill.

The Safe Drinking Water Act⁹⁴ is designed to protect and ensure the safety of public drinking water supplies by setting limits on the contaminants that may be present in public drinking water systems and by protecting groundwater aquifers. The SDWA does not apply to private water supplies.⁹⁵

4. Hazardous Waste - The Resource Conservation and Recovery Act and the Comprehensive Environmental Response, Compensation, and Liability Act

Both, the Resource Conservation and Recovery Act (RCRA) as well as the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) address problems associated with hazardous waste disposal. RCRA functions primarily as a regulatory program, dealing with ongoing management of land disposal of hazardous wastes, while CERCLA is designed as a liability scheme, primarily addressing clean-ups of hazardous substance contamination.

The Resource Conservation and Recovery Act (RCRA). Created in much of its present form in 1976, RCRA establishes a comprehensive system for the cradle-to-grave care and tracking of hazardous wastes. In particular, RCRA provides for identification and listing of wastes that are hazardous,⁹⁶ the establishment of standards that are applicable to generators, transporters, and operators of treatment, storage, and disposal (TSD) facilities of hazardous waste,⁹⁷ and a permit system for TSD facilities.⁹⁸ RCRA also allows EPA to delegate the permitting of TSD facilities to states.⁹⁹

The waste that is covered by RCRA includes garbage, refuse, sludge, and other discarded materials that may be in solid, liquid, semisolid, or contained gaseous form. Various wastes, such as domestic sewage, irrigation returns flows, nuclear wastes, and Clean Water Act regulated

⁹³ 33 U.S.C. §§2701-2761.

⁹⁴ 42 U.S.C. §§300f-300j.

⁹⁵ A public water system is defined as a system that has at least fifteen service connections or regularly serves at least twenty-five individuals. 42 U.S.C. §300f(4).

⁹⁶ 42 U.S.C. §6921.

⁹⁷ 42 U.S.C. §§6922-6924.

⁹⁸ 42 U.S.C. §6925.

⁹⁹ 42 U.S.C. §6926.

discharges are excluded.¹⁰⁰ Recycling of wastes is exempted from RCRA regulation. To be regulated as a hazardous waste, such waste may either be specifically listed by EPA¹⁰¹ or exhibit one or more of four characteristics: ignitability, corrosivity, chemical reactivity, or toxicity.¹⁰²

Once hazardous waste is generated, waste generators must appropriately package, label, and mark the waste as dangerous. Generators must also document the hazardous waste through a Manifest@ system that identifies the waste and, by generating a paper-trail, allows its tracking. The manifest for hazardous waste must accompany and be transmitted with the waste to transporters and TSD facilities. TSD facilities themselves must be permitted and operate pursuant to EPA regulations.

To facilitate compliance monitoring, EPA possesses authority to obtain information and inspect facilities dealing with hazardous waste, as well as to monitor and test for presence or release of hazardous wastes.¹⁰³ RCRA permits and other regulatory requirements may be enforced by criminal, civil, and administrative enforcement actions.¹⁰⁴ In addition, EPA has the authority to seek injunctive relief against anyone whose present or past handling, storage, treatment, transportation, or disposal of solid or hazardous waste may present an imminent and substantial endangerment to health or the environment and require them to abate such a danger.¹⁰⁵ RCRA also provides for citizen enforcement of its provisions, which allows citizens to step into the shoes of the government and enforce agency regulations against polluters.¹⁰⁶

In addition to providing EPA with regulatory authority over hazardous wastes, RCRA also charges it with assisting states in improving their environmentally sound management and regulation of non-hazardous wastes, while setting minimum standards for municipal landfills. Finally, RCRA also provides EPA with authority to regulate underground storage tanks.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, commonly called Superfund). Unlike RCRA's general prospective and preventative orientation, CERCLA is directed at assigning responsibility for and ensuring the cleanup of contamination due to improper hazardous substance disposals. However, as discussed in the context of indirect approaches to regulation, even the assignment of post-contamination liability has regulatory deterrent effects with regard to ongoing and prospective actions by those dealing with hazardous wastes. CERCLA is also much broader with regard to the hazardous materials covered than RCRA. And CERCLA is unique in creating a governmental trust fund on which EPA can draw to finance environmental clean-ups. The trust fund is replenished through cost-recovery actions against parties liable for the clean-up costs under CERCLA.¹⁰⁷ Unlike RCRA, CERCLA does not provide for delegation of its authority to state governments.

CERCLA's coverage of hazardous substances is defined by reference to hazardous

¹⁰⁰ 42 U.S.C. §6904(27).

¹⁰¹ 40 C.F.R. §261, subpart D.

¹⁰² 40 C.F.R. §261, subpart C.

¹⁰³ 42 U.S.C. §6927, §6934.

¹⁰⁴ 42 U.S.C. §6928.

¹⁰⁵ 42 U.S.C. §6973.

¹⁰⁶ 42 U.S.C. §6972. For a more detailed discussion of citizen suits, see the discussion in section V(D).

¹⁰⁷ 42 U.S.C. §9611, §9612(c).

materials regulated by other environmental statutes, such as RCRA, the Clean Water Act, and the Clean Air Act, as well as those designated by EPA under CERCLA itself. However, it does not include petroleum or natural gas.¹⁰⁸

EPA's authority under CERCLA includes the power to take response actions to protect the public health and welfare or the environment under the following circumstances: An actual release or threatened release of hazardous substances, and an actual release or threatened release of any other pollutants or contaminants that could present an imminent and substantial danger to the public health and welfare.¹⁰⁹ Under this authority, EPA may remove such hazardous substances, pollutants or contaminants as well as take any other measures necessary. However, such measures must be consistent with the National Contingency Plan, a set of EPA regulations that are designed to structure clean-up activities.¹¹⁰ As an alternative to acting on its own, EPA may also proceed judicially or administratively to compel parties responsible for the release to abate it.¹¹¹ The Act also provides EPA with authority to demand access and inspect facilities as well as to seek information related to releases of hazardous substances.¹¹²

In addition to providing EPA with authority to respond to hazardous substance releases, CERCLA also imposes broad and strict liability for the cost of such response actions and the damages to natural resources. Those strictly liable for their releases or threatened releases of hazardous substances to the environment include: present owners and operators of facilities that pose a threat of releasing or that have released hazardous substances, persons who owned and operated the facility at the time at which hazardous substances were disposed of, persons who arranged for disposal or treatment of hazardous substances, and persons who accepted hazardous substances for transportation and selected the disposal site.¹¹³ Private parties are also permitted to seek contribution from other potentially responsible parties for response costs incurred in addressing releases of hazardous substances.¹¹⁴ Defenses to liability are very narrow and limited to an act of God, an act of War, and acts of unrelated third-parties unconnected to the defendant, when the defendant has acted with due care with regard to the hazardous substances.¹¹⁵ Because of its technically complicated nature and the high financial stakes involved in the clean-up of contaminated sites, CERCLA has spawned a tremendous amount of environmental litigation involving the government and private parties and has given rise to subsidiary litigation about applicable insurance coverage for such liability.

Finally, CERCLA also provides that a release of hazardous substances, such as a spill or leakage, exceeding certain limits triggers a notification requirement of the release to EPA.¹¹⁶

¹⁰⁸ 42 U.S.C. §9601(14).

¹⁰⁹ 42 U.S.C. §9604(a).

¹¹⁰ 42 U.S.C. §9605(a).

¹¹¹ 42 U.S.C. §9606(a).

¹¹² 42 U.S.C. §9604(e).

¹¹³ 42 U.S.C. §9607(a).

¹¹⁴ 42 U.S.C. §9613(f).

¹¹⁵ 42 U.S.C. §9607(b).

¹¹⁶ 42 U.S.C. §9603.

Failure to report such releases may result in criminal penalties.¹¹⁷

5. Toxic Substances - The Toxic Substances Control Act

The Toxic Substances Control Act (TSCA) is a gap-filler statute directed at providing EPA with regulatory authority over toxic substances that is not provided under other environmental statutes. In particular, TSCA allows EPA to regulate the manufacture, processing, distribution in commerce, use, or disposal of new as well as existing chemical substances if they present an unreasonable risk of injury to health or the environment.¹¹⁸ However, regulatory action must impose the least burdensome requirements possible. When there is insufficient data for EPA to determine whether the chemical substance may present an unreasonable risk or when substantial quantities are to be produced that will enter the environment or cause significant human exposure, TSCA provides EPA with the authority to require the testing of such chemicals.¹¹⁹

New chemical substances or new uses of chemical substances are a special focus of TSCA. New substances may not be manufactured and existing chemicals may not be processed for significant new uses without providing EPA with 90 days notice.¹²⁰ This time period allows EPA to evaluate whether to regulate such new substances or new uses.¹²¹ EPA may bring a judicial action to protect health or the environment by seizing the chemical or obtaining other relief with regard to imminently hazardous substances.¹²² Finally, EPA is also empowered to enforce TSCA through civil and criminal penalties as well as by injunctive relief.¹²³ Citizen suit authority is also provided for.¹²⁴

6. Pesticides - The Federal Insecticide, Fungicide, and Rodenticide Act

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)¹²⁵ provides EPA with regulatory jurisdiction over pesticide and other substances designed to eradicate undesirable organisms. Under FIFRA, EPA has the authority to require the registration of pesticides and to regulate the use, sale, and labeling of pesticides.¹²⁶

While FIFRA is the primary statute designed to protect against adverse health and environmental effects of pesticides, its original mission was to protect farmers and other

¹¹⁷ 42 U.S.C. §9603(b).

¹¹⁸ 15 U.S.C. §2605(a).

¹¹⁹ 15 U.S.C. §2603(a).

¹²⁰ However, TSCA does not automatically impose other regulatory restrictions on new chemicals or significant new uses.

¹²¹ 15 U.S.C. §2604(a).

¹²² 15 U.S.C. §§2606(a) & (b).

¹²³ 15 U.S.C. §§2615-2616.

¹²⁴ 15 U.S.C. §2619. For a more detailed discussion of citizen suits, see the discussion in section V(D).

¹²⁵ 7 U.S.C. §§136 - 136y.

¹²⁶ 7 U.S.C. §136, §136j. *See also* Wisconsin Public Intervenor v. Mortier, 501 U.S. 597, 601 (1991).

pesticide users against misleading claims by manufacturers. Much of that mission has withstood the many congressional transformations that have sought to configure FIFRA more into a law aimed at protecting the environment and humans adversely affected by pesticide use.

EPA must register a pesticide if, in addition to requirements pertaining to the pesticide's effectiveness as claimed and compliance with information submission and labeling requirements, EPA finds that the product will not cause unreasonable adverse effects on the environment. "Unreasonable environmental effects" means "any unreasonable risk to man or the environment, taking into account the economic, social, and environmental costs and benefits of the use of any pesticide."¹²⁷ They are determined by reference to the pesticide's effects when used as intended or when used in accordance with widespread and commonly recognized practice.¹²⁸ EPA does not have the discretion to deny the registration application when these requirements are met. However, EPA may restrict the use, sale, and labeling of the pesticide in order to ensure that its use will not result in such unreasonable risks.¹²⁹

To enforce compliance with FIFRA's use, sale, and labeling requirements, EPA may stop the sale, use and removal as well as seize and condemn products that are in violation of FIFRA.¹³⁰ EPA may also refuse or cancel registration of a label or impose other restrictions.¹³¹ Like other environmental statutes, FIFRA also provides EPA with civil and criminal enforcement authority.¹³² Unlike most other statutes, FIFRA does not provide for citizen suits.

Because of the need for uniformity in this regulatory scheme, FIFRA bars states from imposing additional labeling requirements on manufacturers.¹³³ This includes preemption of any state tort law claims based on the failure of the pesticide warning label to adequately warn purchasers or users about product hazards.

IV. Administrative Processes and Judicial Review

Like many areas of federal law, environmental law is a field that is heavily governed by administrative rules and regulations issued by a federal agency, here mostly the EPA. Agency involvement is necessary in order to operationalize the statutory mandates because of the scientific and technical necessities of pollution control and the general nature of statutory goals. EPA's power to regulate is thus directly derived from and limited by congressional statute.

Environmental statutes usually impose various procedural requirements on how the

¹²⁷ 7 U.S.C. §136(bb).

¹²⁸ 7 U.S.C. §136a(c)(5).

¹²⁹ In making these registration decisions, EPA's process relies primarily on manufacturers to submit their own data to support the safety of its pesticide and appropriateness of its own designed and worded warning label. See 7 U.S.C. §136a. EPA conducts no independent analysis to determine the reliability of the data, but instead only considers if the registration applicant used acceptable methodology to obtain the submitted results. See *Burke v. Dow Chemical Co.*, 797 Federal Supplement (F. Supp.) 1128, 1135 (1992).

¹³⁰ 7 U.S.C. §136k(a)-(b).

¹³¹ 7 U.S.C. §136d(b).

¹³² 7 U.S.C. §§136 l(a)(1), l(b)(1).

¹³³ See 7 U.S.C.A. § 136v (2001). FIFRA disclaims any other preemptive effect. *Id.*

agency is to exercise its delegated powers. However, there is considerable variability with regard to such requirements, some imposing explicit and specific requirements, complete with deadlines that an agency must meet, while others are largely silent. If the applicable statute is silent on procedural requirements for the exercise of such powers, the Administrative Procedure Act's provisions apply.¹³⁴ The Administrative Procedure Act, which is applicable to all federal regulatory agencies, requires in essence that 1) a proposed rule be published,¹³⁵ 2) opportunity be given for public comment and those comments be taken into consideration, and 3) the final rule be adopted with a statement of reasons.¹³⁶

A. Agency Actions and Judicial Review under the Administrative Procedures Act (APA)

The APA provides for three types of agency actions. Agencies may proceed by 1) informal or 2) formal rule-making, usually designed to create a regulation with prospective effect and usually designed to apply widely, though it can also be of specific applicability. They may also proceed by 3) adjudication, which addresses implementation concerns to specific circumstances. Other administrative actions that may be taken by an agency, and that are usually specifically provided for by statute, are 4) permitting and approval of specific projects and 5) enforcement actions, either judicial or administrative, against violators of permits, regulations, and statutory requirements.¹³⁷

The rule-making process is quite similar to the legislative process. It is designed to create regulations that are prospective in nature and that are generally designed, with some exceptions, to apply widely. Two forms of rule-making processes exist, distinguished only by the formality of the processes they use.

The informal rule-making process is most frequently used by agencies and, as its name suggests, requires little formality with regard to information collection and other procedural requirements.¹³⁸ It involves collection of information and preparation of a draft rule, issuance of a public notice of proposed rule-making announcing the consideration of the promulgation of the rule, public comment on the proposed rule, consideration of the comments and potential revision of the rule, and final promulgation of the rule.

¹³⁴ The APA, 5 U.S.C. §501 et seq., is general statute designed to restrict agency discretion and applies in addition to agency-specific statutes. It was enacted in the 1940s during a period of time when increasing amounts of congressional power were delegated to agencies. Its primary purpose was to safeguard public access to information and ensure public participation in agency decisions.

¹³⁵ Regulations promulgated by agencies are published in the Federal Register on a daily basis. Many regulations are also codified in the Code of Federal Regulations, where many rules and regulations implementing particular statutory provisions can be found. However, there are many other official documents issued by EPA, such as policy statements or guidance documents, that are frequently not published. Such documents are, as general matter, not binding on the agency.

¹³⁶ It is important to note that the APA applies only to agency actions. The APA's definition of an agency includes only authorities of the federal government and explicitly excludes Congress and the courts. 5 U.S.C. §551(1).

¹³⁷ Both permitting and enforcement are discussed in greater detail below.

¹³⁸ 5 U.S.C. §553.

The formal rule-making process proceeds largely along the same lines as the informal process,¹³⁹ but requires more formal hearing-type procedures for presentation of evidence and decision-making. In many respects, formal rule-making functions like a judicial, trial-type proceeding and is far more complex and time-consuming. The use of formal rule-making proceedings is rare and its use is within the discretion of agency, unless it is required by statute that the rule be promulgated Aon the record.@

Adjudicative processes share much in common with formal rule-making processes by similarly requiring public notice and opportunity to comment as well as formal hearings.¹⁴⁰ However, rather than being legislative in nature, adjudicative processes are best viewed as administrative analogs of the judicial system. They are essentially administrative courts within the agency, presided over by administrative law judges, and allow a person dissatisfied with an agency decision an opportunity to have that decision reviewed by a neutral individual through more informal and faster processes than formal judicial review. Similar to judicial proceedings, agency regulations provide for cross-examination, an independent decision-maker who must make a decision based on the record, and sometimes even the power of subpoena when it is statutorily provided for.¹⁴¹

In addition to these processes set out by the APA, EPA has also made use of hybrid rule-making procedures that combine the informal with some aspect of formal processes (though many tend to proceed more informally because of economy of time and resource constraints). One of the most recent developments in these hybrid processes has been Areg-neg@ B rulemaking by negotiation.¹⁴² AReg-neg@ largely allows various interested parties to the rule-making to engage in a negotiation process that is designed to present the agency with a consensus regarding the proposed agency rule. However, the final rule must still comply with APA requirements just as any other rule.¹⁴³

Individuals adversely affected or aggrieved by an agency decision may seek judicial review.¹⁴⁴ While the APA appears to provide a broad privilege to seek judicial review, there are also independent constitutional limitations, such as the requirements that the individual seeking judicial review have constitutional standing to bring an action in federal court.¹⁴⁵ Moreover, judicial review may not be available when the applicable statute specifically precludes such review or the action is committed to agency discretion by law.¹⁴⁶ In these situations, an individual dissatisfied with the agency decision has no further recourse. However, as discussed in the context of administrative proceedings further below, a dissatisfied individual may be able to avail him or herself of agency-internal mechanisms for relief.

¹³⁹ 5 U.S.C. §§556 & 557.

¹⁴⁰ 5 U.S.C. §§554, 556 & 557.

¹⁴¹ 40 C.F.R. part 22. The power of subpoena involves the power to require a person to provide testimony or other evidence at an official proceeding.

¹⁴² Explained in more detail below.

¹⁴³ For an example of reg-neg, see Philip J. Harter and Daniel Finkelstein, *The Coke Ovens Regulatory Negotiations: From Choking Controversy to Consensus Relief*, 1993 *Environmental Permitting* 343.

¹⁴⁴ 5 U.S.C. §702.

¹⁴⁵ Explained in more detail below.

¹⁴⁶ 5 U.S.C. §701(a).

If available, the APA allows judicial review proceedings to examine whether the agency unlawfully failed to act or unreasonably delayed action.¹⁴⁷ In addition, reviewing courts may also set aside agency actions that are arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law, contrary to the Constitution, outside of the agency=s statutory authority, and promulgated without observance of procedures required by law.¹⁴⁸ With regard to formal rule-making processes, courts may also inquire into whether the agency=s decision is supported by substantial evidence.¹⁴⁹ And if a reviewing court is allowed to conduct a trial de novo, judicial review may consider whether the agency=s actions are warranted by the facts.¹⁵⁰

B. The Process of Rule-making

The origin of agency rules and regulations frequently arises out of statutes that authorize or direct the agency to write rules to implement and enforce the statute=s purpose. Thus, the legislation itself provides the substantive mission and guidance for administrative action. However, statutes frequently also leave much discretion to an agency in accomplishing its statutory mission.¹⁵¹ As a result, there are many other sources of influence on an agency=s regulatory agenda. These can include the political leadership of the agency as well as the White House, advisory committees, agency staff, and also external sources, such as industry, environmental organizations, and state governments.

Before an agency drafts a rule, the planning process identifies the agency interests to be involved in the drafting process as well as the objectives and legal requirements that must be considered. During the drafting stage, the content of the rule is determined, and information relevant to the rule is collected. It is during the drafting of the rule that the procedural requirements become most important. These include those of the APA, but also considerations such as the rule=s potential effect on small businesses,¹⁵² its effect on the physical environment,¹⁵³ its potential to curtail the normal legal prerogatives of states or local governments,¹⁵⁴ and whether it will necessitate the collection and reporting of additional information.¹⁵⁵

Of these, the requirements arising out of the Small Business Regulatory Enforcement Fairness Act (SBREFRA) are of particular note.¹⁵⁶ While the environmental laws apply generally equally to large corporations as small businesses, with some narrow exceptions,

¹⁴⁷ 5 U.S.C. §706(1).

¹⁴⁸ 5 U.S.C. §706(2).

¹⁴⁹ 5 U.S.C. §706(2)(E).

¹⁵⁰ 5 U.S.C. §706(2)(D).

¹⁵¹ *Chevron v. NRDC*, 104 U.S. 2778 (1984).

¹⁵² Small Business Regulatory Enforcement Fairness Act, 5 U.S.C. §§801-808.

¹⁵³ National Environmental Policy Act, 42 U.S.C. §§4321-4370e. However, see discussion in section III regarding exemptions from NEPA.

¹⁵⁴ Executive Order 13,132, Federalism, 64 Federal Register (Fed. Reg.) 43,255 (1999).

¹⁵⁵ Paperwork Reduction Act, 44 U.S.C. §§3501-3520.

¹⁵⁶ 5 U.S.C. §§801-808.

Congress has also tried to provide special procedural safeguards to protect small businesses from onerous regulatory burdens. SBREFA requires the agency to determine in the initial proposal for the rule-making whether the rule will have a significant economic impact on a substantial number of small business entities. If the agency cannot certify no such impact, a review panel must consider and report on the potential economic effects of the rule on small businesses and alternatives of minimizing such impacts.¹⁵⁷ The practical effect of this procedural step has been to slow down agency action and to force EPA to consider regulatory effects on small businesses earlier in its regulatory process. The SBREFA review process is subject to judicial review.¹⁵⁸

Another set of agency requirements arises out of Presidential executive orders. Presidential executive orders allow for presidential intervention into the rulemaking process by establishing requirements for the agencies and departments under his direct authority and supervision. Such executive order may not conflict with statutory requirements. Roughly 13,000 executive orders have been issued throughout United States history.

An important aspect of this rulemaking process is internal and external consultations. A recent trend in EPA has been to obtain input from industry and environmental groups earlier in this process and in a less formal manner. This consultation process is designed to save time and avoid severe complications later, such as subsequent litigation that can slow down the implementation of a rule after it is promulgated -- in essence, the process is designed to create a rule that addresses stakeholder concerns better. This process may also be supplemented with contact and comment from the public and stakeholders throughout.

The desire for outside input earlier has led to greater reliance on negotiated rule-making (reg-neg). In such settings, interest groups may agree to support or at least not sue the agency if what they have negotiated as part of a consensus remains unchanged in the final draft rule. The disadvantage of such approaches is that not all interest groups are treated equally. For example, representatives of state governments may be influential in such processes and receive preferential treatment since they are often the ones implementing and enforcing EPA regulations.

Another source of outside input for EPA is advisory committees. Under the Federal Advisory Committee Act (FACA),¹⁵⁹ the agency can charter committees, consisting of a range of stakeholder representatives, in order to use the group's opinion as an aid to rule-making and the formulation of agency policy. However, FACA also imposes important restrictions on the composition of advisory committee members as well as the processes by which advice may be provided.

After completion of the initial drafting, the draft rule must undergo an internal EPA review process, which allows various components of EPA to determine if the rule has any effect on the areas under their jurisdiction. In particular, such review includes the Office of General Council as well as the Office of Enforcement and Compliance Assurance. Subsequently, the draft rule must also go through a review process external to EPA. It is then reviewed by the Office of Management and Budget (OMB) with regard to the mandates of the Paperwork Reduction Act and a variety of Presidential Executive Orders.

Following revision of the draft rule in light of these internal and external reviews and

¹⁵⁷ 5 U.S.C. §605, §609.

¹⁵⁸ 5 U.S.C. §611.

¹⁵⁹ 86 Stat. 770 (1972), 5 U.S.C. App. 2, §§1-16.

consultations, it is then published in the Federal Register. Public comments may then be received by EPA in written form or via meetings, hearings or a combination of these. Comments are retained and made available to the public, including EPA responses to the comments.

If the rule is considered a major rule, it cannot enter into effect for 60 days. Major rules are those that have an economic impact of more than \$100,000,000, will result in a major increase in industry, consumer, or government costs or prices, or have other significant adverse effects on competition, employment, investment, productivity, or innovation.¹⁶⁰ During the 60-day time period, Congress may review and repeal the rule through regular legislative processes, if it so chooses.

Final action on the draft rule may then include final publication in the Federal Register. Alternatively, EPA may also make minor revisions and re-circulate the rule for further internal and external review before final publication. However, if major revisions to the rule are necessary, the rule-making process may have to start over again.

Once a regulation has been finalized, there is still the risk that implementation and application of the rule may be delayed or challenged by a judicial review proceeding.

C. Permit Issuance Proceedings

Permits for various pollution discharges are issued under a number of statutes, including the Clean Air Act,¹⁶¹ the Clean Water Act,¹⁶² and the Resource Conservation and Recovery Act.¹⁶³ The processes by which permits are issued under these statutes are similar, although the issues and criteria that agency permit writers must consider in the drafting and issuance of permits differ.

Usually, an applicant must provide detailed information about their facility and the expected pollution discharges. Permit writers then draft appropriate requirements based on the information provided and the regulations. Standard conditions and requirements, which apply to all permits, are then added to make the draft permit complete. A draft permit is then provided to the permittee and all interested parties. However, EPA may also hold a hearing on the permit, during which comments may be provided on the permit. These comments may lead to the permit being revised by the agency.

If the permittee or an interested party disagrees with the outcome of the permit proceeding, either the terms of the permit as issued or a denial of a permit, the decision may be appealed through EPA's administrative processes.¹⁶⁴ Such processes include appeals to the Environmental Appeals Board (EAB) within EPA.¹⁶⁵ Such administrative appeals function much in the same way as federal appellate courts review trial court decisions. The EAB reviews the permit and the process to assure that all of the substantive and procedural requirements have

¹⁶⁰ 5 U.S.C. §804(2).

¹⁶¹ See 40 C.F.R. pt. 71.

¹⁶² See 40 C.F.R. pt. 122.

¹⁶³ See 40 C.F.R. pt. 270.

¹⁶⁴ 40 C.F.R. pt. 124

¹⁶⁵ In addition to permit appeals, the EAB also considers appeals of administrative penalty assessments. 40 C.F.R. pt. 22.

been complied with. Following such an internal administrative review process, the permittee and the interested party may seek judicial review of the EAB=s decision in federal court.

Finally, EPA also issues a number of Ageneral permits.@¹⁶⁶ Such general permits are a class of permits that are applicable to anybody who is a member of a particularly described set of entities. A general permit allows anybody who gives notice to EPA of their intent to use the general permit to engage in the permitted activities, including specifically allowed pollution discharges. Facilities which fit the specifications of the general permit may also apply for an individual permit. However, such individualized process are usually much more time consuming and are more difficult to navigate.

D. The Freedom of Information Act

Another administrative process of importance in environmental regulation has been the Freedom of Information Act (FOIA),¹⁶⁷ primarily designed to make agency operations more transparent to the public. FOIA allows individuals to request a government agency to release information to the public, including various agency records, statements of policy, and staff manuals.¹⁶⁸ In the past, FOIA has been utilized by private citizens to obtain the public release of environmental information. FOIA's general policy is to provide the public with access to agency records. However, FOIA also provides exceptions to such public access if the requested documents are classified, deal solely with internal personnel matters, constitute trade secrets and commercial or financial information, are compiled for law enforcement purposes, constitute geological or geophysical information, or are specifically exempted from disclosure by statute.¹⁶⁹

V. Enforcement of Environmental Laws

Most enforcement actions with regard to protection of the environment are brought by governmental agencies under both federal and state laws. In addition, private citizens frequently are involved in enforcement actions through citizen suit provisions in federal environmental statutes or through civil law claims.

A. Governmental Enforcement

Within the federal government, enforcement occurs as a cooperative venture between EPA and the Department of Justice. EPA has a central enforcement office, the Office of Enforcement and Compliance Assurance (OECA), which oversees all of EPA's investigative and enforcement efforts. Within OECA, there are specialized enforcement units managing those programs related to air, water, hazardous wastes, and pesticides and toxic substances.¹⁷⁰ However, while OECA's

¹⁶⁶ See, e.g., 40 C.F.R. §122.28 (CWA general permits).

¹⁶⁷ 5 U.S.C. §552.

¹⁶⁸ 5 U.S.C. §552(a)(2).

¹⁶⁹ 5 U.S.C. §552(b).

¹⁷⁰ Within OECA, the National Enforcement Investigations Center (NEIC) serves as a technical resource

central office in Washington, DC sets enforcement policy, seeks to ensure consistency in the compliance assurance and enforcement work of the agency, and is involved in significant cases, most of the work of developing and referring cases for enforcement rests primarily with EPA's regional offices.

In addition to investigating and developing enforcement matters in the first instance, EPA also has considerable authority to bring administrative enforcement actions. As discussed further below, under such authority, EPA may act more informally and quicker in addressing regulatory violations. It is only when administrative actions fail to achieve compliance or when specifically provided for by statute, usually in instances of more serious violations, that enforcement matters are pursued in judicial enforcement actions.

Litigation of civil and criminal enforcement actions is the primary responsibility of the Department of Justice. Thus, when EPA seeks to sue a violator in federal court, EPA refers the case to the Justice Department, recommending prosecution. The Justice Department makes the final decision whether to file the case.

As noted above, the cooperative environmental federalism scheme created by many federal environmental statutes relies significantly on cooperative actions by state governments. Many of the federal environmental statutes assign state governments significant responsibilities to develop programs for implementing the federal regulations in their states. To the extent that it is determined that the state program meets federal requirements, EPA approval of such state programs allows state agencies to become the primary regulators. Under such arrangements, the states implement not only national standards and regulations through their own state laws but also enforce regulations promulgated and permits issued under such state laws.

Enforcement by states of permits and regulations may be handled sometimes by a single environmental agency or by multiple agencies that have discrete responsibilities for different aspects of EPA programs. For example, similar to the federal system, enforcement responsibilities may be assigned to the chief law enforcement official of the state, such as the state attorney general, while other regulatory responsibility may reside with a state environmental protection agency. Sometimes, responsibility for implementation and enforcement may also be delegated to city or county governments as well as specialized local entities, such as pollution control districts.

The cooperative relationship between state and federal authorities with regard to the implementation of federal environmental programs also carries over to the enforcement context. Enforcement authority against regulatory violations lies concurrently with both federal and state authorities. In order to avoid duplicative enforcement actions, state and federal agencies frequently enter into enforcement agreements that set out the circumstances under which EPA will step in and take enforcement action in an approved state program. Some of the statutory schemes also set out statutory limitations on the ability of the federal government to file enforcement actions when a state enforcement action is already pending or has been concluded.¹⁷¹

and investigative unit for EPA's civil and criminal enforcement efforts. It maintains a staff of trained criminal investigators who are deputized U.S. Marshals. These investigators are located in regional offices throughout the country, where they work closely with the Regional Counsel's office and U.S. Attorneys in pursuing environmental criminals.

¹⁷¹ See CWA, 33 U.S.C. §1319(g)(6). However, the exact scope of these limits are unclear and remain the

B. Compliance Monitoring and Enforcement Actions

Compliance with environmental regulations and permits is accomplished in several different ways: 1) Self-monitoring, 2) inspections, and 3) area monitoring. Self-monitoring and reporting is one of the most prevalent mechanisms used for detecting violations. Most federal environmental laws require that regulated facilities must monitor their own compliance status and report all or part of the resulting data to the responsible agency.¹⁷² Failure to report compliance data as well as falsifying compliance data may be the subject of enforcement actions in the same way as the violations itself.¹⁷³ In addition, submission of false compliance data may be an independent violation of the federal False Claims Act, which may be enforced with criminal penalties.¹⁷⁴

In addition to self-monitoring and self-reporting mechanisms, compliance with regulatory requirements may also be ascertained by inspections. Frequently, they are one of the government's main instruments for officially verifying compliance. Inspection findings can be the foundation for a variety of possible enforcement actions by EPA. In contrast, area monitoring is a mechanism that is used less often than inspections or self-monitoring. Area monitoring examines environmental conditions in the proximity of a facility or over a larger vicinity. Such methods may include ambient monitoring, remote sensing, and over-flights.

When a violation has been detected, governmental enforcement may proceed in several different ways. *Informal responses:* These administrative actions are advisory in nature, and may be in the form of a notice of noncompliance or a warning letter. In these actions, EPA illustrates what violation was found and what is necessary to correct it. These informal responses carry no penalty or power to enforce action; however, if such notices are ignored, they may lead to more stringent actions.

Formal administrative responses: These responses are legal orders that are independently enforceable. The response may require the recipient to take some corrective action within a specified period of time, or require the recipient to desist from some certain behavior, and ensure compliance in the future.

Civil judicial responses: These responses are official lawsuits taken in the courts by the U.S. Department of Justice at the request of EPA or in state courts by comparable state agencies. Usually these are used against the more serious or obstinate violators of environmental laws. Civil judicial actions may seek rapid correction of impending hazards that are an immediate threat to human health or the environment. Such cases generally result in penalties and court orders requiring correction of the violation as well as requiring specific actions to prevent future violations.

When provided for by statute, the government may also seek damages for harm to natural resources, such as dead wildlife resulting from oil spills. However, liability law suits are largely

subject of controversy. *Harmon Industries v. Browner*, 191 F.3d 894 (8th Circuit Court of Appeals 1999).

¹⁷² See, e.g., CWA, 33 U.S.C. §1318(a).

¹⁷³ Permits usually contain a requirement that the permittee report in a truthful manner. 40 C.F.R. §122.4; see also CWA 33 U.S.C. §1319(c)(2); CAA, 42 U.S.C. §7413(c)(2).

¹⁷⁴ 18 U.S.C. §1001.

not a significant legal tool for the government. Such claims are primarily brought by injured individuals directly.

Criminal judicial responses: Criminal actions are used when a person or company has knowingly and willfully violated the law. In such cases, the Justice Department prosecutes an alleged violator in federal court seeking criminal sanctions that may include fines and imprisonment.

C. Enforcement Sanctions and Remedies

Sanctions sought under enforcement actions can range from monetary fines and imprisonment to injunctive relief and restoration and acquisition of natural resources. Traditionally, criminal sanctions have only been imposed when regulatory violations have been particularly egregious, willful, or harmful. However, the environmental statutes provide government prosecutors with significant discretion in choosing whether to bring a civil or criminal enforcement action. For example, civil liability attaches to violations of environmental statutes regardless of fault on the part of the polluter. In contrast, criminal penalties may be imposed usually only for negligent or knowing violations. Yet, in many circumstances, regulatory violations by industrial facilities result because equipment or operating processes cannot guarantee compliance with regulatory standards, and the environmental managers of such polluting facility are usually aware such a state of affairs. Even if such situations arguably fall within the scope of conduct for which criminal sanctions may be brought, criminal enforcement usually focuses on polluters whose violations rise beyond what is usually observed or where the resulting harm is particularly serious. Nevertheless, the uncertainties inherent in the exercise of such prosecutorial discretion has made criminal enforcement of environmental regulations an ongoing area of controversy.¹⁷⁵

More common sanctions for regulatory violations are monetary penalties. Such penalties can vary among the environmental statutes, but can easily amount to tens of thousands of dollars per day for each violation.¹⁷⁶ Actual penalty amounts are determined by considering factors such as the seriousness of the violation, the economic benefit that may have accrued to the polluter from the violation due to compliance cost savings, any history of violations, good faith efforts to comply with applicable requirements, the economic impact of the penalty on the violator, and such other matters as justice may require.¹⁷⁷ In addition, some environmental statutes prohibit the award of federal contracts to anyone who has been convicted of a criminal violation.¹⁷⁸

Furthermore, while no environmental statutes provides for the recovery of traditional compensatory damages for personal injury-type harms, some statutes allow for the recovery of

¹⁷⁵ See, e.g., Richard Lazarus, Meeting the Demands of Integration in the Evolution of Environmental Law: Reforming Environmental Criminal Law, 83 Georgetown Law Journal 2407 (1995); Lois J. Schiffer & James Simon, The Reality of Prosecuting Environmental Criminals: A Response to Professor Lazarus, 83 Georgetown Law Journal 2531 (1995).

¹⁷⁶ See, e.g., CWA, 33 U.S.C. §1365(d).

¹⁷⁷ See, e.g., CWA, 33 U.S.C. §1365(d).

¹⁷⁸ See, e.g., CWA, 33 U.S.C. §1368(a); CAA, 42 U.S.C. §7606(a).

property and economic damages as well as damages to natural resources.¹⁷⁹ Some statutes also allow for the recovery of clean-up, removal and response costs with regard to pollution from the defendant.¹⁸⁰

Finally, injunctive and other equitable relief may be available, particularly when imminent and substantial threats to public health and welfare exist.¹⁸¹

Frequently, the governing environmental statute will provide for a range of remedies, including civil and criminal sanction, as a response for regulatory violations. In such instances, EPA has the discretion to choose the approach that it feels is most appropriate and effective in achieving its goals under the circumstances.

D. Citizen Enforcement

Statutory Citizen suits: Most of the federal environmental statutes allow citizens to bring civil action to enforce compliance with the particular statute.¹⁸² Typically, two types of law suits are allowed: 1) Action forcing suits against an agency, typically EPA, for failure to perform a non-discretionary, statutory duty, usually seeking to compel the agency to promulgate a regulation or regulatory standard; 2) suits against polluters who have violated environmental regulatory requirements, including permit violations.

When a suit is brought against a polluter, the citizen plaintiffs must provide the polluter, EPA, and the applicable state within which the violation took place with a notice of their intent to sue. That notice must be given at least 60 days prior to the filing of the complaint in court and must detail the alleged violations. Since during that 60 day time period, the state or EPA may bring its own enforcement action, it serves as a proverbial grace period for government enforcement. If an enforcement action against the pollution is already pending and is being diligently prosecuted by the time that 60-day notice period expires, such citizen suits are barred. However, in that event, the citizen plaintiffs may intervene in the government's lawsuit.¹⁸³

Penalties that a court imposes against the polluter as a result of the citizen suit must be remitted to the federal government. Even though a court may also award attorneys fees if the citizens are the prevailing parties,¹⁸⁴ no private damages may be awarded to the plaintiffs. However, in some instances, money may be earmarked for compliance and enforcement activities or applied to "mitigation projects" designed to protect public health or the environment.¹⁸⁵ In other circumstances, a polluter may also be required to fund supplemental

¹⁷⁹ See Oil Pollution Act, 33 U.S.C. §2702(b); CERCLA, 42 U.S.C. §9607(a)(C)

¹⁸⁰ See, e.g., CERCLA, 42 U.S.C. §9607(a); OPA, 33 U.S.C. §1321(f).

¹⁸¹ See, e.g., OPA, 33 U.S.C. §1321(e).

¹⁸² Clean Water Act (CWA), 33 U.S.C. §1365; Safe Drinking Water Act (SDWA), 42 U.S.C. §300j-8; the Clean Air Act (CAA), 42 U.S.C. §7604; RCRA, 42 U.S.C. §6972; Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. §9659.

¹⁸³ See, e.g., CWA, 33 U.S.C. §1365(b).

¹⁸⁴ Moreover, any prevailing party in a suit brought by or against the United States can receive reasonable attorneys' fees under the Equal Access to Justice Act. 28 U.S.C. §2412.

¹⁸⁵ 42 U.S.C. §7604(g).

environmental projects.¹⁸⁶

For the most part, the statutory citizen suit provisions are very liberal in allowing any person who has an interest that is or may be adversely affected by the violation to file suit under such provisions. However, other legal doctrines limit this broad provisions. Constitutional requirements with regard to a plaintiff's *Astounding* to file suit in federal court create the most important set of limitations.¹⁸⁷ These constitutional standing requirements mandate that the plaintiff show: 1) injury in fact -- that the harm suffered by the plaintiff is actual or imminent, not hypothetical; 2) causation -- a fairly traceable connection between the plaintiff's injury and the complained of conduct; and 3) redressibility -- a likelihood that the requested relief will redress the alleged injury.¹⁸⁸ These requirements tend to be easy to meet when the plaintiffs are directly affected by pollution, such as residents living in the vicinity of an industrial facility. However, satisfying these requirements has been more difficult when harms to citizens have been more indirect, for example when environmental harms occur at some distance or where the harms are of an intangible nature.

Finally, citizen suit provisions do not preempt common law civil actions that private individuals may have arising out of the polluting activities.¹⁸⁹ Thus, common law actions under nuisance, trespass or ordinary negligence theories may still be a basis of liability.

Common Law Claims: As indicated above, statutory citizen suits as a general matter do not preempt common law claims that arise out of pollution emissions. In fact, compliance with a validly issued federal permit usually does not immunize the permit holder for nuisance and other common claims that may arise out of that pollution.

Prior to the creation of the modern environmental regulatory system in the 1970=s, the primary means of resolving disputes about environmental protection was the common law. Under the common law, doctrines such as nuisance and trespass served as the primary vehicles for deciding these issues. For examples, under private nuisance principles, a polluter could be held liable when their behavior led to an invasion of the property rights of others.¹⁹⁰ Private nuisance law was designed to protect against invasions of interests in the private use and enjoyment of land, for example from pollution emitted by another.¹⁹¹

Another common law doctrine that was frequently asserted in pollution matters was trespass. Trespass doctrine protects against an interference that disrupts the exclusive possession of land, as the deposition of air pollutants on the plaintiff's land might.

¹⁸⁶ U.S. EPA, EPA Supplemental Environmental Projects Policy (May 1, 1998), <<http://es.epa.gov/oeca/sep/sepfinal.html>>.

¹⁸⁷ *See, e.g.,* *Defenders of Wildlife v. Lujan*, 504 U.S. 555 (1992).

¹⁸⁸ *Steel Co. v. Citizens for a Better Environment*, 523 U.S. 83 (1998) .

¹⁸⁹ *See, e.g.,* CAA, 42 U.S.C. §7604(e); CWA, 33 U.S.C. §1365(e).

¹⁹⁰ *See* American Law Institute, RESTATEMENT (SECOND) OF TORTS §822.

¹⁹¹ In contrast, public nuisance claims were much broader, but were primarily wrongs committed by unreasonable interference with a right common to the general public. *See* American Law Institute, RESTATEMENT (SECOND) OF TORTS 821B. Usually only the state could bring an enforcement action. However, in certain circumstances, private individuals could also bring an action if they could demonstrate that the behavior damaged them in a way not shared by the general public. *See* American Law Institute, RESTATEMENT (SECOND) OF TORTS 821C.

Finally, principles of negligence and strict liability continue to apply, especially where they are asserted with regard to human health problems resulting from pollution and toxics. However, as a general matter, common law principles have not been as important in motivating and shaping environmental protection concerns as federal statutory enactments and EPA regulatory mandates have.

CERCLA Statutory Liability: In addition to the ability of citizens to bring common law actions as well as to bring enforcement actions on behalf of the government, CERCLA provides special rights to recover for environmental contamination. As discussed above, CERCLA is one of only a few statutes that allows for private financial recoveries. Under CERCLA, individuals may sue for money expended to clean up hazardous substance contamination from other parties responsible for the contamination. However, such cost recovery or contribution actions do not cover traditional personal injury or other damages claims unrelated to the remediation of the contamination or restoration of the environment.

E. Alternative Dispute Resolution and Mediation

In recent years, EPA has sought to make greater use of alternative dispute resolution mechanisms (ADR) to deal with conflicts and disputes. The Administrative Dispute Resolution Act of 1996 defines ADR as "any procedure that is used to resolve issues in controversy, including but not limited to, conciliation, facilitation, mediation, fact finding, mini-trials, arbitration, and use of ombuds, or any combination thereof."¹⁹² While these processes occur outside of the purview of the judiciary, a neutral third party does assist in the design and process of reaching an agreement. Usually all of the ADR process is voluntary, including both the process and the final outcome. EPA has used ADR with industry and state agencies in rule making, policy development, administration of contracts and grants, permit issuance, and litigation.

F. Alternative Approaches: Self-Enforcement and Environmental Audits

In recent years, some corporations have sought to improve their compliance with pollution control requirements by implementing environmental audit programs. In essence, such environmental audit programs are mechanisms by which businesses examine their own compliance with environmental rules and regulations in order to reduce the liability that non-compliance may raise. EPA defines an audit as, "a systematic, documented, periodic and objective review by regulated entities of facility operations and practices related to meeting environmental requirements@"¹⁹³

The primary benefit of such programs to businesses lies in their ability to reduce potential regulatory sanctions and penalties. Such programs may also be beneficial to government enforcement agencies because they reduce the time and resources necessary to ensure industry compliance and allow such resources to be re-allocated to other environmental protection efforts.

Yet, environmental audit programs have remained controversial and of limited use by

¹⁹² 5 U.S.C. §571(3).

¹⁹³ 51 Fed. Reg. 25,004, 25,006 (1986).

businesses because of the potential for the results of such audits to be used against the business themselves by the government or environmental groups in enforcement actions. That risk significantly reduces the utility of environmental audits for businesses.

In order to encourage the use of such auditing programs by businesses, EPA has developed an audit policy that provides incentives for companies which develop their own environmental audit and compliance systems to detect, disclose, and correct violations. If a business discovers potential violations during such an audit and discloses them, EPA may substantially reduce or eliminate the usually applicable penalties. It also will usually not recommend criminal prosecution to the Department of Justice. EPA also intends not to request or use these reports to initiate a civil or criminal investigation.¹⁹⁴ Violators' efforts to monitor their compliance with environmental laws and to promptly report and correct any violation are also mitigating factors in the exercise of the Justice Department prosecutorial discretion.

Yet, these measures have been insufficient to prompt wide-spread business adoption of audit programs. As a result, states have sought to encourage adoption by enacting audit privileges that grant immunity for violations that are detected during such environmental audits. The rationale of this privilege has been to reduce the risks and costs of detecting violations during such audits for companies who are willing to engage in self-inspections.

However, because such an audit privilege invites secrecy and undermines enforcement of environmental laws, EPA has been firmly opposed to such a privilege.¹⁹⁵ It has taken the position that such a privilege is unnecessary since audit reports are rarely used or needed to support enforcement actions or to detect violations. Nevertheless, even though in most cases EPA does not request these environmental audits, it still reserves the authority to request them if necessary. Finally, such a privilege arguably may conflict with federal statutory mandates.¹⁹⁶ As a result, the agency has threatened to revoke or withhold from states with such an audit privilege the authority to administer federal environmental regulatory programs. In large part, this matter has remained unresolved. Nevertheless, self-compliance and auditing programs remain useful tools that are likely to be used more in the future.

VI. Current and Future Developments in U.S. Environmental Law

After almost 3 decades of experience with the modern environmental statutes, calls for changes and reforms to the existing regulatory system have intensified. Industry advocates have called for a move away from the command and control environmental regulations toward

¹⁹⁴ EPA, Incentives for Self-Policing: Discovery, Disclosure, Correction and Prevention of Violations, 65 Fed. Reg. 19618 (Apr. 11, 2000).

¹⁹⁵ EPA, Incentives for Self-Policing: Discovery, Disclosure, Correction and Prevention of Violations, 65 Fed. Reg. 19618 (Apr. 11, 2000).

¹⁹⁶ For example, the Resource Conservation and Recovery Act states that EPA or a state with an authorized hazardous waste program can request, "Any person who generates, stores, treats, transports, disposes of, or otherwise handles or has handled hazardous waste, to furnish information relating to such wastes and permit EPA at all reasonable times to have access to and to copy all records relating to such wastes." 42 U.S.C. §6927(a). Many of these laws also require that this information be made available to the public unless it can be classified as a trade secret.

mechanisms that allow for more flexibility and control over achieving environmental goals by regulated entities. Racial minority and poor communities have called upon EPA to take more care in considering and addressing fairness issues with regard to environmental decision-making processes and inequitable distributions of environmental burdens. And the increased prominence of international environmental problems, such as climate change, biodiversity loss, and ozone depletion, have forced the U.S. environmental regulatory system increasingly to consider international effects within its processes. While these concerns and pressures are not entirely unfamiliar to environmental regulators, they have gained prominence especially over the last decade.

For example, many in business, government and the environmental movement feel that it is time to turn toward new, innovative means of environmental protection. Businesses are looking for solutions that are more flexible and economically feasible. Environmentalists hope to find faster and more effective ways to address pollution. The government strives to achieve both of these goals simultaneously. While self-enforcement approaches, such as environmental audits, as explained above, have been popular among the business community, they have been the subject of criticism by environmentalists and concern by government agencies because of the audit privilege issue that is frequently raised in connection. Businesses have also called for greater use of market-based mechanisms.

In contrast to the long-standing command-and-control style regulations, which rely largely on uniform performance standards for pollution sources, market mechanisms use financial incentives to achieve environmental goals. These mechanisms may involve the imposition of taxes or fees on pollution emissions or the grant or sale of tradeable (and thus potentially profitable) pollution emission rights. The most prominent regulatory framework that has adopted this regulatory approach has been the Clean Air Act's programs addressing sulfur dioxide and nitrous oxide emissions.¹⁹⁷ However, most other aspects of environmental regulation remain largely wedded to command-and-control approaches.

The prevailing view among economists is that market-based regimes are more economically efficient than command and control regimes. However, significant steps remain to be taken in order to implement such regimes, including initial investment in the development of effective technology for measuring and delimiting the rights to be traded and an effective legal system for proper enforcement. There have also been significant criticisms that have sought to point out the failings of market mechanisms. Although command and control regimes will probably remain a fundamental part of environmental regulations in the immediate future, market based mechanisms will continue to expand and find their way into U.S. environmental law.

There have also been other mechanisms by which EPA has sought to create more flexibility and encourage regulatory innovation. One such notable program is entitled Project XL. Commenced in 1995, Project XL was intended to allow participating industrial facilities to take advantage of new innovative pollution management technology by relaxing reporting and permitting requirements, which in turn would lead to greater flexibility in production processes and a significant decrease in the costs of administrative compliance. Participating facilities should also provide higher levels of local environmental quality than would normally be

¹⁹⁷ 42 U.S.C. §§7651-7651o.

achieved, while hopefully developing new technology that can be replicated at other facilities. These goals were to be achieved through Afacility-specific agreements that establish hand tailored regulatory requirements agreed to by EPA and regulated facilities with input from state and local governments and citizens groups.¹⁹⁸

Originally Project XL was to be a series of 50 experimental sites. Five criteria were to be applied to pilot program participation: superior environmental performance, transparency, no adverse effects to worker safety or environmental justice communities, community support, and enforceability.¹⁹⁹ However, problems have abounded in the implementation of Project XL.

Attracting the desired amount of public participation has been difficult because most of EPA=s policies in this regard have been made on an *ad hoc* basis. Industry participants have also raised serious concerns about potential liability for their deviations from the standard regulatory requirements of controlling statutes. As a result, environmental citizen suits might seek to enforce the pre-XL regulatory requirements rather than the new site-specific regulations.

Project XL's success remains the subject of considerable controversy.

Within the past decade, significant regulatory attention has also been focused on the environmental justice movement and its claims of environmental racism and distributional inequities in environmental protection. Many of these concerns pre-date the creation of the modern environmental laws. They became the focus of mainstream environmentalists and regulators only in 1983 when local residents in Warren County, North Carolina used civil rights movement-style acts of civil disobedience to block the establishment of a PCB waste disposal site in a community made up predominately of African-American and poor individuals.²⁰⁰ Ultimately, the community was unsuccessful. However, the events sparked further study of these problems, which showed racial disparities in how environmental regulations impact minority communities,²⁰¹ and a movement that has caught the attention of regulators.

In 1994, President Clinton issued an Executive Order directing federal agencies to consider the environmental justice implications of their decision-making.²⁰² EPA established both an Office of Environmental Justice and a federal advisory committee focused on environmental justice issues. And in recent years, EPA has made efforts to devise a formal administrative complaint process with regard to disparate impact allegations under Title VI of the Civil Rights Act of 1964. Yet, the problems of race and equity that the environmental justice

¹⁹⁸ Richard B. Stewart, A New Generation of Environmental Regulation? 29 Capital University Law Review 21, 64 (2001).

¹⁹⁹ Lisa C. Lund, Project XL: Good for the Environment, Good for Business, Good for Communities, 30 Environmental Law Reporter 10140 (2000).

²⁰⁰ See generally UNEQUAL PROTECTION: ENVIRONMENTAL JUSTICE AND COMMUNITIES OF COLOR (Robert D. Bullard ed., 1994); CONFRONTING ENVIRONMENTAL RACISM: VOICES FROM THE GRASSROOTS (Robert D. Bullard ed., 1993).

²⁰¹ U.S. GENERAL ACCOUNTING OFFICE, SITING OF HAZARDOUS WASTE LANDFILLS AND THEIR CORRELATION WITH RACIAL AND ECONOMIC STATUS OF SURROUNDING COMMUNITIES (1983); COMMISSION FOR RACIAL JUSTICE (UNITED CHURCH OF CHRIST), TOXIC WASTES AND RACE IN THE UNITED STATES: A NATIONAL REPORT ON THE RACIAL AND SOCIO-ECONOMIC CHARACTERISTICS OF COMMUNITIES WITH HAZARDOUS WASTE SITES (1987); Marianne Lavelle & Marcia Coyle, *Unequal Protection: The Racial Divide in Environmental Law, A Special Investigation*, NATIONAL LAW JOURNAL, Sept. 21, 1992, S2.

²⁰² Exec. Order No. 12898, 59 Fed. Reg. 7629 (1994).

movement has raised have remained difficult to solve, and criticisms and concerns about EPA=s actions and inaction in this area have continued.

Finally, another significant influence on U.S. environmental law has been the increasing importance of international and global environmental problems and efforts to address them. Because of their increased complexity and novel concerns, international environmental agreements are increasingly relying on domestic regulatory actions for their implementation. That in turn requires integration of these international concerns into the domestic system as well as the enactment of new statutory authority for regulators. For example, intense Canadian concerns, combined with domestic pressures, about transboundary air pollution and acid rain forced the U.S to acknowledge its responsibility for acid deposition problems in Canada. It also contributed significantly to the enactment of the 1990 amendments to the Clean Air Act, which adopted a strong acid deposition control program. The influence of international environmental commitments on federal environmental law are visible in virtually all environmental statutes.

However, there has also been a converse influence of U.S. environmental law on international environmental law. That has been particularly apparent in efforts to address stratospheric ozone depletion. In 1978 EPA prohibited non-essential use of ozone-destroying CFC=s. In the mid 80=s it became apparent that this limited ban was insufficient to address the threat of ozone layer depletion because of the existing and future contributions of other countries to that problem. While domestic political circumstances in the United States did not favor much political support for such an international agreement at that time, leadership of the United Nations Environment Programme on this issue resulted in the Vienna Convention on the Destruction of the Ozone Layer, and subsequently the Montreal Protocol on Ozone Depleting Substances. These are now widely regarded as effective, potentially global solution to the problem of ozone depletion.²⁰³ Even though domestic political circumstances may fluctuate in their solicitude toward such international concerns, it is likely that the influence of international environmental concerns on U.S. domestic environmental law and policy and vice versa will continue to remain important into the future.

VII. Conclusions

There have been significant changes to the environmental statutes, the most recent major change being the 1990 Clean Air Act Amendments. However, the overall structure of the U.S. environmental regulatory system has largely remained unaltered since its creation in the early 1970s. Federal statutes still rely largely on a command-and-control system that looks to scientific and economic considerations for guidance in formulating rules and regulations. Yet, concerns about the drawbacks of command-and-control approaches have prompted regulators to consider new approaches that would introduce more flexibility and make compliance more economically efficient. At the same time, concerns raised by the environmental justice movement and the international community have forced regulators to broaden the scope of concerns addressed by their work, such as distributional and procedural fairness as well as

²⁰³ See generally Richard Benedick, *OZONE DIPLOMACY: NEW DIRECTIONS IN SAFEGUARDING THE PLANET* (1998).

international and global concerns. These trends can be expected to continue.