

THE NATION TACKLES AIR AND WATER POLLUTION

The Environmental Protection Agency and the Clean Air and Clean Water Acts

In the twenty-first century, Americans take for granted the importance of federal laws aimed at reducing air and water pollution. But for most of the nation's history, the federal government was practically uninvolved in pollution control. That changed abruptly on July 9, 1970, when President Richard Nixon established the Environmental Protection Agency (EPA). Shortly thereafter, Congress approved two of the nation's most far-reaching federal environmental laws: the Clean Air Act of 1970 and the Federal Water Pollution Control Act of 1972, commonly known as the Clean Water Act. Both laws shifted primary responsibility for environmental protection from the states to the federal government and required federal regulators to take prompt and stringent action to curb pollution.

The surge in environmental policymaking in the early 1970s was not a response to a sudden deterioration in the condition of the nation's air and water. In fact, while some kinds of pollution were getting worse in the late 1960s, other kinds were diminishing as a result of municipal bans on garbage burning and the phasing out of coal as a heating fuel.¹ Instead, what this case reveals is the profound impact that redefining, or reframing, an issue can have on policymaking. As political scientists Frank Baumgartner and Bryan Jones observe, “[If] disadvantaged policy entrepreneurs are successful in convincing others that their view of an issue is more accurate than the views of their opponents, they may achieve rapid success in altering public policy arrangements, even if these arrangements have been in place for decades.”²

Their observation is valid because if redefining a problem raises its salience—as manifested by widespread public activism, intense and favorable media coverage, and marked shifts in public opinion polls—politicians tend to respond. In particular, a legislator who seeks a leadership role must take positions that appeal to a national constituency and demonstrate a capacity to build winning coalitions. The president—or anyone who aspires to be president—is the one most likely to embrace issues that are widely salient, such as those that promise broad and visible public benefits. So it is not surprising that competition among presidential candidates has been the impetus

behind some of the nation's most significant environmental policies. Rank-and-file legislators are also moved by highly salient issues: they jump on the bandwagon in hopes of gaining credit, or at least avoiding blame, for addressing a problem about which the public is intensely concerned.

This case also shows how a focusing event—in this instance, Earth Day—can open a policy window for a leader to promote solutions that policy entrepreneurs have linked to a newly popular framing of an issue. To be successful, policy entrepreneurs must offer solutions that appear likely to address the problem as it has been defined; their solution must be capable of garnering support from a majority legislative coalition. In trying to address air and water pollution, the proposed solutions reflected both longstanding agendas of key congressional players and the concerns of legislators (and their staff) who were newly empowered by the environmental movement. Interestingly, those solutions did not cater to the needs of the business community, mainly because it was not well-organized to lobby effectively on behalf of its interests. The result was two programs with unprecedented regulatory reach.

The implementation of an ambitious new program often encounters serious practical obstacles, however. Whereas legislators can respond to public enthusiasm about an issue, the implementing agencies must cater to “multiple principals”; that is, they must please the president and the congressional committees that oversee and fund them.³ In addition, these agencies must grapple with the demands of organized interests: agencies depend on the cooperation of those they regulate because they have neither the resources nor the personnel to enforce every rule they issue; moreover, organized interests provide agencies with political support in Congress.⁴ The process of implementing environmental legislation is particularly complicated because the agencies administering it operate in a highly fractious context in which the participants have a propensity to take their disagreements to court. As a result of all these forces, and despite provisions aimed at ensuring compliance with their lofty goals, policies that depart dramatically from the status quo rarely achieve the targets set forth in the legislation.

Furthermore, over time, such landmark statutes may become targets for reformers, as has been the case with both the Clean Air and Clean Water acts. The enactment of those laws triggered a mobilization of both business and conservative interests that espoused a cornucopian worldview; they deeply resented the nationalization of pollution control, as well as the stringent rules that accompanied that shift. Critics of both laws amplified their views in the editorial pages of *The Wall Street Journal* and in conservative magazines. Beginning in the 1990s, they extended their reach by taking advantage of new media outlets, like Fox News and conservative talk shows. In the twenty-first century they continue to voice their outrage through social media. Using both direct and low-visibility challenges, critics have sought to dismantle, weaken, or delay implementation of federal pollution-control statutes. Their efforts have been only minimally effective, however, as environmentalists have succeeded in raising the salience of these attacks and galvanizing the public to support fending them off.

BACKGROUND

Until 1970 a patchwork of local, state, and federal laws and institutions aimed to reduce pollution in order to protect public health. Beginning in the mid-1950s the federal government expanded its funding and advisory roles in pollution control, but these policy changes were incremental, and the emphasis on state-level design and enforcement persisted. Because state and local officials were deeply concerned about fostering economic development, and because environmental activists in most states had insufficient clout to challenge economic interests, this arrangement meant that few states undertook serious pollution-control programs.

Early Efforts to Address Air Pollution

The earliest concerns about air pollution in the United States arose in response to the smoke emitted by factories that accompanied industrialization. Chicago and Cincinnati enacted the nation's first clean air laws in 1881. Chicago's ordinance declared that "the emissions of dense smoke from the smokestack of any boat or locomotive or from any chimney anywhere within the city shall be . . . a public nuisance."⁵ By 1912 twenty-three of twenty-eight American cities with populations greater than 200,000 had passed similar laws—although these ordinances did little to mitigate air pollution.⁶ During World War II, Los Angeles initiated the nation's first modern air pollution program in response to a public outcry about the odors of a wartime industrial plant. The city also placed severe curbs on oil refineries and backyard incinerators.

Industrialization outpaced efforts to control its impacts, however. In 1948 toxic smog in Donora, Pennsylvania, killed 20 people and sickened almost 6,000, afflicting 43 percent of the city's population.⁷ Similar incidents occurred in London and Los Angeles in the 1950s. These episodes attracted widespread media coverage, changed both the experts' and the public's perceptions of air pollution from a nuisance to a public health problem, and prompted the federal government to buttress state efforts with financial and research assistance. In 1955 Congress authorized the Public Health Service (PHS), a bureau within the Department of Health, Education and Welfare (HEW), to conduct air pollution research and to help states and educational institutions train personnel and carry out research and control. Upon taking office in 1961, President John F. Kennedy affirmed the importance of the federal government's role, asserting the need for an effective national program to address air pollution.

Then, in November 1962, a four-day inversion produced an air pollution episode in New York believed to have caused eighty deaths.⁸ The event rekindled public interest in pollution-control legislation; in response, Congress passed the Clean Air Act of 1963. This legislation expanded HEW's authority to enforce existing state laws, encouraged the development of new state laws, and regulated interstate air pollution. Two years later, the Motor Vehicle Air Pollution Control Act required HEW to establish regulations controlling emissions from all new motor vehicles. And in 1967 Congress passed the Air Quality Act, which required the National

Air Pollution Control Administration, a small division within HEW, to designate regional air quality control areas, issue air quality criteria, and recommend pollution-control techniques. But the new law lacked deadlines and penalties; as a result, by 1970, the federal government had designated less than one-third of the metropolitan air quality regions projected in the statute, and no state had established a complete set of standards for any pollutant.⁹

Early Efforts to Address Water Pollution

The federal government became involved in controlling water pollution as early as the late nineteenth century, but—as with air pollution—legal authority belonged almost entirely to states and localities. In 1899 Congress passed the Rivers and Harbors Act, prohibiting the dumping of refuse that might impede travel in any navigable body of water. In 1912 Congress passed the Public Health Service Act, which authorized studies of waterborne diseases, sanitation, sewage, and the pollution of navigable streams and lakes. Subsequently, the 1924 Federal Oil Pollution Act prohibited ocean-going vessels from dumping oil into the sea (mainly to protect other vessels). These national laws were largely ineffectual, so by the 1940s every state had established its own agency responsible for controlling water pollution. But the powers of these agencies varied widely, and states had no recourse when upstream users polluted rivers that crossed state borders.¹⁰

In an effort to create a more coherent water pollution policy, Congress passed the Federal Water Pollution Control Act in 1948. This law directed the surgeon general of the PHS to develop a comprehensive program to abate and control water pollution, administer grants-in-aid for building municipal wastewater treatment plants, conduct research, and render technical assistance to states. The law also authorized the surgeon general to enforce antipollution measures in interstate waters, but only with the consent of the affected states.¹¹ The PHS was unable to manage the federal water pollution program to the satisfaction of either conservation groups or Congress, however, and President Harry S. Truman further hampered the law's implementation by preventing the agency from distributing loans to states and localities for wastewater treatment plants.

To redirect and strengthen HEW's efforts, Congress enacted the Federal Water Pollution Control Act of 1961, which transferred responsibility for water pollution control from the surgeon general to his or her superior, the secretary of HEW. The new law extended federal enforcement to all navigable waters, not just interstate waters, and called for an increase in appropriations for municipal wastewater treatment plants. Four years later, Congress went even further with the Water Quality Act of 1965, which officially created a separate agency, the Federal Water Pollution Control Administration, within HEW. The act gave the states until June 30, 1967, to develop individual water quality standards for drinking water, fish and wildlife, recreation, and agriculture on their interstate navigable waters. In addition, the bill established an explicit national goal: the "prevention, control, and abatement of water pollution." The following year, Sen. Edmund Muskie, D-Maine, proposed, and

Congress passed, a bill that created a \$3.55 billion sewage treatment plant construction fund that would distribute money to congressional districts across the country and reflected the pork-barrel politics that dominated congressional decision making.¹² Despite this expansion in federal jurisdiction, three consecutive bureaucratic reorganizations hampered the new water pollution-control agency's ability to exercise its statutory authority, rendering its efforts more apparent than real.

THE CASE

As this history suggests, the pace of federal air and water pollution-control legislation accelerated during the 1960s, but it was the laws passed in the early 1970s that marked the most significant departure from the past. With these laws, the federal government assumed primary responsibility for ensuring that the nation's air and water were cleaned up by instituting strict new pollution-control standards and enforcing compliance by polluters. The impetus for this change was not a sudden or dramatic increase in pollution; rather, it was a redefinition of the problem sparked by widely read environmental writers and the consequent emergence of environmental protection as a popular national cause. Public concern about pollution outran the incremental responses of the 1960s, finally reaching a tipping point and culminating at the end of the decade in a massive Earth Day demonstration. That event, in turn, opened a policy window for advocates of strict pollution-control policies. Politicians, vying for a leadership role and recognizing the popularity of environmentalism, competed for voters' recognition of their environmental qualifications.

Environmentalism Becomes a Popular Cause

In 1962 Rachel Carson published *Silent Spring*, the book that many credit with lighting the fuse that ignited the modern environmental movement. On *The New York Times* bestseller list for thirty-one weeks, Carson's book sparked a firestorm of environmental activism and was soon followed by a series of antipollution tracts, including an influential book published in 1968 by biologist and environmental popularizer Paul Ehrlich titled *The Population Bomb*.

Then, in 1969, a series of highly publicized disasters hit. A Union Oil Company well blew out six miles off the coast of Santa Barbara, California, and for several weeks, oil leaked into the Pacific Ocean at the rate of 20,000 gallons a day, polluting twenty miles of beaches. Cleveland's Cuyahoga River, heavily polluted with oil and industrial chemicals, burst into flames.¹³ Mercury scares frightened people away from seafood, and coastal communities closed beaches when raw sewage washed up on shore.

Calls for greater public awareness of the nation's degraded environment in response to these episodes fell on receptive ears. The population was becoming younger and better educated: between 1950 and 1974, the percentage of adults with some college education rose from 13.4 percent to 25.2 percent.¹⁴ Demographic

change was coupled with a streak of unprecedented prosperity as the nation's economy burst out of World War II. The emerging generation, finding itself in the midst of this boom, began to worry about the pollution that accompanied rapid growth and urbanization.¹⁵ One indication of the public's growing interest in environmental issues during this time was the explosion of citations under the heading "environment" in *The New York Times* index. In 1955 the word was not even indexed; in 1965 it appeared as a heading but was followed by only two citations; by 1970, however, there were eighty-six paragraphs under the heading.¹⁶

Celebrating Earth Day 1970

The heightened environmental awareness of the 1960s reached its pinnacle on April 22, 1970, in the national celebration of Earth Day. The demonstration was the brainchild of Sen. Gaylord Nelson, D-Wis., who had a long-standing interest in the environment but felt that few members of Congress shared his concern. After meeting with Paul Ehrlich, Nelson conceived of an environmental teach-in to raise public awareness. He hired Denis Hayes, a twenty-five-year-old Harvard Law School student, to organize the event on a budget of \$125,000.¹⁷ Interestingly, the established preservation-oriented groups, such as the Sierra Club, the Audubon Society, and the National Wildlife Federation, played little or no role in Earth Day. In fact, as Shabecoff points out, they were surprised by and unprepared for the national surge in emotion.¹⁸

Despite the absence of the mainstream environmental groups, Earth Day was a resounding success—an outpouring of social activism comparable to the civil rights and Vietnam War protests. *The New York Times* proclaimed, "Millions Join Earth Day Observances Across the Nation." *Time* magazine estimated that 20 million people nationwide were involved.¹⁹ Organizers claimed that more than 2,000 colleges, 10,000 elementary and high schools, and citizens' groups in 2,000 communities participated in the festivities.²⁰

Citizens in every major city and town rallied in support of the message. For two hours New York City barred the internal combustion engine from Fifth Avenue, and thousands thronged the city's fume-free streets; in Union Square, crowds heard speeches and visited booths that distributed information on topics such as air pollution, urban planning, voluntary sterilization, conservation, and wildlife preservation. In Hoboken, New Jersey, a crowd hoisted a coffin containing the names of America's polluted rivers into the Hudson. In Birmingham, Alabama, one of the most polluted cities in the nation, the Greater Birmingham Alliance to Stop Pollution (GASP) held a "right to live" rally. Washington's chapter of GASP distributed forms that pedestrians could use to report buses emitting noxious fumes or smoke to the transit authority.

Students of all ages participated in an eclectic array of events. Fifth graders at the Charles Barrett Elementary School in Alexandria, Virginia, wrote letters to local polluters. Girls from Washington Irving High School in New York collected trash and dragged white sheets along sidewalks to show how dirty they became.

University of New Mexico students collected signatures on a plastic globe and presented it as an “enemy of the Earth” award to twenty-eight state senators accused of weakening an environmental law. At Indiana University female students tossed birth control pills at crowds to protest overpopulation. At the University of Texas in Austin, the campus newspaper came out with a make-believe April 22, 1990, headline that read, “Noxious Smog Hits Houston: 6,000 Dead.”

Although it was the target of most Earth Day criticism, even the business community jumped on the Earth Day bandwagon in an effort to improve its image. Rex Chainbelt, Inc., of Milwaukee announced the creation of a new pollution-control division. Reynolds Metal Can Company sent trucks to colleges in fourteen states to pick up aluminum cans collected in “trash-ins” and paid a bounty of one cent for two cans. And Scott Paper announced plans to spend large sums on pollution abatement for its plants in Maine and Washington.

Republican and Democratic politicians alike tried to capitalize on the public fervor as well. Congress stood in recess because scores of its members were participating in Earth Day programs: Senator Muskie addressed a crowd of 25,000 in Philadelphia; Sen. Birch Bayh, D-Ind., spoke at Georgetown University; Sen. George McGovern, D-S.D., talked to students at Purdue University; and Sen. John Tower, R-Texas, addressed members of the oil industry in Houston. Most audiences greeted politicians with suspicion, however. University of Michigan students heckled former interior secretary Stewart Udall until he promised to donate his \$1,000 speaker’s fee to the school’s environmental quality group. Protestors at a rally held by Sen. Charles Goodell, R-N.Y., distributed a leaflet calling his speech “the biggest cause of air pollution.” Organizers in the Environmental Action Coalition refused to allow politicians on their platform at all to avoid giving Earth Day a political cast.

The Polls Confirm a Shift in Public Opinion

Public opinion polls confirm that Earth Day marked the emergence of environmentalism as a mass social movement in the United States. Before 1965 pollsters did not even deem pollution important enough to ask about, but by 1970 it had become a major political force. As Table 2.1 shows, over the five-year period leading up to Earth Day, the increase in public awareness of air and water pollution is striking. Survey data gathered between 1965 and 1969 reflected public recognition of pollution, but most people did not identify it as a high priority issue. Then, between the summer of 1969 and the summer of 1970, the public’s concern reached a tipping point, and the issue jumped from tenth to fifth place in the Gallup polls. By 1970, the American public perceived pollution as more important than race, crime, and poverty (see Table 2.2). In December 1970, a Harris survey showed that Americans rated pollution as “the most serious problem” facing their communities. According to another Harris poll, conducted in 1971, 83 percent of Americans wanted the federal government to spend more money on air and water pollution-control programs.²¹

Writing in the spring of 1972, poll editor Hazel Erskine summed up the rapid growth in concern about the environment this way: “A miracle of public opinion has

Table 2.1 Public Opinion on Air and Water Pollution, 1965–1970**Q: Compared with other parts of the country, do you think the problem of air/water pollution in your area is very serious or somewhat serious?**

Year	Sample Size	Air (%)	Water (%)
1965	2,128	28	35
1966	2,033	48	49
1967	2,000	53	52
1968	2,079	55	58
1969	NA	NA	NA
1970	2,168	69	74

Source: John C. Whitaker, *Striking a Balance: Environment and Natural Resources Policy in the Nixon-Ford Years* (Washington, D.C.: AEI, 1976), 8. Reprinted with the permission of The American Enterprise Institute.

Table 2.2 Most Important Domestic Problems, 1969 and 1971**Q: Aside from the Vietnam War and foreign affairs, what are some of the most important problems facing people here in the United States?**

Problem	May 1969 Survey (%)	May 1971 Survey (%)	Significant Changes (%)
Inflation, cost of living, taxes	34	44	10
Pollution, ecology	1	25	24
Unemployment	7	24	17
Drugs, alcohol	3	23	20
Racial problems	39	22	-17
Poverty/welfare	22	20	-2
Crime, lack of law and order	15	19	4
Unrest among young people	6	12	6
Education	5	8	3
Housing	NA	6	NA

Source: John C. Whitaker, *Striking a Balance: Environment and Natural Resources Policy in the Nixon-Ford Years* (Washington, D.C.: AEI, 1976), 8. Reprinted with the permission of The American Enterprise Institute.

been the unprecedented speed and urgency with which ecological issues have burst into the American consciousness. Alarm about the environment sprang from nowhere to major proportions in a few short years.”²² According to historian Samuel Hays, this shift in public opinion was no transient phase, but it reflected a permanent evolution associated with rising standards of living and human expectations. “Environmental politics,” he contends, “reflect major changes in American society and values. People want new services from government stemming from new desires associated with the advanced consumer economy that came into being after World War II.”²³

Politicians Respond

The emergence of broad-based public support for pollution control empowered proponents of more stringent policies, who pressed their demands on Congress and the president, citing the polls and Earth Day as evidence of the salience of environmental problems. To promote more ambitious policies, they capitalized on the competition between President Nixon and aspiring presidential candidate Muskie for control over the issue of environmental protection. The candidates, in turn, raised the stakes by ratcheting up their proposals.

Creating the Environmental Protection Agency. Reflecting their perception of the issue’s low salience, neither of the major party’s presidential candidates in 1968 made the environment a campaign focus. Instead, both parties concentrated on peace, prosperity, crime, and inflation. Only one of the thirty-four position papers and statements published in the compendium *Nixon Speaks Out* covers natural resources and environmental quality; in another Nixon campaign publication containing speeches, statements, issue papers, and answers to questions from the press, only 5 of 174 pages are devoted to the environment, natural resources, and energy. Nixon staff members did not recall even one question to the candidate about the environment.²⁴ The campaign of Democrat Hubert Humphrey was equally silent on the subject.

Yet within two years, Nixon’s staff had grasped the growing salience of environmental protection and had begun staking out the president’s position. In his State of the Union address in January 1970, Nixon made bold pronouncements about the need for federal intervention to protect the environment, saying,

Restoring nature to its natural state is a cause beyond party and beyond factions. It has become a common cause of all the people of this country. It is the cause of particular concern to young Americans because they more than we will reap the grim consequences of our failure to act on the programs which are needed now if we are to prevent disaster later—clean air, clean water, open spaces. These should once again be the birthright of every American. If we act now they can.²⁵

Nixon went on to assert that the nation required “comprehensive new regulation.” The price of goods, he said, “should be made to include the costs of producing

and disposing of them without damage to the environment.”²⁶ On February 10, Nixon delivered a special message to Congress on environmental quality in which he outlined a thirty-seven-point program encompassing twenty-three separate pieces of legislation and fourteen administrative actions.²⁷

On July 9, the president submitted to Congress an executive reorganization plan that proposed the creation of the Environmental Protection Agency and consolidated a variety of federal environmental activities within the new agency. The EPA’s principal functions were to establish and enforce pollution-control standards, gather and analyze information about long-standing and newly recognized environmental problems, and recommend policy changes.²⁸ Ironically, the original impetus for the EPA came not from the environmental community, but from a commission appointed by President Nixon to generate ideas for streamlining the federal bureaucracy. Although the President’s Advisory Council on Executive Organization, known as the Ash Council, was composed primarily of business executives, the staff included several environmental policy entrepreneurs. At first, council head Roy Ash favored vesting responsibility for both natural resources and pollution control in a single “super department,” a department of natural resources. But council staff worried that such a plan would force environmentalists to compete with better organized and better financed natural resource development interests. They proposed instead an independent agency with jurisdiction over pollution control.²⁹ Council members also favored establishing an executive agency because creating a regulatory commission would require legislative action and would therefore subject the council’s proposals to congressional politics. Furthermore, council members preferred the scientific and technical nature of executive agency decision making and were concerned that a commission would be dominated by legal and adjudicative experts.³⁰

President Nixon did not accept all of the Ash Council’s recommendations for the EPA, but he retained the central idea: to create an agency devoted to comprehensive environmental protection. The presidential message accompanying Reorganization Plan Number Three clearly reflected the extent to which ecological ideas about the interconnectedness of the natural environment had permeated the political debate about pollution.

The Senate was hospitable to Nixon’s proposal and introduced no resolution opposing it.³¹ In spite of the objections of some prominent members, the House did not pass a resolution opposing the reorganization either, so on December 2, 1970, the EPA opened its doors.

The Clean Air Act of 1970. One of the first tasks of the new agency was to implement the Clean Air Act Amendments of 1970. This was a particular challenge for the fledgling EPA because the new legislation was much more than an incremental step beyond past policy experience; in fact, it was a radical departure from the approach previously taken by the federal government. Instead of helping the states design air pollution programs, the EPA was to assume primary responsibility for setting air quality standards and for ensuring that the states enforced those standards.

Congress and the president had begun work on the 1970 Clean Air Act months before the Nixon administration established the EPA. Recognizing the rising political cachet of environmentalism and wanting to launch a preemptive strike against Senator Muskie, his likely rival for the presidency, Nixon sent air pollution legislation to Congress in February 1970. Under the bill, HEW would issue stringent motor vehicle emission standards and improve its testing procedures and regulation of fuel composition and additives. To address air pollution from stationary sources (factories and electric utilities), the bill established national air quality standards, accelerated the designation of air quality control regions, and set national emissions standards for hazardous pollutants and particular classes of new facilities.

The administration's proposal fared well in the House of Representatives, where the chamber's bipartisan consensus reflected the rank-and-file members' sensitivity to the prevailing public mood. Under the guidance of Rep. Paul Rogers, D-Fla., the Commerce Committee's Subcommittee on Public Health and Welfare marked up the bill, and the full committee reported out a somewhat stronger version than the original. On June 10, the full House passed the bill 374–1.

The administration bill received a cooler reception in the Senate, where Nixon's presumed presidential rival, Senator Muskie, was the undisputed champion of the environmental cause.³² On March 4, shortly after the president submitted his bill to the House, Muskie introduced an alternative, the National Air Quality Standards Act of 1970. His objective at the time was to prod agencies to strengthen their implementation of the 1967 act, rather than to initiate a radically different policy. Muskie had spent his Senate career characterizing pollution control as a state responsibility and the domain of experts; as he understood it, the problem lay not in the design of the program but in its implementation.³³ Over the summer, however, Muskie changed his tune. He asked the Public Works Committee's Subcommittee on Air and Water Pollution to draft a new set of amendments containing stringent new provisions including national, rather than regional, standards for major pollutants.

Muskie's change of heart was a clear attempt to reestablish his dominance in the environmental area. Despite his considerable record, not only Nixon but also some prominent environmental advocates had challenged the senator's commitment to environmental protection. A highly critical report by a study group under the direction of Ralph Nader, released in May 1970, characterized Muskie as a weak and ineffectual sponsor of clean air legislation. The report, titled *Vanishing Air*, assailed Muskie as

the chief architect of the disastrous Air Quality Act of 1967. That fact alone would warrant his being stripped of his title as "Mr. Pollution Control." But the Senator's passivity since 1967 in the face of an ever worsening air pollution crisis compounds his earlier failure. . . . Muskie awakened from his dormancy on the issue of air pollution the day after President Nixon's State of the Union message. . . . In other words, the air pollution issue became vital again when it appeared that the President might steal the Senator's thunder on a good political issue.³⁴

Media publicity of the Nader report's charges put Muskie on the defensive, and the Senate's environmental leader felt compelled to "do something extraordinary in order to recapture his [pollution-control] leadership."³⁵

In the end, Muskie's subcommittee drafted an air pollution bill more stringent than either the president's original proposal or the House of Representatives' slightly stronger version. It called for nationally uniform air quality standards that ignored economic cost and technological feasibility considerations and were based solely on health and welfare criteria; it required traffic-control plans to eliminate automobile use in parts of some major cities; and it mandated a 90 percent reduction in automotive emissions of carbon monoxide, hydrocarbons, and nitrogen oxides by 1975. In a clear manifestation of the burgeoning popularity of environmental protection, senators got on the bandwagon and endorsed this version of the clean air bill unanimously (73–0) on September 21, 1970.³⁶

Because of substantial differences in critical sections of the bill, the House–Senate conference that ensued was protracted, involving at least eight long sessions over a three-month period. The Senate's eight conferees held an advantage over the five from the House because Muskie's prolonged attention to pollution issues had attracted several qualified and committed staffers who had amassed expertise. As a consequence, the final conference report more closely resembled the Senate version of the bill than the House version.

On December 18, both chambers debated and passed the conference report by voice vote, and on December 31, President Nixon signed the Clean Air Act of 1970 into law. Its centerpiece was the requirement that the EPA set both primary and secondary national ambient air quality standards.³⁷ The states were to submit state implementation plans (SIPs) outlining a strategy for meeting primary standards by 1975 and secondary standards "within a reasonable time." If the EPA determined a SIP to be inadequate, it had to promulgate a plan of its own. The act also targeted some polluters directly: it required automobile producers to reduce the emissions of new cars by 90 percent by 1975, and it required the EPA to set performance standards for all major categories of new stationary sources.

The Clean Water Act of 1972. President Nixon made not only air pollution but also water pollution legislation a pillar of his February 10, 1970, special message to Congress. When Congress failed to address water pollution in the subsequent legislative session, the president moved administratively, using the permit authority granted by the Refuse Act of 1899 to control industrial pollution of waterways. By executive order, Nixon directed the EPA to require industries to disclose the amount and kinds of effluents they were generating before they could obtain a permit to discharge them into navigable waters.³⁸ When a polluter failed to apply for a permit or violated existing clean water regulations, the EPA referred an enforcement action to the Justice Department.

Neither the permit process nor the enforcement strategy was particularly effective at ameliorating water pollution, however. Although the president endorsed the

permit program, Congress was not pleased at being circumvented; state agencies were angry that federal rules superseded their own regulations; and many industries were furious at the sudden demands for discharge information.³⁹ Compliance was limited: on July 1, 1971, when the first 50,000 applications from water-polluting industries were due, only 30,000 had arrived, and many of them contained incomplete or inaccurate information. The enforcement process, which relied heavily on the overburdened federal court system, was slow and cumbersome.⁴⁰ Then, in December 1971, a district court in Ohio dealt the permit program its final blow: it held that the EPA had to draft an environmental impact statement for each permit issued to comply with the recently passed National Environmental Policy Act.⁴¹

While the EPA muddled through with its interim program, Congress began to debate the future of water pollution policy in earnest. In February 1971, President Nixon endorsed a proposal to strengthen a bill he had submitted to Congress the previous year. The new bill increased the administration's request for annual municipal wastewater treatment financing from \$1 billion to \$2 billion for three years and established mandatory toxic discharge standards. In addition, it requested authority for legal actions by private citizens to enforce water-quality standards. Refusing to be upstaged by the president, Muskie again seized the opportunity to offer even more stringent legislation. The Senate began hearings in February, and eight months later, Muskie's Public Works Committee reported out the Federal Water Pollution Control Act Amendments. According to Milazzo, the legislation that emerged reflected not just presidential politics or pressure from the public, but also displayed the input of "unlikely environmentalists," including the proponents of economic development, men who designed ballistic missiles, an agency that built dams (the Army Corps of Engineers), and professional ecologists. "In the course of pursuing their own agendas within well-established organizational channels," he says, "these . . . actors . . . took an active interest in water pollution and proceeded to shape how policymakers devised solutions to the problem."⁴²

Much to the Nixon administration's dismay, the price tag for the Senate bill was \$18 billion, three times the cost of Nixon's proposal. Moreover, the administration found unrealistic the overarching objectives of the Senate bill: that "wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water should be achieved by 1981" and that "the discharge of all pollutants into navigable waters would be eliminated by 1985." Finally, the administration considered the Senate bill inequitable, claiming that it imposed a disproportionate burden on industry by singling out those that could not discharge into municipal waste treatment facilities. Despite the president's reservations, on November 2, 1971, the Senate passed Muskie's bill by a vote of 86–0.

Having failed to shift the Senate, the administration focused on the House deliberations, with some qualified success: the House reported out a bill similar to the one proposed by the White House. In contrast to the Senate version, the House bill retained the primacy of the states in administering the water pollution-control

program. After meeting forty times between May and September 1972, the House–Senate conferees overcame their differences and produced a bill satisfactory to both chambers. In another extraordinary display of consensus, the Senate passed the conference bill by 74–0, and the House approved it by 366–11.

The compromise was too stringent for the administration, however. It retained both the fishable, swimmable, and zero-discharge goals and the financing provisions that were so objectionable to the president. Furthermore, the bill's timetables and total disregard for economic costs offended the president. So, in a tactical maneuver, Nixon vetoed the Clean Water Act on October 17, the day that Congress was scheduled to adjourn for the year. To Nixon's chagrin, Congress responded with unusual alacrity: less than two hours after the president delivered his veto message, the Senate voted to override the veto by 52–12.⁴³ The next afternoon, the House followed suit by a vote of 247–23, and the Clean Water Act became law.

The New Environmental Regulations. The Clean Air and Clean Water acts reflected the prevailing definition of pollution, in which industrial polluters (not consumers) were the villains, and citizens (and only secondarily the environment) were the unwitting victims. They also reflected the public's skepticism of corporations' willingness and government bureaucrats' ability to address pollution. Concerns about "regulatory capture," whereby agencies become subservient to the industries they are supposed to monitor, had preoccupied academics for years, but in 1969, political scientist Theodore Lowi popularized the concept in his book *The End of Liberalism*. Lowi criticized Congress for granting agencies broad discretion in order to avoid making hard political trade-offs. He argued that agencies, operating out of the public eye, strike bargains with the interest groups most affected by their policies, rather than implementing policies in ways that serve a broader national interest. Led by Nader, reformers disseminated the concept of regulatory capture. Two reports issued by Nader's Center for the Study of Responsive Law, *Vanishing Air* in 1970 and *Water Wasteland* in 1971, attributed the failures of earlier air and water pollution-control laws to agency capture. More important, they linked that diagnosis to Nader's preferred solution—strict, action-forcing statutes—reasoning that unambiguous laws would limit bureaucrats' ability to pander to interest groups.

Members of Congress got the message: in addition to transferring standard-setting authority from the states to the federal government, the Clean Air and Clean Water acts employed novel regulatory mechanisms—such as strict deadlines, clear goals, and uniform standards—that both minimized the EPA's discretion and restricted polluters' flexibility. For example, the Clean Air Act gave the EPA thirty days to establish health- and welfare-based ambient air quality standards. The states then had nine months to submit their SIPs to the EPA, which had to approve or disapprove them within four months of receipt. The agency was to ensure the achievement of national air quality standards no later than 1977. Similarly, the Clean Water Act specified six deadlines: by 1973, the EPA was supposed to issue effluent guidelines for major industrial categories; within a year, it was to grant permits to all

sources of water pollution; by 1977, every source was supposed to have installed the “best practicable” water pollution-control technology; by 1981, the major waterways in the nation were to be suitable for swimming and fishing; by 1983, polluting sources were to install the “best available” technology; and by 1985, all discharges into the nation’s waterways were to be eliminated.

Congress also sought to demonstrate its commitment to preventing regulatory capture by incorporating public participation into agency decision making and thereby breaking up regulated interests’ monopoly. For example, both the Clean Air and Clean Water acts required the EPA to solicit public opinion during the process of writing regulations. In addition, both laws encouraged public participation by explicitly granting citizens the right to bring a civil suit in federal court against any violator or “against the administrator [of the EPA] where there is alleged a failure of the administrator to perform any act or duty under [the Clean Air Act] which is not discretionary.”⁴⁴

Finally, the Clean Air and Clean Water acts of the early 1970s reflected impatience with market forces and a desire to spur the development of new pollution-control technology as well as to encourage businesses to devise innovative new production processes. Both laws included provisions that fostered technology in three ways: by prompting the development of new technology, by encouraging the adoption of available but not-yet-used technology, and by forcing diffusion of currently used technology within an industry. The motor vehicle provisions of the Clean Air Act, for example, forced the development of the catalytic converter. When Congress was debating the 90 percent reduction in tailpipe emissions, the automobile manufacturers strenuously objected that they did not have the technology to meet those standards, but Muskie responded with a flourish that this level of reduction was necessary to protect human health, so companies would have to devise a solution.⁴⁵ (As it turned out, carmakers were able to meet the standards relatively easily.) The Clean Water Act, on the other hand, pushed polluters to adopt technology that was already available but not widely used by its initial deadline. In the second phase, however, the act required businesses to meet standards achievable with the best technology available, even if it was not in use at the time.

Implementation: Idealism Tempered

The Clean Air and Clean Water acts were sufficiently grandiose that they would have presented a challenge to any agency, but they were particularly onerous for a brand new one that drew staff from all over the federal government. Not surprisingly, because of the short time allowed for implementing these laws, combined with the haste in which the agency was designed, the EPA did not attain the ideal of interrelatedness outlined by President Nixon; instead, different offices continued to manage pollution in different media. Nor did the EPA fulfill the mandates of the Clean Air and Clean Water acts to virtually eliminate pollution in the nation’s air and waterways. Although born in a period of great idealism and bequeathed a clear

mission to protect the environment, the EPA had to survive in the highly circumscribed world of practical politics. It had to establish relationships with and reconcile the demands of the president and Congress, and it had to navigate a course in a sea of competing interests, recalcitrant state and local officials, a skeptical media, and an expectant public. In all of these endeavors, the EPA was vulnerable to lawsuits because the statutes compelled it to act quickly and decisively, despite a dearth of scientific and technical information on which to base its decisions and, more important, with which to justify them.

Setting a Course. From its inception, the new EPA was an organizational nightmare, as it comprised

an uneasy amalgam of staff and programs previously located in 15 separate federal agencies. EPA had a total budget of \$1.4 billion. Its 5,743 employees worked in 157 places, ranging geographically from a floating barge off the Florida coast to a water quality laboratory in Alaska. In Washington, D.C., alone there were 2,000 employees scattered across the city in 12 separate office buildings.⁴⁶

The first EPA administrator, William Ruckelshaus, was a thirty-eight-year-old lawyer and former assistant state attorney assigned to the Indiana State Health Department. He was confronted with the awesome tasks of coordinating the disparate offices of the new agency (it lacked a headquarters until 1973), establishing a set of coherent priorities, and carrying out the statutory mission of regulating polluters. From the outset, Ruckelshaus balanced his own approach against the conflicting preferences of the White House and Congress.

Dealing with the White House posed a considerable challenge. Although President Nixon created the EPA and introduced pollution-control legislation, he did so more out of political opportunism than genuine environmental concern.⁴⁷ He regarded environmentalism as a fad, but one that promised political rewards. As political writer Mary Graham explains, “Elected with only 43 percent of the popular vote in 1968, Nixon needed to take bold steps to expand his ideological base in order to be reelected in 1972.”⁴⁸ In truth, Nixon was hostile toward the federal bureaucracy and, as biographer Stephen Ambrose notes, wanted “credit for boldness and innovation without the costs.”⁴⁹ Nixon instructed White House staff to scrutinize the EPA’s activity and block its rulemaking; he also introduced legislation to curtail its authority. Most notably, he established a “quality of life” review under the Office of Management and Budget (OMB) to assess the legal, economic, and budgetary implications of EPA regulations—a mechanism that by 1972 “had become an administration device for obstructing stringent regulations, as the environmental groups had originally feared.”⁵⁰

Congress, on the other hand, was a mixed bag of backers and critics. Several members of Congress exhibited a genuine zeal for environmental protection.

Members of the House and Senate subcommittees with jurisdiction over pollution control encouraged Ruckelshaus to enforce the law vigorously. Muskie, in particular, was dogged in his efforts to train national attention on pollution control and thereby hold the EPA's feet to the fire. His subcommittee convened frequent hearings that required Ruckelshaus to explain delays in setting standards. But other members on related committees were more conservative; for example, Rep. Jamie Whitten, D-Miss., chair of the House Appropriations Subcommittee on Agriculture, Environment, and Consumer Protection, controlled the agency's purse strings and was a vocal opponent of strong environmental regulations.⁵¹

Squeezed between supporters and detractors in Congress and the White House, Ruckelshaus tried to build an independent constituency that would support the fledgling EPA. To establish credibility as an environmentalist and earn public trust, he initiated a series of lawsuits against known municipal and industrial violators of water pollution-control laws. To reinforce his efforts, he promoted the agency in the media, giving frequent press conferences, appearing on talk shows, and making speeches before trade and business associations.

Ruckelshaus had to do more than file lawsuits and woo the media, however; he had to promulgate a series of regulations to meet statutory deadlines, notwithstanding the paucity of scientific and engineering information. Compounding the technical obstacles, the targeted industries resisted agency rulemaking. Although it had been ambushed by the regulatory onslaught of the late 1960s and early 1970s, business quickly adapted to the new political order. Corporations began to emphasize government relations as a fundamental part of their missions: between 1968 and 1978, the number of corporations with public affairs offices in Washington rose from 100 to more than 500.⁵² In short, having lost the first round, polluters sought to recapture their dominance over environmentalists at the implementation stage, and with its almost bottomless resources, industry was able to challenge regulations administratively and in the courts.⁵³

Implementing the Clean Air Act. Thanks to both their increased political involvement and a shift in public attention, the industries especially hard hit by regulation—automobile, steel, nonferrous smelting, and electric power—all succeeded in winning delays from the EPA. The automobile manufacturers were among those the Clean Air Act singled out most directly. Before the passage of the 1966 National Traffic and Motor Vehicle Safety Act, the automobile was completely unregulated by the federal government. Yet only four years later, the Clean Air Act required carmakers to cut emissions of carbon monoxide, nitrogen oxides, and hydrocarbons by 90 percent within five years. Producers immediately applied for a one-year extension of the deadline, contending that the technology to achieve the standards was not yet available. Ruckelshaus denied their petition on the grounds that the industry had not made “good faith efforts” to achieve the standards. The manufacturers then took their case to the U.S. Court of Appeals for the District of Columbia Circuit, which overturned Ruckelshaus's decision,

saying that the agency needed to give economic factors greater weight. Later that year, Ruckelshaus relented and granted a one-year extension.

The power companies, carmakers, and coal and oil producers saw the 1973–1974 energy crisis as opening a policy window to weaken the requirements of the Clean Air Act. Threatening widespread economic dislocation, these energy-related industries pressured Congress and the president into passing the Energy Supply and Environmental Coordination Act of 1974. The act included another one-year extension for hydrocarbon and carbon monoxide emissions from tailpipes and a two-year extension for nitrogen oxide emissions. When a controversy arose over the health effects of emissions of sulfuric acid from catalytic converters, Russell Train, who succeeded Ruckelshaus as EPA administrator in September 1973, granted the carmakers a third extension.⁵⁴

The delays in achieving automotive emission standards left the EPA in an awkward position, however: because of the extensions, states could not rely on cleaner cars to mitigate their pollution problems and so had to reduce dramatically the *use* of automobiles, a politically unappealing prospect. Acknowledging the enormity of their task, Ruckelshaus granted seventeen of the most urbanized states a two-year extension on the transportation control portion of their implementation plans, giving them until 1977 to achieve air quality standards.⁵⁵ Although most state officials were pleased, disgruntled environmentalists in California filed suit in federal court to force the EPA to promulgate a transportation control plan (TCP) for Los Angeles. The plaintiffs charged that the Clean Air Act compelled the EPA to draft a plan for any state whose own plan the agency disapproved, not to grant extensions. The court agreed and ordered the agency to prepare a TCP for Los Angeles by January 15, 1973.

The pollution problem in the Los Angeles basin was so severe that, to bring the region into compliance with air quality standards, the EPA had to write a TCP that included gas rationing and mandatory installation of emissions control devices on all cars. Needless to say, such measures were unpopular. Public officials who were supposed to enforce the plan ridiculed it: Mayor Sam Yorty called it “asinine,” “silly,” and “impossible.”⁵⁶ State and local officials clearly believed that their constituents supported clean air in the abstract but would not give up their cars to get it.

Contributing to the agency’s credibility woes, just two weeks after Ruckelshaus announced the Los Angeles TCP, a federal court found in favor of the Natural Resources Defense Council in its suit to overturn the two-year extensions for states’ compliance with the air quality standards. To Ruckelshaus’s chagrin, the court ordered him to rescind all seventeen extensions. The states again were faced with a 1975 compliance deadline to be achieved without the benefit of cleaner cars.

As a result, in late 1973 the EPA found itself forced to produce a spate of TCPs for states whose own TCPs the agency had rejected. State officials immediately challenged the plans in court, and in some cases judges were sympathetic, finding that the EPA plans lacked sufficient technical support. But many of the plans went unchallenged, and by spring 1974 the EPA was in another quandary: it had promulgated numerous TCPs the previous year, but the states were not implementing

them. Although EPA lawyers believed they had the legal authority to require out-of-compliance areas to institute transportation controls, it was not clear how they would actually force recalcitrant states to do so, and the agency lacked the administrative apparatus to impose the control strategies itself. EPA officials decided to try enforcing a test case in Boston, a logical choice since it already had an extensive mass transit system.

The backlash in Massachusetts was severe, in part because the Boston plan was haphazard and incoherent—a reflection of the agency’s lack of information. For example, one regulation required all companies with fifty or more employees to reduce their available parking spaces by 25 percent. The EPA planned to send enforcement orders to 1,500 employers but discovered that only 300 of those on the list actually fit the category, and many of those turned out to be exempt (hospitals, for example). In the end, only seven or eight of the twenty-five eligible employers responded to the EPA’s request to cut parking spaces. As time went on, even northeast regional EPA officials became annoyed with the arbitrary assumptions and technical errors embedded in the Boston TCP. For example, EPA analysts had based the carbon monoxide reduction strategy for the entire city on an unusually high reading from an extremely congested intersection, and they based their ozone calculations on a solitary reading from a monitor that had probably malfunctioned.⁵⁷

The City of Boston took the plan to court, and the judge remanded the plan to the agency for better technical justification. Eventually, a chastened EPA rescinded the Boston TCP altogether and issued a replacement that dropped all mandatory traffic and parking restrictions and relied instead on stationary source controls and voluntary vehicle cutbacks. The EPA went on to abandon its attempts to force major cities to restructure their transportation systems, which in turn meant that many remained out of compliance with air quality standards. By 1975, the statutory deadline, not one state implementation plan had received final approval from the EPA.

Implementing the Clean Water Act. Like the Clean Air Act, the Clean Water Act required the EPA to take on powerful industries armed with only scant technical and scientific information. The law’s cornerstone, the National Pollutant Discharge Elimination System (NPDES), prohibited the dumping of any wastes or effluents by any industry or government entity without a permit. To implement this provision, the agency had to undertake a massive data collection task: it needed information about the discharges, manufacturing processes, and pollution-control options of 20,000 different industrial polluters operating under different circumstances in a variety of locations.⁵⁸ To simplify its task, the EPA divided companies into 30 categories and 250 subcategories on the basis of product, age, size, and manufacturing process. The water program office then created the Effluent Guidelines Division to set industry-by-industry effluent guidelines based on the “best practicable technology” (BPT). The division collected and tabulated information on companies around the country. But it found sufficient variation to make generalizations about a single best technology highly uncertain. While

the EPA wrestled with this problem, the Natural Resources Defense Council sued the agency for delay. The court, finding in favor of the plaintiffs, forced the EPA to release guidelines for more than 30 industry categories and 100 subcategories.

Although the permits granted to individual companies were supposed to be based on the BPT guidelines, as a result of delays in issuing those guidelines, the agency dispensed permits to almost all of the “major” polluters before the guidelines had even appeared.⁵⁹ Industry seized on this discrepancy to contest the permits in the agency’s adjudicatory proceedings. In addition, major companies brought more than 150 lawsuits to challenge the guidelines themselves: the very day the EPA issued guidelines for the chemical industry, DuPont hired a prestigious law firm to sue the agency.⁶⁰ Ultimately, the EPA was forced to adopt a more pragmatic and conciliatory relationship with out-of-compliance companies. In response, disappointed environmental groups began to file suits against polluters themselves.

The 1977 Clean Air and Water Act Amendments: Relaxing the Law

With the public’s attention elsewhere, in 1977 Congress relaxed the stringent provisions of both laws. The 1977 Clean Air Act Amendments postponed air quality goals until 1982; in areas heavily affected by car emissions, such as California, the act gave the states until 1987 to achieve air quality goals. The amendments also extended the deadline for the 90 percent reduction in automobile emissions—originally set for 1975 and subsequently postponed until 1978—to 1980 for hydrocarbons and 1981 for carbon monoxide. Congress granted the EPA administrator discretionary authority to delay the achievement of auto pollution reduction objectives for carbon monoxide and nitrogen oxides for up to two additional years if the required technology appeared unavailable. In addition, the amendments required that the EPA take into account competing priorities: it had to grant variances for technological innovation and file economic impact and employment impact statements with all new regulations it issued.⁶¹ Moreover, the amendments gave the governor of any state the right to suspend transportation control measures that required gas rationing, reductions in on-street parking, or bridge tolls.⁶²

The 1977 Clean Water Act Amendments extended a host of deadlines as well. The amendments gave industries that acted in “good faith” but did not meet the 1977 BPT deadlines until April 1, 1979, instead of July 1, 1977, to meet the standard. In addition, they postponed and modified the best available technology (BAT) requirement that industry was supposed to achieve by 1983. They retained the strict standard for toxic pollutants but modified it for conventional pollutants.⁶³ This change gave the EPA the flexibility to set standards less stringent than BAT when it determined that the costs of employing BAT exceeded the benefits. Finally, although the amendments retained the objective of zero discharge into navigable waters by 1985, changes in the law eviscerated that goal; the extension of the BPT target and the modification of the BAT target eliminated the connection between zero discharge and a specific abatement program.⁶⁴

Despite these rollbacks, the EPA continued to have formidable regulatory powers. In January 1978, shortly after Congress passed the amendments, President Jimmy Carter submitted his 1979 budget. Although he called for an overall spending increase of less than 1 percent over 1978, he requested an increase of \$668 million for EPA programs.⁶⁵ That allocation reflected an important shift that had taken place at the EPA: in the months prior to the budget announcement, the agency had made a concerted effort to recast its image from that of protector of flora and fauna to guardian of the public's health. The move was partly to deflect a threatened merger of the EPA with other natural resource agencies, but it also reflected shrewd recognition of congressional support for programs aimed at fighting cancer.⁶⁶ The agency's public-relations campaign worked, and by the end of the 1970s, the EPA had become the largest federal regulatory bureaucracy, with more than 13,000 employees and an annual budget of \$7 billion.⁶⁷

More Significant Challenges to the EPA and the Clean Air and Clean Water Acts

Although the EPA positioned itself well during the 1970s, in the 1980s and 2016, it encountered more severe challenges: the administrations of Republican presidents Ronald Reagan and Donald J. Trump. President Reagan ran on a platform antagonistic to environmentalists, environmental regulation, and government in general. Upon taking office, he set out to institutionalize his antiregulatory philosophy in the EPA by appointing as EPA administrator Anne Gorsuch, an avowed critic of environmental regulation. Gorsuch proceeded to bring enforcement of the Superfund Act (see "Love Canal," Chapter 3) to a halt. She also reorganized the agency and cut both its budget and staff severely, with the result that "[t]he atmosphere of frenetic activity and organizational ambition that . . . characterized the EPA during the [preceding] years simply dissipated."⁶⁸ Her activities eventually provoked a congressional inquiry, and in 1983 she and twenty other appointees resigned in hopes of sparing the president further embarrassment. Her successor, William Ruckelshaus, had more integrity, but the damage to the EPA's credibility was lasting. Moreover, as the 1980s wore on the environment became an increasingly partisan issue, with conservative Republicans taking aim at the nation's environmental statutes and environmentalists and their congressional allies increasingly on the defensive. Subsequent attacks on the EPA's programs and budgets by conservative members of Congress and Republican presidents through the 1990s and 2000s further eroded the agency's ability to implement and enforce the law.

For the most part, the Clean Air Act survived repeated efforts to sabotage it, thanks primarily to strong support from the courts. In 1990, under President George H. W. Bush, Congress approved the last major set of amendments to the Clean Air Act. The new law was filled with additional requirements and deadlines; it also addressed the issue of acid rain, a problem on which the Reagan administration and a divided Congress had delayed action for a decade (see Chapter 5). Subsequent efforts to challenge the law consisted primarily of resistance to the issuance

of updated air quality standards. For example, when the Clinton administration proposed more restrictive standards for ground-level ozone and small particulates in 1996, industry groups and their conservative allies launched a full-scale (but ultimately unsuccessful) effort to prevent the new smog and soot standards from taking effect: in 2001, the Supreme Court unanimously rejected the plaintiffs' argument that the EPA should take costs into account when setting air quality standards.

In another battle, the George W. Bush administration sought to weaken New Source Review requirements, which require stationary sources to install state-of-the-art pollution-control equipment when they make substantial renovations to their operations. Again, however, the courts rebuffed the administration's efforts, with the Supreme Court dealing the final blow in 2007, with its decision in *Environmental Defense et al. v. Duke Energy Corp.* In 2018, the Donald J. Trump administration announced it would withdraw a twenty-year-old EPA standard—"once-in-always in"—from the Clean Air Act, simply meaning that major sources (e.g., anything that emits more than ten tons or more per year) of hazardous air pollutants could be reclassified as area sources. The concern is that this would allow more pollutants into the air created by coal-burning smokestacks.⁶⁹ The final decision is yet to be decided and awaiting public comment in the *Federal Register*.

The Clean Water Act also held up over time, despite numerous challenges by homebuilders and property rights activists who have taken particular aim at the wetlands permit program established by the EPA and the Army Corps of Engineers under Section 404 of the act. In the mid-1990s, for example, after Republicans gained control of Congress, House Republicans lost no time in trying to revise the Clean Water Act to drastically reduce protection for the nation's wetlands. In spring 1995, Bud Shuster, R-Penn., chair of the House Transportation and Infrastructure Committee, introduced a set of radical revisions to the act, including provisions to restrict federal wetlands protection and compensate landowners whose property values declined more than 20 percent as a result of federal regulations. The proposal infuriated both scientists and environmentalists, who complained that regulated industries had helped draft the legislation and that its standards were inconsistent with the scientific understanding of wetland function. When Maryland Republican Wayne Gilchrest argued that wetlands deserved special protection, Rep. Jimmy Hayes, D-La., responded that the property rights of individuals were more important than ecologically worthless wetlands.⁷⁰ In the end, although the House passed Shuster's bill by a vote of 240–185, the Senate refused to adopt a similar measure. Property rights activists fared better in the courts, however.

Two major decisions—*Solid Waste Agency of Northern Cook County (SWANCC) v. U.S. Army Corps of Engineers* in 2001 and *Rapanos v. United States* in 2006—limited the extent to which the Clean Water Act could be used to protect isolated wetlands across the United States. In response to the confusion created by *SWANCC* and *Rapanos*, in March 2014 the EPA and the Army Corps of Engineers jointly proposed a rule to clarify the definition of the "waters of the United States." The proposed rule, which replaced guidance issued in 2003 and 2008 after the court rulings, clarified that under the Clean Water Act, wetlands with any significant connection to downstream

water quality should be protected. According to the proposal, 17 percent of isolated wetlands would automatically receive protection under the Clean Water Act, while the remainder would be subject to case-by-case evaluation.⁷¹ This rule was finalized in February 2018; however, President Trump issued an Executive Order for the EPA administrator Scott Pruitt to review and possibly rescind efforts.^{72,73}

OUTCOMES

As a result of industry resistance, increasingly strident attacks by conservative Republicans, and the sheer magnitude of the tasks it has been asked to undertake, the EPA's accomplishments have been neither as dramatic nor as far-reaching as the original air and water pollution statutes demanded. Moreover, a chorus of critics contends that what cleanup has been accomplished has cost far more than necessary because regulations were poorly designed and haphazardly implemented. Nevertheless, the nation has made enormous progress in cleaning up air pollution and has made some gains in addressing water pollution as well.

The EPA reports substantial reductions in air pollution for the six major “criteria” pollutants since the mid-1980s; even as the economy has grown, energy consumption has risen, and vehicle miles traveled have increased. Between 1980 and 2016, concentrations of nitrogen dioxide (NO₂), measured annually, declined 62 percent; sulfur dioxide (SO₂) concentrations decreased 82 percent, carbon monoxide (CO) levels fell 85 percent, and airborne lead concentrations dropped 99 percent. These achievements notwithstanding, in 2016, about 123 million people lived in counties where monitored air was unhealthy at times because of high levels of one or more of the six criteria pollutants.⁷⁴

The nation has also made gains in combating water pollution, although it has not come close to realizing the lofty objectives of the 1972 Clean Water Act. It is difficult to assess overall progress in ameliorating water pollution because several different entities collect data on water quality and each uses a different monitoring design, indicator set, and methods. As a result, the EPA cannot combine their information to answer questions about the quality of the nation's waterways or track changes over time. To address this deficiency, the EPA and its partners implemented a series of aquatic resource surveys that are repeated every five years.⁷⁵ A 2012 survey of the nation's lakes, ponds, and reservoirs, the National Lakes Assessment, found that 33 percent of our lakes are in good biological condition. However, 31 percent are in a most disturbed condition.⁷⁶ According to the EPA's most recent National Rivers and Streams Assessment, conducted between 2008 and 2009, 55 percent of the nation's river and stream miles do not support healthy populations of aquatic life, with phosphorus and nitrogen pollution and poor habitats the most widespread problems.⁷⁷

Even more important from the perspective of many critics is that nonpoint-source water pollution presents a significant and growing problem that is only beginning to be addressed seriously under the Clean Water Act.⁷⁸ Nonpoint sources

include farmlands, city storm sewers, construction sites, mines, and heavily logged forests. Runoff from these sources contains silt, pathogens, toxic chemicals, and excess nutrients that can suffocate fish and contaminate groundwater. The EPA's national water quality inventories show that five of the top six water-quality-related sources of river and stream impairment in the United States are nonpoint sources.⁷⁹ The act also fails to deal with groundwater, which supplies the drinking water for 34 of the nation's 100 largest cities.⁸⁰ Loss and degradation of wetlands contribute to water quality problems as well.⁸¹ That said, the law has resulted in enormous investments in sewage treatment, and as a consequence, many of the most seriously polluted water bodies have been substantially cleaned up.

CONCLUSIONS

As this case makes clear, public attentiveness, especially when coupled with highly visible demonstrations of concern, can produce dramatic changes in politics and policy. Front-page coverage of Earth Day demonstrations in 1970 both enhanced public awareness of and concern about environmental problems and convinced elected officials that environmental issues were highly salient. In response, aspiring leaders competed with one another to gain credit for addressing air and water pollution. Legislators' near-unanimous support for the Clean Air and Clean Water acts suggests that rank-and-file members of Congress also sought recognition for solving the pollution problem or, at a minimum, got on the bandwagon to avoid blame for obstructing such solutions.

The Clean Air and Clean Water acts enacted in the early 1970s departed dramatically from the status quo in both form and stringency. According to the approach adopted in these laws, which has become known derisively as command-and-control but might more neutrally be called prescriptive, uniform emissions standards are imposed on polluters. This approach reflected the framing of the pollution issue: industry had caused the problem, and neither industry nor government bureaucrats could be trusted to address it unless tightly constrained by specific standards and deadlines. The Clean Air and Clean Water acts' ambitious goals reflected the initial urgency of public concern and the immediacy of the legislative response. But the inchoate EPA was destined to fail when it tried to implement the laws as written. The agency encountered hostility from President Nixon, who wanted to weaken implementation of the acts, as well as from its overseers in Congress, who berated it for failing to move more quickly.

Equally challenging was the need to placate interest groups on both sides of the issue. Citizen suit provisions designed to enhance public involvement in the regulatory process resulted in a host of lawsuits by environmentalists trying to expedite the standard-setting process. At the same time, newly mobilized business interests backed by conservative groups used administrative hearings and lawsuits to obstruct implementation of the new laws. Caught in the middle, the EPA tried to enhance its public image—first by cracking down on individual polluters and

later by emphasizing the public health aspect of its mission. The agency hoped that by steering a middle course, it could maintain its credibility, as well as its political support. On the one hand, the backlash was effective: in the late 1970s, Congress substantially weakened the requirements of the Clean Air and Clean Water acts. On the other hand, both laws subsequently survived multiple serious challenges, and both they and the EPA continue to enjoy broad public support.

QUESTIONS TO CONSIDER

- Critics charge that the Clean Air and Clean Water acts are classic examples of symbolic politics, in which politicians set goals that are clearly unattainable in order to placate the public. What do you think are the costs and benefits of adopting ambitious and arguably unrealistic legislative goals?
- In retrospect, what are the strengths and weaknesses of the particular approach to pollution adopted in the original Clean Air and Clean Water acts?
- How do you think the creation of the EPA and passage of the Clean Air and Clean Water acts in the early 1970s have affected the environment and our approach to environmental protection in the long run?

NOTES

1. Mary Graham, *The Morning After Earth Day: Practical Environmental Politics* (Washington, D.C.: Brookings Institution, 1999).
2. Frank R. Baumgartner and Bryan D. Jones, *Agendas and Instability in American Politics* (Chicago: University of Chicago Press, 1993), 4.
3. Herbert Kaufman, *The Administrative Behavior of Federal Bureau Chiefs* (Washington, D.C.: Brookings Institution, 1981); Kenneth J. Meier, *Politics and the Bureaucracy* (North Scituate, Mass.: Duxbury Press, 1979).
4. Francis E. Rourke, *Bureaucracy, Politics, and Public Policy*, 3d ed. (Boston: Little, Brown, 1976).
5. Clarence J. Davies III, *The Politics of Pollution* (New York: Pegasus, 1970).
6. Council on Environmental Quality, *Environmental Quality: The First Annual Report of the Council on Environmental Quality* (Washington, D.C.: U.S. Government Printing Office, 1970).
7. John F. Wall and Leonard B. Dworsky, *Problems of Executive Reorganization: The Federal Environmental Protection Agency* (Ithaca, N.Y.: Cornell University Water Resources and Marine Sciences Center, 1971).
8. An inversion is an atmospheric condition in which the air temperature rises with increasing altitude, holding surface air down and preventing the dispersion of pollutants.

9. Gary Bryner, *Blue Skies, Green Politics: The Clean Air Act of 1990* (Washington, D.C.: CQ Press, 1993).
10. Davies, *The Politics of Pollution*.
11. Wall and Dworsky, *Problems of Executive Reorganization*.
12. Davies, *The Politics of Pollution*.
13. This was not the first such fire on the Cuyahoga. In fact, throughout the nineteenth and early twentieth century river fires were common in U.S. cities. Unlike its predecessors, however, this fire garnered national media attention—a reflection of how the times interact with events. See Jonathan H. Adler, “The Fable of the Burning River, 45 Years Later,” *The Washington Post*, June 22, 2014.
14. Marc K. Landy, Marc J. Roberts, and Stephen R. Thomas, *The Environmental Protection Agency: Asking the Wrong Questions*, exp. ed. (New York: Oxford University Press, 1994).
15. Samuel P. Hays, *Beauty, Health, and Permanence: Environmental Politics in the United States, 1955–1985* (New York: Cambridge University Press, 1987).
16. Charles T. Rubin, *The Green Crusade: Rethinking the Roots of Environmentalism* (Lanham, Md.: Rowman & Littlefield, 1998). Economists Allen Kneese and Charles Schultze note that on November 16, 1960, the President’s Commission on National Goals, composed of eleven distinguished citizens, delivered to President Dwight D. Eisenhower its report, *Goals for Americans*. The report listed fifteen major goals, each of which the commission felt to be an area of national concern for the coming decade. Controlling pollution was not on the list. See Allen V. Kneese and Charles L. Schultze, *Pollution, Prices, and Public Policy* (Washington, D.C.: Brookings Institution, 1975).
17. Graham, *The Morning After Earth Day*.
18. Shabecoff, *A Fierce Green Fire: The American Environmental Movement* (New York: Hill and Wang, 1993), 109–110. Although the environmental groups did not engineer Earth Day, their memberships grew in the 1960s, rising from 124,000 in 1960 to 1,127,000 in 1972. See Robert Mitchell, “From Conservation to Environmental Movement: The Development of the Modern Environmental Lobbies,” in *Government and Environmental Politics: Essays on Historical Developments Since World War Two*, ed. Michael Lacey (Baltimore: Johns Hopkins University Press, 1989), 81–113.
19. Kirkpatrick Sale, *The Green Revolution: The American Environmental Movement, 1962–1992* (New York: Hill and Wang, 1993).
20. The following Earth Day anecdotes are assembled from reports in *The New York Times* and *The Washington Post*, April 23, 1970.
21. Mary Etta Cook and Roger H. Davidson, “Deferral Politics: Congressional Decision Making on Environmental Issues in the 1980s,” in *Public Policy and the Natural Environment*, ed. Helen M. Ingram and R. Kenneth Godwin (Greenwich, Conn.: JAI Press, 1985), 47–76.
22. Hazel Erskine, “The Polls: Pollution and Its Costs,” *Public Opinion Quarterly* 1 (Spring 1972): 120–135.

23. Samuel P. Hays, "The Politics of Environmental Administration," in *The New American State: Bureaucracies and Policies Since World War II*, ed. Louis Galambos (Baltimore: Johns Hopkins University Press, 1987), 23.
24. John C. Whitaker, *Striking a Balance: Environment and Natural Resources Policy in the Nixon-Ford Years* (Washington, D.C.: AEI, 1976).
25. "Transcript of the President's State of the Union Message to the Joint Session of Congress," *The New York Times*, January 23, 1970, 22.
26. Ibid.
27. Council on Environmental Quality, *Environmental Quality*.
28. Ibid.
29. Richard A. Harris and Sidney M. Milkis, *The Politics of Regulatory Change: A Tale of Two Agencies* (New York: Oxford University Press, 1989).
30. Ibid.
31. Congress may not amend an executive reorganization proposal; it must approve or disapprove the entire package. Ordinarily, to stop a reorganization, either chamber must adopt a resolution disapproving it within 60 days of its introduction. But Nixon gave Congress 120 days to decide on the EPA because the reorganization plan was so complex. See "Nixon Sends Congress Plans to Consolidate Environmental Control, Research Agencies," *The Wall Street Journal*, July 10, 1970, 3.
32. As historian Paul Charles Milazzo notes, Muskie was driven not by the will of the people or a love of nature, but by his discovery that the chairmanship of a committee that controlled air and water pollution could be a path to power. The expertise of his staff gave him an institutional base from which to operate as a legislative policy entrepreneur, and he used his power to build a coalition to support a federal water quality program even before most Americans demanded one. See Paul Charles Milazzo, *Unlikely Environmentalists: Congress and Clean Water, 1945–1972* (Lawrence: University of Kansas Press, 2006).
33. U.S. Congress, Senate, *Congressional Record*, 91st Cong., 2d sess., March 4, 1970, S2955.
34. John C. Esposito, *Vanishing Air* (New York: Grossman, 1970), 270, 290–291.
35. Charles O. Jones, *Clean Air: The Policies and Politics of Pollution Control* (Pittsburgh, Pa.: University of Pittsburgh Press, 1975), 192.
36. Alfred Marcus, "Environmental Protection Agency," in *The Politics of Regulation*, ed. James Q. Wilson (New York: Basic Books, 1980), 267–303.
37. Primary standards must "protect the public health" by "an adequate margin of safety." Secondary standards must "protect the public welfare from any known or anticipated adverse effects."
38. An executive order is a presidential directive to an agency that enables the president to shape policy without getting the approval of Congress.
39. John Quarles, *Cleaning Up America: An Insider's View of Environmental Protection* (Boston: Houghton Mifflin, 1976).

40. Alfred Marcus, *Promise and Performance: Choosing and Implementing an Environmental Policy* (Westport, Conn.: Greenwood Press, 1980).
41. The National Environmental Policy Act, which took effect in 1970, requires federal agencies to complete environmental impact statements before embarking on any major project.
42. Milazzo, *Unlikely Environmentalists*, 5.
43. Congress can override a presidential veto with a two-thirds majority in both chambers.
44. Clean Air Act, 42 U.S. Code § 7604-Citizen Suits, Section 304(a)(2).
45. The industry mounted only weak resistance to Muskie's attacks on it. According to journalist Richard Cohen, Muskie later speculated that some industry leaders "could see what was coming" and therefore gave limited cooperation (or got on the bandwagon). The passive attitude of the car manufacturers probably also reflected its strong financial position at the time (imports represented only 13 percent of all U.S. auto sales) and its weak lobbying operation. General Motors, for example, did not even establish a Washington lobbying office until 1969. See Richard Cohen, *Washington at Work: Back Rooms and Clean Air* (New York: Macmillan, 1992).
46. Arnold Howitt, "The Environmental Protection Agency and Transportation Controls," in *Managing Federalism: Studies in Intergovernmental Relations* (Washington, D.C.: CQ Press, 1986), 116.
47. Hays, *Beauty, Health, and Permanence*.
48. Graham, *The Morning After Earth Day*, 31.
49. Quoted in *ibid.*, 53.
50. Howitt, "The Environmental Protection Agency," 125.
51. Marcus, *Promise and Performance*.
52. The number of business-related political action committees (PACs) also increased from 248 in 1974 to 1,100 in 1978. See David Vogel, "The Power of Business in America: A Reappraisal," *British Journal of Political Science* 13 (1983): 19-43.
53. More than 2,000 companies contested EPA standards within the first few years of its operation. See James T. Patterson, *Grand Expectations: The United States, 1945-1974* (New York: Oxford University Press, 1996).
54. Marcus, *Promise and Performance*.
55. Transportation control measures include creating bicycle paths and car-free zones, rationing gas, imposing gas taxes, building mass transit, creating bus lanes, encouraging carpooling, and establishing vehicle inspection and maintenance programs.
56. Quoted in Marcus, *Promise and Performance*, 133.
57. Howitt, "The Environmental Protection Agency."
58. Marcus, *Promise and Performance*.

59. The law required the EPA to grant permits to all industrial and government polluters, including 21,000 municipal sewage treatment facilities.
60. Marcus, *Promise and Performance*.
61. Recall that the original Clean Air Act did not allow the EPA to consider economic and technical factors.
62. Marcus, *Promise and Performance*. Although many of its original provisions were weakened, in some respects the Clean Air Act was strengthened as a result of the 1977 amendments. For instance, the amendments formalized the prevention-of-significant deterioration (PSD) concept, authorizing new standards for areas with good air quality to prevent industry from moving from polluted to clean-air regions. These amendments also allowed the EPA to set Lowest Achievable Emissions Rate standards for new sources in nonattainment areas.
63. Conventional pollutants are solids, biochemical oxygen demand (BOD) pollutants, pH, and fecal coliform.
64. Marcus, *Promise and Performance*.
65. Dick Kirschten, "EPA: A Winner in the Annual Budget Battle," *National Journal*, January 28, 1978, 140–141.
66. *Ibid.*
67. Paul R. Portney, "EPA and the Evolution of Federal Regulation," in *Public Policies for Environmental Protection*, 2d ed., ed. Paul R. Portney and Robert N. Stavins (Washington, D.C.: Resources for the Future, 2000), 11–30.
68. Marc K. Landy, Marc J. Roberts, and Stephen R. Thomas, *The Environmental Protection Agency: Asking the Wrong Questions*, expanded ed. (New York: Oxford University Press, 1984), 249.
69. Michael Biesecker. "EPA Ends Clean Air Policy Opposed by Fossil Fuel Interests." January 25, 2018. Available at <https://www.apnews.com/646836ad590c4230b730fc17cfbcb967/EPA-ends-clean-air-policy-opposed-by-fossil-fuel-interests>.
70. John H. Cushman Jr., "Scientists Reject Criteria for Wetlands Bill," *The New York Times*, May 10, 1995.
71. Claudia Copeland, "EPA and the Army Corps' Proposed Rule to Define 'Waters of the United States,'" Congressional Research Service R43455, November 21, 2014.
72. "Final Rule: Definition of 'Waters of the United States'—Addition of Applicability Date to 2015 Clean Water Rule." Available at <https://www.epa.gov/wotus-rule/final-rule-definition-waters-united-states-addition-applicability-date-2015-clean-water>.
73. Emily Shugerman, "Trump Administration Rolls Back Obama Clean Water Rule." February 1, 2018. Available at <https://www.independent.co.uk/news/world/americas/us-politics/trump-clean-water-act-repeal-barack-obama-wotus-scott-pruitt-epa-a8189721.html>.
74. U.S. Environmental Protection Agency, "Air Trends." Available at <http://www.epa.gov/airtrends/>. The agency is continuously revising its estimation methods, so each year's estimates are slightly different from the previous year.

75. U.S. Environmental Protection Agency, "National Aquatic Resource Surveys: An Update," January 2011. Available at <http://water.epa.gov/type/watersheds/monitoring/upload/nars-progress.pdf>.
76. U.S. Environmental Protection Agency, National Lakes Assessment 2012. Available at https://www.epa.gov/sites/production/files/2016-12/documents/nla_report_dec_2016.pdf.
77. U.S. Environmental Protection Agency, The National Rivers and Streams Assessment 2008–2009. Available at http://water.epa.gov/type/rsl/monitoring/riverssurvey/upload/NRSA200809_FactSheet_Report_508Compliant_130314.pdf.
78. Under Section 303 of the Clean Water Act, states are required to develop lists of impaired waters. For each polluted waterway, the state must determine the total maximum daily load (TMDL) specifying the amount of each pollutant that a body of water can receive and still meet water quality standards and allocating pollutant loadings among point and nonpoint sources. Although the Clean Water Act has required TMDLs since 1972, states only began developing them in the late 1990s, in response to a wave of lawsuits.
79. Thomas C. Brown and Pamela Froemke, "Nationwide Assessment of Nonpoint Source Threats to Water Quality," *BioScience* 62,2 (February 2012): 136–146.
80. Council on Environmental Quality, *Environmental Quality: The Fifteenth Annual Report of the Council on Environmental Quality* (Washington, D.C.: U.S. Government Printing Office, 1984).
81. Since the 1600s the lower forty-eight states have lost half of the nation's 220 million acres of wetlands. Development destroyed some 500,000 acres of wetlands per year in the 1970s, but in recent years both the Fish and Wildlife Service and the National Resource Conservation Service have documented slight gains in wetlands acreage. See Claudia Copeland, "Wetlands: An Overview of Issues," Congressional Research Service, July 12, 2010, RL33483.