

## **ENVIRONMENTAL LAW: THE US MODEL**

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**Keywords:** air quality, citizen suit, command and control regulation, conservation, critical habitat, endangered species, environmental audit, environmental justice, environmental impact statement, hazardous waste, market-based regulation, nuisance, preservation, risk assessment, technology-forcing standards, taking, toxics, water quality

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### **Summary**

This article presents an overview of the development of environmental law in the US and the general principles that govern major substantive areas of US environmental law and regulation. The development of US environmental law reflects influence of the common law as well as tensions between competing policy interests of “conservation” and “preservation.” The current US environmental law regime is almost exclusively governed by statute and aims to be comprehensive—addressing sources of air, water and land pollution, regulation of toxics and potentially toxic materials such as pesticides. In addition, US environmental law and regulation has for the last generation placed a high premium on public information and notice of potential environmental harms—a commitment that is represented in the legal and regulatory structure.

### **1. Introduction**

This article provides an overview of environmental law in the US. Inevitably, there is a degree of parochialism in the discussion of one country’s laws in a given area. However, because of the comprehensiveness and influence of the US model in this area, it should serve to inform the reader of themes and legal and regulatory forms that are

shared by the vast majority of nations that today comprehensively regulate environmental protection.

Although the US may be credited with being among the first nations to develop a comprehensive statutory legal regime for the regulation of environmental problems, the sources of that law are firmly rooted in at least two sources. First, US environmental law—the practice of which is today almost entirely a statutory and regulatory matter—is very much a product of the English common law, particularly the law of torts (and above all, that of nuisance.) Second, US environmental law reflects the continuing tensions between those US reformers who, on the one hand, like former US President Theodore Roosevelt and the great US naturalist John Muir sought to *preserve* the nation’s considerable natural resources and others who, favoring more unrestricted industrial and economic development, advocated instead a policy that aimed to *conserve* those resources. This tension, between those who, on the one hand, argue for limited human impact on natural resources as they are, and those who, on the other hand, favor a thoughtful, but active use of those resources, continues to animate much of US environmental law and policymaking.

For example, on national forest land today, selected logging is permitted by private entities—as has been the case since the founding of the national forests, many of which surround the national parks. And still today, controversies rage over those who advocate logging on federal land as an appropriate conservationist strategy, while others say that these forests must be preserved from further use.

Similarly, debates continue over the appropriate use of the Arctic National Wildlife Refuge, a pristine wilderness area of over 96 000 square miles located 200 miles north of the Arctic Circle on the northeastern Alaska coast. The wilderness area is the home to many Arctic animal and plant species and is virtually untouched by humans. It also abuts the largest oil field in North America, at Prudhoe Bay. Many environmentalists, taking the preservationist position, argue that because of its exceptional ecological diversity, and because the availability of such untouched areas is so rare, that absolutely no development should be permitted. Others, adopting a conservationist view, contend that selective, responsibly managed drilling is, by contrast, the appropriate response given national energy needs. Although this area is protected from oil exploration, the controversy over its use is certain to continue: yet another example of the fundamental tension underlying so much US environmental policy.

This sort of debate influences nearly all environmental law and regulation in the US. While the issues of logging on federal lands or oil exploration in the Arctic refuge involve questions of resource management and possible land degradation, the same controversy can be seen in the air quality context. In the debate over vehicle emissions, the preservationists argue for zero-emission vehicles (ZEVs) and conservationists are content with cleaner-burning but still pollution- emitting vehicles.

Another way that this tension is often characterized is as one that pits a bio-centered ethic against a human-centered one. In this way of conceiving of possible approaches to environmental law, preservationists are determined to minimize human degradation of the environment on the theory that human beings are but one species in a complicated

biosystem. On the other hand, the human-centered ethic holds that a conservationist approach is the correct one for environmental law and regulation since, as the most highly developed species, human needs must be taken into account above those of all other species. This view includes the assumption that human ingenuity and intelligence can successfully address environmental harms, but only if the needs of humans are first taken care of. Again, the implications of these two different positions are reflected in the environmental laws discussed below.

The last thirty years of the twentieth century, beginning with the passage of the National Environmental Policy Act of 1969 (NEPA) have seen an explosion in statutory and regulatory environmental regulation. This is especially true at the federal level, although an abundance of state and local environmental laws and regulations have been enacted as well. The US environmental law regime thus aims to be comprehensive, addressing sources of air, water and land pollution, as well as the regulation of toxics and potentially toxic materials, such as pesticides. In addition, US environmental law and regulation has for the last generation placed a high premium on public information and notice of potential environmental harms—a commitment that is represented in the legal and regulatory structure.

As a general rule, the major environmental statutes governing pollution of air, land, and water, all of which were first enacted in the period 1969–1980, favor what is called “command and control” regulatory strategies. That is, these statutes lay down requirements that regulated entities must follow in order to be in compliance with the law. However, as the discussion below makes clear, as command and control approaches have become politically unpopular and have failed to fully achieve Congress’ aims, other regulatory approaches have been tried, notably the air pollution trading programs introduced in the Clean Air Act Amendments of 1990 (see Section 3.1). The practice of environmental law is today a highly technical matter. Indeed, US law is sufficiently complicated that many lawyers and legislators devote their entire careers to mastering a single area, such as the law of clean air. In addition, US environmental law and regulation is increasingly driven by competing scientific opinion, and an ability to tackle technical scientific material is generally considered a great advantage to a career in environmental law. Finally, as the reader will see below, the practice of environmental law has spawned an alphabet soup of acronyms and abbreviations. In coming to terms with the outline of US environmental law, it is essential to master this usage.

## **2. Sources of US Environmental Law**

In addition to the various theoretical differences that have animated the development of environmental legal doctrines since the late nineteenth century, the English common law of nuisance has had a considerable impact on ways of thinking about environmental problems.

### **2.1. Nuisance**

Nuisance law was famously described by William Prosser, a noted torts scholar, as a field of tort liability rather than a single tort. In other words, nuisance law governs the

possible legal harms for which a party might be responsible and does not itself refer to a particular harm. To simplify, nuisance law as it has developed today employs a balancing to make judgments about the appropriate use of resources given competing demands on resources and changing social needs and practices. Although there are many factors that courts use to balance the concerns of parties with competing interests in land and resource use and management, one frequent test balances the “utility of the conduct” claimed to be a nuisance against the “gravity of the harm” caused by the alleged nuisance. This opposition has proved useful to lawyers in trying to evaluate potential environmental harms.

For example, in the noted case of *Missouri v. Illinois* (1906), the City of St. Louis, Missouri, which sits downriver from the city of Chicago, Illinois, sued Chicago for a nuisance in the form of water pollution. Specifically, St. Louis alleged an increase in deaths from typhoid fever because Chicago was dumping elevated amounts of raw sewage into local waterways that in turn made their way into the Mississippi River and the drinking water of St. Louis residents. Oliver Wendell Holmes, the famous United States Supreme Court justice and legal theorist, writing for the nine-member Supreme Court, began by noting that such a case could not have been categorized as a nuisance in the mid-nineteenth century, because it dealt with “nothing which can be detected by the unassisted senses.” Yet, Holmes continued, changing scientific knowledge and the ability to make informed inferences based on that knowledge made possible such new forms of nuisance claim. With this, Holmes introduced, perhaps for the first time into any US court, the notion of risk assessment, and in the context of a nuisance claim.

Although his opinion hints at the possibility of applying a nuisance balancing to this case, he disallowed the claim on the grounds that many other such suits would follow if it were allowed to proceed. This concern, with the long-term transaction costs of environmental policy choices, also continues to animate the discussion of environmental issues in the US. In addition, the case reveals the very real problem of how to deal with uncertainty—of scientific knowledge, of human health risk, for example—in evaluating environmental threats.

A year later, in 1907, the United States Supreme Court again considered an environmental nuisance. In *Georgia v. Tennessee Copper*, the State of Georgia sued copper processors in nuisance for emissions that, it said, imperiled the health of citizens in five of its counties. Again writing for the Court, Justice Holmes said that an injunction ordering the company to halt its polluting activities would be appropriate if the company did not correct the problem. Applying a nuisance balancing, Justice Holmes allowed that such an action might harm the citizens of Georgia—in terms, for example, of lost jobs—as well as those in neighboring Tennessee, but suggested that the gravity of the harm may simply have been too great to permit any other decision.

The *Georgia* decision is considered important for another reason. Specifically, Justice Holmes did not issue the injunction pending the success of the company’s efforts to control the pollution. This is often taken as an early example of an opinion advocating what are called technology-forcing standards, that is, regulatory measures that seek to achieve a cleaner environment by requiring polluters to implement cleaner technologies.

## **2.2. Environmental Impact Review**

Social turmoil in the US and around the world in the late 1960s included activism around environmental issues. This activity led in the US, in 1970, to the creation of a cabinet level department devoted to environmental regulation, the US Environmental Protection Agency (EPA). In addition, that year the US Congress passed the National Environmental Policy Act (NEPA), the first major environmental protection statute. The centerpiece of NEPA—and arguably the most enduring contribution of US environmental law to global practice—is the requirement that federal agencies prepare an environmental impact statement (EIS) for “major Federal actions” affecting environmental quality. The EIS requirement is one that has been widely followed in domestic US law at the state and local level, and in global legal instruments as well. (In the non-federal context, the EIS is often called an “Environmental Impact Assessment”, or “EIA.” The EIA should not be confused with an “environmental assessment,” or “EA,” which is a preliminary stage in the NEPA EIS process, as described later.

Although the requirements as to what must be included in an EIS have changed over time, as a general matter the EIS must include a discussion of environmental impacts such as air, water, land and even, in some instances, possible affects on endangered species and sites of historical or social interest. In addition, an EIS must include a discussion of alternatives to the proposed action and any irreversible affects on resources.

## **2.3. The Principle of Public Participation**

An important feature of the EIS process is that the agency proposing the action is required first to publish a draft EIS (sometimes called an “environmental assessment” or “EA” in the event that the agency does not think that the environmental concerns will be of consequence) for public review and comment. This permits members of the public to challenge the inclusion or omission of particular concerns in the EIS. This public challenge often leads to citizen lawsuits challenging an agency’s decision in a final EIS. The ability of members of the public to sue over disputed aspects of an EIS has led to a voluminous case law that has enshrined the principle of public review of and participation in environmental lawmaking. The easy availability of citizen enforcement has been a much criticized aspect of this and other federal environmental statutes, and conservative federal legislatures have sought, so far without great success, to curtail the right. However, conservative federal courts have been more successful in limiting the right to bring citizen suits.

## **3. Major Substantive Areas of Federal Environmental Law and Regulation**

The US Congress followed the passage of NEPA with, in rapid succession, the passage of the two complicated and comprehensive efforts at environmental regulation, namely the Clean Air Act (CAA) of 1967 (as amended in 1970) and the Clean Water Act (CWA) of 1972, formally known as the Federal Water Pollution Control Act. Despite the relative proximity of their passage, however, the two statutes employ drastically different approaches to environmental resource management. The CAA employs a dual strategy that seeks to control air quality both by managing airsheds and, within those

airsheds, applying technical standards to force polluters to achieve acceptable air quality levels. The CWA, by contrast, uses a technical standards-based model designed to restrict pollutants at point of discharge. As a result, the acts are of interest not only for their substance, but also because they reflect different possible strategies for addressing environmental problems.

### 3.1. Air

The principal federal US statute regulating air quality is the Clean Air Act. In fact, air quality concerns had led to regulation within the individual states as early as the late nineteenth century with municipal smoke abatement ordinances. The CAA, first adopted in 1967 and significantly amended in 1970 and again in 1990, is itself an expansion of earlier statutes (in 1955 and 1963), although in structure and comprehensive aim, the current statute is recognized as a significant departure from those earlier efforts.

The structure of the CAA is exceptionally complex, but can be briefly summarized. The federal government has the primary power to formulate and implement the CAA, although by design it does so in cooperation with the states. In most cases, the federal government delegates to the individual states the authority to enforce the CAA. The CAA regulates air quality with a multi-pronged approach. This is due to the extreme variation in the sources of air pollution, which can be both mobile and stationary.

One important reason that the CAA employs an airshed management approach is due to the pressing need to reduce vehicular emissions, which are challenging regulatory targets because of their mobility and number. With so many regulatory targets, it would be an administrative nightmare, not to say politically awkward, to subject each individual vehicle to exacting, detailed federal regulation. (Many states, though, have implemented a smog-check program requiring each driver to have her car certified at regular intervals as meeting state pollution control criteria.)

Mobile sources are specifically regulated via uniform national emission standards for automobiles and light trucks. Under this approach, manufacturers must demonstrate to EPA that their entire vehicle fleet satisfies Corporate Average Fuel Economy (CAFE) standards. Under CAFE, a manufacturer can thus produce more heavily polluting vehicles so long as the manufacturer compensates that production with manufacture of a specified percentage of less-polluting vehicles. In order to regulate both mobile and stationary sources, the CAA requires EPA to promulgate national ambient air quality standards, or NAAQS (pronounced “knacks”). The NAAQS must be set for each of what are known as the “criteria” air pollutants, meaning pollutants that are undesirable but not toxic in their usual concentrations in the air. The list of criteria pollutants includes particulate matter, sulphur dioxide, ozone, nitrogen oxide, carbon monoxide, lead and hydrocarbons; hydrocarbons are classified as a precursor to ozone.

To regulate these criteria pollutants, the CAA empowers EPA with regulatory authority to address both stationary sources (such as a factory) and mobile sources (such as an automobile.) The individual states are charged by the federal government, through the EPA, with implementing the NAAQS within their jurisdiction. To achieve this goal, states are required to prepare state implementation plans (SIPs). SIPs are documents that

explain how a state will meet federal requirements. These requirements are, in turn, stated in two ways. Primary NAAQS are designed to protect the public health within an “adequate margin of safety.” Exactly what constitutes an “adequate” margin of safety is at best a matter for educated guesswork, and is a phrase that has occasioned considerable litigation. In addition, EPA promulgates secondary NAAQS, which are intended to protect the “public welfare.” This phrase is usually understood to mean air pollution that adversely affects soil, water, crops, visibility, physical comfort, and the condition of human-made materials.

Despite this ambitious and comprehensive regulatory scheme, many of the NAAQS standards, both primary and secondary, have yet to be met. Areas where NAAQS have not been met are known as “non-attainment areas.” Again, this failure is an occasional subject for litigation, as affected parties seek to improve air quality by forcing stricter compliance. Moreover, the reverse problem has plagued regulators. That is, what if an area has air quality better than that required by NAAQS? One early worry of environmentalists is that the NAAQS would make such areas attractive to polluters in non-attainment areas and that they would, therefore, move their operations to these cleaner areas. This dilemma resulted in further amendment of the CAA. Specifically, EPA is required to specify requirements that will prevent significant air quality deterioration (PSD) for areas with air quality better than that required under the NAAQS.

In addition, under the CAA and appurtenant regulations, EPA is charged with regulating specific stationary sources irrespective of their contribution to pollution within their respective airsheds. It does this by setting technology-based standards both for targeted pollution sources in specific industries and for new, stationary sources of pollution (the latter are commonly referred to by the acronym NSPS.)

Since the 1970 amendments of the CAA, which gave it its current core structure, the CAA has twice been amended, first in 1977 and then in 1990. The 1990 revision was noteworthy for its introduction of a market-based trading strategy. Designed to control the problem of acid rain caused by sulphur emissions of coal-burning power plants (and especially a type of coal primarily found in the eastern and central US), power plants and industrial sources of sulphur dioxide emissions may trade emissions credits to pollute with one another. The aim is thus to create incentives for polluters to reduce their sulphur dioxide emissions (so that they may sell them to others.) In addition, this provision has created a secondary market, in which clean-environment groups buy pollution credits and retire them, in order to cause a net reduction in sulphur emissions.

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### **Biographical Sketch**

**Colin Crawford** has degrees in history from Columbia and Cambridge Universities (first class honors) and a law degree from Harvard. His book of narrative non-fiction, the award-winning, regional bestseller, *UPROAR AT DANCING RABBIT CREEK: BATTLING OVER CLASS, RACE AND THE ENVIRONMENT* (Addison Wesley, 1996) examined the struggle of one poor, predominantly African-American community over the possible siting there of the nation's biggest hazardous waste dump. As a scholar and advocate, Crawford's interests have also focused on questions of environmental and public health and policy. In this connection, he spent a summer in India working on a national salt iodization campaign (as a C. Clyde Ferguson Human Rights Fellow from Harvard). His academic writing has concerned subjects as diverse as the legal implications of claims for environmental justice to the need for comprehensive infant HIV testing and care. He lives and works in San Diego, California, where he is an Associate Professor at Thomas Jefferson School of Law. At Thomas Jefferson, he teaches environmental, land use, local government and real property law,