

ARTICLES

THE PUBLIC HEALTH ASPECTS OF ENVIRONMENTAL ENFORCEMENT

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ABSTRACT

Beyond being an environmental concern, pollution is a public health problem. As a result, enforcement of anti-pollution statutes, such as the Clean Air Act and the Clean Water Act, not only protects the environment, but also furthers fundamental public health goals. Moreover, public health benefits provide politically salient arguments for continuing and even strengthening environmental protection that can counteract any political opposition that can arise as a result of the costs of environmental regulation and compliance to regulated entities and the taxpayers.

Thus, it is worth examining the extent to which the Environmental Protection Agency ("EPA") considers the public health in its environmental enforcement priorities and decisions. Focusing on the Clean Air Act and the Clean Water Act, this Article undertakes such an examination by: (1) outlining the statutory connections between public health considerations and environmental regulation; (2) examining the EPA's enforcement priorities and guidance; and (3) criticizing the EPA's presentation of its own enforcement effectiveness over the last decade.

This Article concludes that public health considerations do play a significant role in environmental enforcement policies and decisionmaking. However, the EPA's commitment to presenting the public health benefits of its enforcement actions has varied considerably over the last decade. With the release of its FY2009 enforcement assessment, however, the EPA has both expanded its analysis of the connection between

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environmental pollution enforcement and public health benefits and created new tools to enhance the transparency of these benefits to the affected public.

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INTRODUCTION

As I have noted elsewhere, “Pollution kills. It also debilitates, sickens, and poisons. In other words, pollution is a public health problem—one of the prominent reasons that the federal and state governments regulate pollution pursuant to a wide variety of environmental laws and regulations.”¹ Indeed, the National Institutes of Medicine (NIM) have explained that pollution is a significant element of “[e]nvironmental health or environmental public health . . . [a] component of human health . . . concerned with those aspects of human health that are determined by interactions with physical, chemical, biological, cultural, and social factors in the environment.”² Among public health officials, environmental health is becoming the next focus of public health improvement in the United States.³

As the NIM further acknowledges, one facet of advancing environmental health is the recognition that humans have altered their environments. As a result, controlling environmental degradation—such as through pollution regulation—is an important component of current and future public health.⁴ Similarly, the Environmental Protection Agency (“EPA”) has acknowledged the public health import of environmental pollution by basing regulatory standards—such as the National Ambient Air Quality Standards (NAAQS),⁵ the National Emission Standards for Hazardous Air Pollutants (NESHAPs),⁶

1. Robin Kundis Craig, *Removing “The Cloak of a Standing Inquiry”: Pollution Regulation, Public Health, and Private Risk in the Injury-in-Fact Analysis*, 29 CARDOZO L. REV. 149, 152–54 (Oct. 2007). See also generally Wendy Wagner & Lynn Blais, *Children’s Health and Environmental Exposure Risks: Information Gaps, Scientific Uncertainty, and Regulatory Reform*, 17 DUKE ENVTL. L. & POL’Y F. 249 (Spring 2007); Jessica E. Yates, Note, *Pollution and Health Care Costs: States Can and Should Seek Medicaid Reimbursement from Big Polluters*, 24 VA. ENVTL. L.J. 423 (2006); Todd Stedeford et al., *Environmental Quality and Health: Got Merc? Regulating, Mitigating, and Litigating Mercury Levels for the Fish We Eat*, 20 J. LAND USE & ENVTL. L. 503 (Spring 2005).

2. INSTITUTE OF MEDICINE OF THE NATIONAL ACADEMIES, *REBUILDING THE UNITY OF HEALTH AND THE ENVIRONMENT: THE GREATER HOUSTON METROPOLITAN AREA: WORKSHOP SUMMARY 8* (2005) [hereinafter 2005 INSTITUTE OF MEDICINE WORKSHOP].

3. Craig, *supra* note 1, at 153–54 (citations omitted).

4. 2005 INSTITUTE OF MEDICINE WORKSHOP, *supra* note 2, at 8.

5. NAAQS are technology-based emission standards that govern emissions of common and widespread “criteria pollutants,” such as sulfur and particulate matter, that “cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare” 42 U.S.C. § 7408(a)(1)(A) (2006). Primary NAAQS are the standards “requisite to protect the public health.” *Id.* § 7409(b)(1).

6. 42 U.S.C. § 7412(b)(1), (d)(2) (2006). NESHAPs are technology-based standards that control the emission of 189 toxic air pollutants to the “maximum degree of reduction in emissions . . . (including a prohibition on such emissions, where achievable)” *Id.* § 7412(d)(2).

and effluent standards for toxic water pollutants⁷—on human health requirements.⁸

Given these health-related regulatory standards, enforcement of the federal pollution control statutes is an important facet of public health protection. However, environmental enforcement is an inherently discretionary activity. Therefore, an interesting question for both public health officials and environmental practitioners is to what extent environmental agencies consciously and explicitly seek to advance the pollution control statutes' public health-related goals.

Of course, implementing environmental health goals can become problematic long before the enforcement stage. Setting health-based regulatory standards requires sufficient information about the health effects of particular pollutants to perform a proper risk assessment, and the lack of such information may lead either to inaction in the face of uncertainty or to application of default policies such as some version of a precautionary principle.⁹ Even when sufficient information regarding causation and risk exists, limitations in the technology available to control releases of pollution may force choices between implementing the "first best" regulatory standard from a public health perspective and avoiding dislocation or closure of economically important industries.¹⁰ Conversely, the quest for the "perfect" standard can sometimes obscure significant public health benefits from improved-but-less-than-perfect environmental conditions: the fact that air quality in Los Angeles and Houston regularly violates the Clean Air Act's ambient air quality requirements should not detract from the fact that air

7. Under the federal Clean Water Act, an "effluent limitation" is "any restriction . . . on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources" into regulated waters. 33 U.S.C. § 1362(11) (2006). Toxic pollutants are subject to one of the Act's most stringent sets of effluent limitations, based on "the best available technology economically achievable . . ." *Id.* § 1311(2)(A).

8. 2005 INSTITUTE OF MEDICINE WORKSHOP, *supra* note 2, at 155–56, 158–69.

9. In this context, a precautionary principle would have two main applications: a prohibition on activities that might harm human health until they are proven safe; and a requirement that regulators protect human health even in the absence of perfect information. *See, e.g.*, Jonathan Remy Nash, *Standing and the Precautionary Principle*, 108 COLUM. L. REV. 494, 495 (noting that the precautionary principle is "a fundamental principle of environmental law"), 498–504 (defining and outlining the uses of the principle) (Mar. 2008); Hope M. Babcock, *Chumming on the Chesapeake Bay and Complexity Theory: Why the Precautionary Principle, Not Cost-Benefit Analysis, Makes More Sense as a Regulatory Approach*, 82 WASH. L. REV. 505, 524–31 (Aug. 2007) (advocating the use of the precautionary principle for complex marine systems in light of a lack of adequate information to predict how such systems behave).

10. *See, e.g.*, Kurt A. Strasser, *Cleaner Technology, Pollution Prevention and Environmental Regulation*, 9 FORDHAM ENVTL. L.J. 1, 1–3 (Fall 1997) (discussing the distinction between technology-based pollution *control* and the more desirable goal of pollution *prevention*).

quality in both places is generally far better than that in Beijing or Mexico City¹¹ and that U.S. residents' health benefits accordingly.

Nevertheless, the problems associated with establishing health-related environmental regulatory standards are well-recognized, well-studied, and well-theorized. Such issues include, for example, the proper uses of cost-benefit analyses¹² and risk-risk balancing¹³ when human lives are at stake and the definitions and roles of the precautionary principle in environmental regulation.¹⁴ If the resulting regulatory standards are not entirely consistent across statutory pollution control regimes regarding their abilities to protect human health, at least the sources of those inconsistencies can be ascertained from known variations in environmental policy,¹⁵ analytical frameworks,¹⁶ and analytical methodologies¹⁷ among statutory regimes and agencies.

In contrast, scholars and theorists have paid far less attention to the incorporation of public health goals into enforcement decisions, even though environmental enforcement involves the exercise of a great deal of agency

11. For example, United States cities barely made a 2008 list of the world's dirtiest cities, while Mexico City made the list at number 5. Tiffany M. Luck, *The World's Dirtiest Cities*, FORBES.COM (Feb. 26, 2008), http://www.forbes.com/2008/02/26/pollution-baku-oil-biz-logistics-cx_tl_0226dirtycities.html.

12. Richard L. Revesz, *Environmental Regulation, Cost-Benefit Analysis, and the Discounting of Human Lives*, 99 COLUM. L. REV. 941, 943–47 (May 1999); Lisa Heinzerling, *Regulatory Costs of Mythic Proportions*, 107 YALE L.J. 1981, 1983–86 (May 1998).

13. Cass R. Sunstein, *Health-Health Tradeoffs*, 63 U. CHI. L. REV. 1533, 1535–37 (Fall 1996).

14. See generally, e.g., PROTECTING PUBLIC HEALTH & THE ENVIRONMENT: IMPLEMENTING THE PRECAUTIONARY PRINCIPLE (Carolyn Raffensperger & Joel Tickner eds., 1999) (discussing both generally and specifically the use of the precautionary principle in environmental law and policy).

15. As is discussed in Part I, for example, the Clean Air Act pursues emphatically health-based national goals, while the Clean Water Act allows considerably more variation between locations regarding the ultimate water quality goals to be achieved for particular waterbodies. See *infra* notes 29–84 and accompanying text.

16. For example, two common variations in environmental analytical frameworks are: (1) whether costs are relevant at all, and if so, to what degree, in setting regulatory standards; and (2) what level of risk is deemed “acceptable” within a particular regulatory regime. As an example of the former, the U.S. Supreme Court is currently deciding whether the EPA can engage in a cost-benefit analysis when establishing standards for water intake facilities in new sources. *Riverkeeper, Inc. v. U.S. EPA*, 475 F.3d 83 (2d Cir. 2007), *cert. granted*, ___ U.S. ___, 128 S. Ct. 1867 (2008). As an example of the second, Congress and the EPA have repeatedly pursued more stringent regulation of carcinogens than of other kinds of health-impairing pollutant. For example, the Delaney Clause of the federal Food, Drug, and Cosmetic Act prohibits food additives from being deemed “safe” if they can cause cancer. 21 U.S.C. § 348(c)(3).

17. See DADE W. MOELLER, ENVIRONMENTAL HEALTH 1, 385–405 (3d ed. 2005) (surveying standard-setting methodologies in U.S. environmental law and concluding that “[t]his review of U.S. environmental standards clearly demonstrates the need to harmonize the methodologies for developing, and the procedures for applying, occupations and environmental standards. This is true in terms of methods for calculating doses to the public and estimating the associated risks, as well as for determining what levels of risk are acceptable.”).

discretion,¹⁸ particularly in light of limited budgets and enforcement personnel. Agencies like the EPA simply cannot take equally stringent enforcement actions against all violators of the federal pollution control statutes. Complicating this enforcement discretion, moreover, is the fact that few pollution control statutes have unitary goals. For example, the EPA generally characterizes its overall mission in the binary form of “protecting human health and the environment.”¹⁹

Of course, reducing pollution often protects human health and the environment simultaneously; the two goals are not necessarily in conflict. For example, as the study of ecosystem services—the services that intact and functional ecosystems provide to humans, such as purification of air and water²⁰—is increasingly documenting, protecting the environment can itself constitute a method of protecting human health.²¹ Moreover, public health protection and environmental protection both provide *public* goods, the overall improvement of quality of life and environmental amenities for the public as a whole. While individuals will also benefit for pollution reduction, the federal pollution control statutes do not tie pollution regulation to individual tort-like harms.

Nevertheless, human health and environmental protection goals do not always precisely overlap. For example, given the extensive built environment and concentration of people in cities, pollution control in urban areas is more likely to promote human health along with environmental protection; the opposite may be true for rural enforcement efforts.²² Thus, implementation of

18. See, e.g., *Citizens Against Ruining the Environment v. EPA*, 535 F.3d 670, 677–79 (7th Cir. 2008); *New York Public Interest Research Group v. Whitman*, 321 F.3d 316, 330–31 (2d Cir. 2003); *Citizens for a Better Environment-California v. Union Oil Co. of California*, 82 F.3d 1111, 1119–20 (9th Cir. 1996); *Monsanto Co. v. EPA*, 19 F.3d 1201, 1203–05 (7th Cir. 1994); *Harmon Cove Condominium Ass’n, Inc. v. Marsh*, 815 F.2d 949, 953 (3d Cir. 1987) (all noting environmental agency enforcement or prosecutorial discretion).

19. See, e.g., OFFICE OF ENFORCEMENT AND COMPLIANCE ASSISTANCE, U.S. EPA, ANNUAL REPORT ON ENFORCEMENT AND COMPLIANCE ASSURANCE ACCOMPLISHMENTS IN 1999, at 1 (July 2000) (stating, in the section entitled “Our Mission: Protecting Human Health and the Environment,” that “[o]ur mission is to protect the well-being of all Americans, our nation’s environment, and its natural resources.”) [hereinafter 1999 ENFORCEMENT REPORT]. See also David Markell, *Is There a Possible Role for Regulatory Enforcement in the Effort to Value, Protect, and Restore Ecosystem Services?*, 22 J. LAND USE & ENVTL. L. 549, 552–53 (Spring 2007) (discussing the importance of enforcement to the achievement of environmental statutes’ goals and policies).

20. Gretchen C. Daily, *Introduction: What Are Ecosystem Services?*, in NATURE’S SERVICES: SOCIETAL DEPENDENCE ON NATURAL ECOSYSTEMS 1, 3 (Gretchen C. Daily ed., 1997).

21. MILLENNIUM ECOSYSTEM ASSESSMENT, ECOSYSTEMS AND HUMAN WELL-BEING: SYNTHESIS 12–14, 49–63 (2005).

22. Compare, e.g., INSTITUTE OF MEDICINE OF THE NATIONAL ACADEMIES, REBUILDING THE UNITY

environmental enforcement discretion could “tweak” the dual environmental and public health goals of pollution regulation in any of several ways. Some of the more prominent possibilities are: (1) no prioritization at all—i.e., the agency pursues all violations equally vigorously; (2) enforcement against all violations but prioritization in terms of level of enforcement (administrative, civil, or criminal) pursued; (3) prioritization of the worst violations in terms of statutory noncompliance for any enforcement effort whatsoever; (4) prioritization of the worst violations in terms of actual or potential harm to *either* the environment or public health for any enforcement effort whatsoever; (5) prioritization of violations with environmental impacts for any enforcement whatsoever; or (6) prioritization of violations with public health impacts for any enforcement whatsoever.

Environmental agency enforcement policies thus can potentially affect the balance between the environmental and the health aspects of pollution regulation in two ways. First, rhetorically, such enforcement policies can articulate (or not) the public health values of both environmental law itself and the enforcement of that law. As such, enforcement policies can contribute to public perceptions of how the public benefits from environmental law—in terms of both environmental protection and public health protection—and hence increase public awareness that these benefits do balance the private burdens that environmental law imposes through permitting and emissions/discharge/exposure/cleanup requirements. For example, if as a matter of enforcement policy life-threatening environmental violations do not warrant significant penalties, the public health values of environmental regulation have been undermined.

Second, programmatically, enforcement policies dictate which public values will be protected in the real world, under what circumstances they will be protected, and to what degree. Therefore, in addition to reifying the values rhetoric of these policies, enforcement also actualizes the degree of health protection that the public will effectively enjoy as a result of pollution regulation. At one extreme, for example, if the agency chooses to pursue enforcement actions only when a violation of a pollution control law leads to significant environmental damage, the public would likely be burdened with

OF HEALTH AND THE ENVIRONMENT: THE GREATER HOUSTON METROPOLITAN AREA: WORKSHOP SUMMARY 3 (2005) (describing water quality problems in Houston, Texas, in terms of keeping drinking water supplies safe), *with* INSTITUTE OF MEDICINE OF THE NATIONAL ACADEMIES, REBUILDING THE UNITY OF HEALTH AND THE ENVIRONMENT IN RURAL AMERICA: WORKSHOP SUMMARY 19 (2006) (describing water quality problems in rural Iowa primarily in terms of fish kills).

increased pollution-related health risks, regardless of the technical requirements of the law.

This Article offers a qualitative look at the role of public health considerations in the EPA's pollution control enforcement decisions, concentrating on the agency's enforcement policies under the Clean Water Act and the Clean Air Act ("the Acts")—statutes that comprise two of the largest subcategories of EPA enforcement actions²³—as they have guided enforcement over the last decade (1999–2009). Part I of this Article provides a brief overview of each statute from a public health perspective, identifying how public health considerations fit into each Act's stated goals and regulatory mechanisms and emphasizing that public health goals are indeed a part of each Act. Part II looks more specifically at the enforcement options available under each statute, assessing the statutory basis for a public health-based enforcement preference. It concludes that, especially outside the criminal enforcement context, the statutes provide little guidance to EPA and state enforcement agencies regarding how to choose among administrative, civil, and criminal enforcement, leaving these agencies with considerable discretion in carrying out their enforcement programs.

In Part III, the Article takes an extensive look at EPA's published enforcement policies over the last decade. These policies include EPA's national enforcement priorities, various enforcement guidance documents for each Act, and the Office of Enforcement and Compliance Assurance's (OECA's) annual reports on enforcement and compliance. The Article concludes that while EPA enforcement policies are fairly equally targeted toward both environmental and public health concerns, the enforcement focus is somewhat skewed toward enforcement actions against violations that create risks to the public health. EPA's enforcement rhetoric, moreover, is often at its strongest, most specific and most colorful when the EPA acts to protect the public health, suggesting that the EPA recognizes the public relations value of the public health aspects of environmental enforcement. Somewhat perversely, therefore, OECA has recently muted its discussions of the public health benefits of environmental enforcement outside of the Clean Air Act context, creating an impression that only that Act significantly protects public health.

23. See, e.g., OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE, U.S. EPA, FY2007 OECA ACCOMPLISHMENTS REPORT: PROTECTING THE ENVIRONMENT 7–8 (May 22, 2008) (summarizing enforcement efforts by statute), available at <http://www.epa.gov/compliance/resources/reports/accomplishments/oeca/fy07accomplishment.pdf> [hereinafter 2007 ENFORCEMENT REPORT].

I. OVERVIEWS OF THE CLEAN AIR ACT AND CLEAN WATER ACT AND THEIR CONNECTIONS TO PUBLIC HEALTH

A. *The Clean Air Act*

Historical records demonstrate that the detrimental effect of air pollution on human health first became evident in the fourteenth century,²⁴ and regulation of air pollution remains one of the most important aspects of environmental health.²⁵ In wake of a number of deaths attributable to so-called “killer fogs”—atmospheric inversions that trap smoke, soot, and industrial pollutants in relatively confined geographic locations, in urban areas across the world²⁶—Congress recognized in the federal Clean Air Act that “the growth in the amount and complexity of air pollution brought about by urbanization, industrial development, and the increasing use of motor vehicles, has resulted in mounting dangers to the public health and welfare”²⁷

The resulting legislation became the core of the contemporary Clean Air Act (“CAA”).²⁸ The first purpose of the Act remains “to protect and enhance the quality of the Nation’s air resources so as to promote the public health and welfare and the productive capacity of its population”²⁹ Indeed, this

24. BARRY L. JOHNSON, ENVIRONMENTAL POLICY AND PUBLIC HEALTH 187 (2007) (describing a petition by London citizens in 1306 to King Edward to reduce the levels of smoke in the air).

25. To cause health problems, environmental contaminants have to penetrate at least one of three barriers that protect the human body: the skin; the gastrointestinal tract; or the membranes within the lungs. MOELLER, *supra* note 17, at 3.

Although an average adult ingests about 1.5 kilograms of food and 2 kilograms of water every day, he or she breathes roughly 20 cubic meters of air per day. This amount of air weighs more than 24 kilograms. Because people usually cannot be selective about what air is available, the lungs are the most important pathway for the intake of environmental contaminants into the body. The lungs are also by far the most fragile and susceptible of the three principal barriers.

Id. at 4.

26. Famous examples of such fogs occurred in 1930 in Liège, Belgium, killing dozens of people, *id.*; in 1948 in Donora, Pennsylvania, killing 20 and hospitalizing over 7,000 people in five days, *id.*; see also JOHNSON, *supra* note 24, at 188 (2007) (describing the Donora disaster); and, most famously, in London, England in 1952, killing anywhere from 4,000 to 11,000 people in four days. National Public Radio, *The Killer Fog of '52*, <http://discover.npr.org/features/feature.jhtml?wfld=873954> (Dec. 11, 2002). According to environmental historians, the 1952 London killer fog changed several countries’ attitudes regarding the regulation of air pollution and helped to prompt pollution regulation in several countries, including the United States. JOHNSON, *supra* note 24, at 187–88.

27. CAA § 101(a)(2), 42 U.S.C. § 7401(a)(2) (2006).

28. Pub. L. No. 84-159, 69 Stat. 322 (1955); Pub. L. No. 91-604, 84 Stat. 1676 (Dec. 31, 1970), now codified at 42 U.S.C. §§ 7401–7671q. See also JOHNSON, *supra* note 24, at 188 (characterizing the 1955 Act as “the first serious congressional recognition of the need for federal pollution control”).

29. *Id.* § 101(b)(1), 42 U.S.C. § 7401(b)(1) (2006). See also MOELLER, *supra* note 17, at 358 (“A

Article views the CAA as a health-based regulatory regime designed to ensure that all residents of the United States breathe air clean enough to protect the public health on a national scale.³⁰

Concern regarding the health effects of air pollution permeates the CAA. Consistent with this focus, the CAA places two significant duties upon the EPA Administrator: (1) to identify “criteria pollutants,” those air pollutants the “emissions of which, in his judgment, cause or contribute to air pollution which *may reasonably be anticipated to endanger public health or welfare . . .*”³¹ and (2) “to establish national ambient air quality standards, or NAAQS, for each [criteria pollutant]³² at levels “*requisite to protect the public health.*”³³ Both the Act and case law make clear that in establishing the health-based NAAQS, the EPA cannot consider economic factors.³⁴ Case law has

major turning point in progress on the control of air pollution in the United States occurred in 1970 when Congress amended the Clean Air Act. Two of the most significant requirements of these amendments were that the National Ambient Air Quality Standards (NAAQS), set by the Environmental Protection Agency (EPA), provide “an ample margin of safety to protect the public health,” and that limits be established for controlling emissions from both stationary and mobile sources.”); JOHNSON, *supra* note 24, at 189, 189–211 (noting that “[t]he effects of unclean air on the public’s health remain key motivations for keeping the act enforced” and describing the Clean Air Act as a public health measure).

30. See, e.g., *Bluewater Network v. EPA*, 370 F.3d 1, 18–19 (D.C. Cir. 2004) (holding that the EPA has authority under the Clean Air Act to regulate emissions of hydrocarbons from snowmobiles because such emissions endanger the public health or welfare); *Sierra Club v. U.S. EPA*, 99 F.3d 1551, 1558–59 (holding that EPA’s nonattainment exemptions were valid because they did not violate the Clean Air Act’s purpose to protect the public health); *Environmental Defense Fund, Inc. v. EPA*, 82 F.3d 451, 467 (D.C. Cir. 1996) (holding that the EPA’s de minimis exemptions for federal facilities were valid because that did not violate the Clean Air Act’s public health goal); *Natural Resources Defense Council, Inc. v. U.S. EPA*, 655 F.2d 318, 340–42 (holding that waivers of the nitrogen oxide requirements require a finding that the resulting emissions will not endanger the public health); *Natural Lime Ass’n v. EPA*, 627 F.2d 416, 431–33 (D.C. Cir. 1980) (holding that findings that emissions of particulate matter affects public health supports the EPA’s decision to regulate particulate matter). *But see* *National Petrochemical & Refiners Ass’n v. EPA*, 287 F.3d 1130, 1143 (D.C. Cir. 2002) (holding that the EPA could not defend its ultra-low-sulfur diesel fuel rules on public health grounds when it had not relied on a public health rationale in promulgating the rule); *Ethyl Corp. v. EPA*, 51 F.3d 1053, 1058–59 (D.C. Cir. 1995) (holding that the language of the Act did not allow the EPA to refuse to waive the ban on new fuel additives on public health grounds).

31. *Id.* § 108(a)(1)(A), 42 U.S.C. § 7408(a)(1)(A) (2006) (emphasis added).

32. *Id.* § 109(a), 42 U.S.C. § 7409(a) (2006).

33. *Id.* § 109(b)(1), 42 U.S.C. § 7409(b)(1) (2006) (emphasis added).

34. *Whitman v. American Trucking Ass’ns*, 531 U.S. 457, 466–67 (2001); see also *American Trucking Ass’ns v. EPA*, 283 F.3d 355, 371–72 (D.C. Cir. 2002) (holding that the EPA’s new NAAQS for particulate matter were justified on the grounds that new science demonstrated that the old NAAQS did not adequately protect public health); *Alabama Power Co. v. Costle*, 636 F.2d 323, 370–71 (D.C. Cir. 1979) (holding that the EPA has the authority to define what size of particulate matter in emissions poses a threat to public health).

also clarified that these standards must be stringent enough to protect the most sensitive individuals, such as children and asthmatics.³⁵

Once the NAAQS have been established, the CAA provides three primary mechanisms to ensure that the standards embodied in the NAAQS are met: (1) fuel³⁶ and emissions standards³⁷ for mobile sources, such as cars, trucks, and airplanes; (2) state implementation plans (“SIPs”), designed to ensure that each state implements mechanisms to achieve the NAAQS³⁸ and (3) permits³⁹ for stationary sources,⁴⁰ such as factories, with emissions limitations based on technological and economic feasibility,⁴¹ source location,⁴² what kinds and

35. *American Lung Ass’n v. EPA*, 134 F.3d 388, 392–93 (D.C. Cir. 1998) (reversing the NAAQS that the EPA promulgated for sulfur dioxide on the grounds that the record did not support the EPA’s conclusion that asthmatics’ exposure did not amount to a public health problem that the NAAQS should have eliminated).

36. 42 U.S.C. § 7545 (2006).

37. 42 U.S.C. §§ 7507, 7521, 7547 (2006).

38. 42 U.S.C. § 7410(a), (c) (2006). SIPs are comprehensive state plans (or federal plans, if a state refuses to enact its own SIP) for ensuring that air quality within the state’s boundaries achieves the NAAQS. *Id.* § 7410(a)(1). Thus, SIPs are, ultimately, mechanisms to protect the public health. *See Ober v. Whitman*, 243 F.3d 1190, 1197 (9th Cir. 2001) (noting that the purpose of a Clean Air Act implementation plan is to meet the NAAQS, which in turn are set to protect the public health).

39. 42 U.S.C. § 7661a (2006).

40. *Id.* § 7411(a)(3).

41. *Id.* §§ 7411(a)(1) (defining the “standard of performance” for new stationary sources as “a standard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best systems of emission reduction which (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) the Administrator determines had been adequately demonstrated” (emphasis added)); 7479(3) (2009) (defining “best available control technology” as “an emission limitation based on the maximum degree of reduction of each pollutant . . . emitted from or which results from any major emitting facility, which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility through application of production processes and available methods, systems, and techniques” (emphasis added); 7501(3) (2009) (defining “lowest achievable emission rate” as “that rate of emissions which reflects . . . the most stringent emission limitation which is contained in the implementation plan of any State for such class or category of source . . . or . . . the most stringent emission limitation which is achieved in practice”).

42. *Id.* §§ 7474(a) (distinguishing Class I and Class II areas); 7501(2) (defining “nonattainment area”); 7502 (2009) (setting out nonattainment area requirements); 7511 (setting forth nonattainment designations).

amounts of pollutants emitted⁴³ or potentially emitted,⁴⁴ and its status as an “existing”⁴⁵ or a “new”⁴⁶ or “modified”⁴⁷ source.

Health considerations inform many determinations underpinning these mechanisms. For example, EPA must take nonair quality health impacts into account when setting the basic emissions standard for major new stationary sources (best available demonstrated technology, or BADT).⁴⁸ For toxic pollutants, if “a health threshold has been established, the Administrator may consider such a threshold level, with an ample margin of safety, when establishing” the technology-based National Emissions Standards for Hazardous Air Pollutants (NESHAPs).⁴⁹ Moreover, EPA and the Surgeon General are supposed to consult regarding health risks still remaining even after application of the NESHAPs, to determine whether even more stringent health-based emissions standards that “provide an ample margin of safety to protect public health” are required.⁵⁰ Public health is also a consideration when the EPA sets emissions standards for mobile sources (cars and trucks)⁵¹ and promulgates regulations for fuel additives.⁵²

43. *Id.* § 7412, (a)(3), (d).

44. *See id.* §§ 7412(a)(1) (defining “major source” for purposes of hazardous air pollutant emissions); 7412(a)(2) (defining “area source” for purposes of hazardous air pollutant emissions); 7475(a) (applying prevention of significant deterioration (PSD) requirements to “major emitting facilities”); 7479(1) (defining “major emitting facility”). Importantly, however, the most stringent emissions standards for stationary sources apply to new sources located in areas that do not meet the health-based NAAQS and to sources that emit toxic pollutants, reflecting the especially acute public health threats these kinds of pollutant emissions. *Id.* §§ 7501–7503 (imposing emissions limitations based on the lowest achievable emission rate (LAER) and imposing offset requirements on new sources in nonattainment areas); 7412(a), (d) (imposing emissions limitations based on the maximum achievable control technology (MACT) on sources that emit hazardous air pollutants, and regulating such sources when they emit as little as 10 tons of such pollutants per year).

45. *Id.* §§ 7411(a)(6), 7412(a)(10).

46. *Id.* §§ 7411(a)(2), 7412(a)(4); 7475(a).

47. *Id.* §§ 7411(a)(4), 7412(a)(5).

48. *Id.* § 7411(a)(1) (emphasis added).

49. *Id.* § 7412(d)(4). *See also* Patricia Ross McCubbin, *The Risk in Technology-Based Standard*, 16 DUKE ENVTL. L. & POL’Y F. 1, 44–45 (Fall 2005) (discussing risk considerations in the technology-based NESHAPs).

50. *Id.* § 112(f)(1), (2), 42 U.S.C. § 7412(f)(1), (2) (2006).

51. *Id.* § 202(a)(1), 42 U.S.C. § 7521(a)(1) (2006) (emphasis added).

52. *Id.* § 211(b)(2)(A), 42 U.S.C. § 7545(b)(2)(A) (2006); *id.* § 211(c)(1), 42 U.S.C. § 7545(c)(1) (2006).

The public health focus of the CAA has paid off, both literally and figuratively. As one prominent example, the elimination of lead from gasoline had immeasurable benefits for public health.⁵³ More generally, in 1997, the EPA calculated that the benefits of the CAA, consisting largely of avoided respiratory-related illnesses, cognitive deficits, and death, that accrued in the two decades following the amendments far exceeded the costs of implementing the Act.⁵⁴

53.

According to a 1988 report to Congress on childhood lead poisoning in America by the government's Agency for Toxic Substances and Disease Registry, one can estimate that the blood-lead levels of up to 2 million children were reduced every year to below toxic levels between 1970 and 1987 as leaded gasoline use was reduced. From that report and elsewhere, one can conservatively estimate that a total of about 68 million young children had toxic exposures to lead from gasoline from 1927 to 1987.

Jamie Lincoln Kitman, *The Secret History of Lead*, THE NATION (Mar. 20, 2000), available at <http://www.mindfully.org/Pesticide/Lead-History.htm>. Other sources estimate that in the 1970s, 88 percent of children in the United States had blood-lead levels greater than 10 micrograms per liter, which defines lead poisoning. Lead Poisoning Resource Center, <http://www.aboutlead.com>. Lead poisoning in children can cause speech delay, hyperactivity, attention deficit disorder, learning disabilities, behavioral disorders, neurological damage, renal damage, stunted growth, anemia, hearing loss, and mental retardation. *Id.* Today, only about four percent of children suffer from lead poisoning. Familydoctor.org, *Lead Poisoning in Children*, <http://familydoctor.org/617.xml> (last updated Dec. 2009). See also Centers for Disease Control & Prevention, *General Lead Information: Questions and Answers*, <http://www.cdc.gov/nceh/lead/faq/about.htm> (last viewed Feb. 17, 2007) ("Approximately 310,000 U.S. children aged 15 years have blood lead levels greater than the CDC recommended level of 10 micrograms of lead per deciliter of blood," representing "3% of black children compared to 1.3% of white children"). According to the Institute of Medicine of the National Academies:

the elimination of lead from gasoline and paint may be one of the most significant educational advances of the 20th century. Research results equate a 10-point drop in blood lead levels with an average 2.8-point gain in IQ. Since the elimination of lead from gasoline in the United States, we have witnessed a 15-point drop in blood lead levels. This gives every baby born today a gift of 4–5 additional IQ points. What is this worth economically?

Timothy E. Wirth, *Environment and Health: A Connection to the Current Debate*, in INSTITUTE OF MEDICINE, THE NATIONAL ACADEMIES, REBUILDING THE UNITY OF HEALTH AND THE ENVIRONMENT: A NEW VISION OF ENVIRONMENTAL HEALTH FOR THE 21ST CENTURY 9 (2001).

54. Specifically, the EPA calculated that the costs of compliance with the Clean Air Act were \$0.5 trillion, while the benefits from the regulation were worth \$5.6 to \$49.4 trillion, with a median estimate of \$22.2 billion. U.S. EPA, *Executive Summary*, FINAL REPORT TO CONGRESS ON BENEFITS AND COSTS OF THE CLEAN AIR ACT (EPA 410-R-97-002), at ES-8 (Oct. 1997), available at <http://www.epa.gov/oar/sect812/812exec2.pdf>. See also *id.* at ES-5 tbl. ES-2; ES-7 tbl. ES-4; ES-6 tbl. ES-3.

B. The Clean Water Act

The Clean Water Act (“CWA”) also serves to protect public health.⁵⁵ Indeed, to underscore the connections between water pollution and public health, Congress has repeatedly amended the Act to address emerging health threats, such as toxic water pollution,⁵⁶ coastal bacterial contamination,⁵⁷ and urban storm water runoff.⁵⁸

Discharges of raw sewage into the nation’s waterways were a public health problem long before 1948, when Congress enacted the original Federal Water Pollution Control Act.⁵⁹ “[C]lean water and improved sanitation have been major contributors to improvements in the control of infectious diseases, for example, cholera and typhoid, both of which are transmitted by drinking water”⁶⁰ In 1972, when Congress enacted the contemporary CWA,⁶¹ it

55. See, e.g., JOHNSON, *supra* note 24, at 212–20 (describing the Clean Water Act as a public health measure); U.S. EPA & Minnesota Dept. of Health, *Proceedings of the National Forum on Contaminants in Fish*, May 6 and 9, 2001, at I-10 (emphasizing that “water quality-based programs at both the federal and state levels seek not only to advise people on ways to minimize public health risks, but also to implement management measures to reduce the pollution problems so that measures like fish consumption advisories can be rescinded”), I-11 (“The Clean Water Act goal for water quality adequate to support fishable conditions wherever possible includes both a goal to protect the ecological integrity of the fish communities and a human health goal that fish and shellfish should be safe for humans to catch and eat.”) (Aug. 2001).

56. See 33 U.S.C. § 1317 (2006), as amended by Pub. L. No. 95-217, §§ 53, 54, 91 Stat. 1589-91 (Dec. 27, 1977), and Pub. L. No. 100-4, § 309(a), 101 Stat. 41 (Feb. 4, 1987) (allowing the EPA to set more stringent effluent standards for toxic pollutants and requiring pretreatment of discharges of toxic pollutants into publicly owned treatment works).

57. See *id.* § 1313(i), as added by the Beaches Environmental Assessment and Coastal Health (BEACH) Act, Pub. L. No. 106-284, § 2, 114 Stat. 870 (Oct. 10, 2000) (requiring all states that had designated coastal waters for recreational use to adopt more stringent water quality criteria for pathogens).

58. See *id.* § 1342(p), as added by Pub. L. No. 100-4, §§ 401–405, 101 Stat. 65-67, 69 (Feb. 4, 1987). Urban stormwater runoff is a major source of pathogen contamination of water. Sunny Jiang, Rachel Noble & Weiping Chu, *Human Adenoviruses and Coliphages in Urban Runoff-Impacted Coastal Waters of Southern California*, 67:1 APPLIED & ENVTL. MICROBIOLOGY 179, 179 (Jan. 2001); Jeff Gottlieb, *UC Irvine Ocean Study Blames Familiar Suspect: Runoff; Germ-laden Discharge Makes Orange County Waters Worse Than Santa Cruz’s, Experts Find*, L.A. TIMES, Apr. 6, 2004, available at <http://www.mindfully.org/Water/2004/Urban-Runoff-Waters6apr04.htm>.

59. Sierra Club, *America’s Waters at Risk: The Bush Administration Threatens Thirty Years of Progress Under the Clean Water Act* 1 (2005), available through <http://www.sierraclub.org/cleanwater>.

60. MOELLER, *supra* note 17, at 26. See also STEVEN JOHNSON, *THE GHOST MAP: THE STORY OF LONDON’S MOST TERRIFYING EPIDEMIC—AND HOW IT CHANGED SCIENCE, CITIES, AND THE MODERN WORLD* 30–44, 103–05, 116–21 (2006) (describing the relationships of sewage, drinking water, and cholera epidemics in Victorian London).

61. For example, it remains “the national policy that Federal financial assistance to provide to construct publicly owned waste treatment works.” 33 U.S.C. § 1251(a)(4) (2006). See also MOELLER, *supra* note 17, at 359 (emphasizing that the Federal Water Pollution Control Act of 1948 “provided funds for relevant federal research and associated investigations. Amendments to this act in 1956 authorized the

addressed this most basic of water-related public health issues⁶² by providing grants and loans to build sewage treatment infrastructure throughout the nation, dramatically decreasing the number of people regularly exposed to sewage-contaminated waters.⁶³

The CWA also establishes national goals to make the nation's waters safer for swimming and fishing.⁶⁴ These goals include "that the discharge of pollutants into the navigable waters be eliminated by 1985"; "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 be achieved by July 1, 1983"; and "that the discharge of toxic pollutants in toxic amounts be prohibited"⁶⁵

The CWA's regulatory program begins by stating that, except as in compliance with the Act's requirements, "the discharge of any pollutant by any person shall be unlawful."⁶⁶ The CWA defines "discharge of a pollutant" broadly so that almost any human-controlled addition of almost any substance to almost any surface water is subject to regulation.⁶⁷ In most cases, to comply

states to establish water quality criteria and sponsored enforcement conference to negotiate cleanup plans for bodies of water whose maintenance required the involvement of several states. *More important, these amendments provided federal support for the construction of new municipal sewage-treatment plants.*" (emphasis added)). An entire subchapter of the Clean Water Act (Title II) is devoted to sewage treatment. 33 U.S.C. §§ 1281–1299 (2006). The Title II grants program, now largely replaced by the Title VI State Revolving Fund, *id.* §§ 1381–1387, details that "[w]aste treatment management plans and practices shall provide for the application of the best practicable waste treatment technology before any discharge into receiving waters, including reclaiming and recycling of water, and confined disposal of pollutants so they will not migrate to cause water or other environmental pollution" *Id.* § 1281(b).

62. See, e.g., JOHNSON, *supra* note 24, at 220 (emphasizing the health problems that sewage still causes in the United States; for example, "1.8–3.5 million persons in the United States become ill annually from swimming in waters contaminated by sanitary sewer overflows").

63. Association of State and Interstate Water Pollution Control Administrators (ASIWPCA), *America's Clean Water: The States' Evaluation of Progress, 1972–1982*, at 2 (1984), as reprinted in ASIWPCA, *THE CLEAN WATER ACT THIRTY YEAR RETROSPECTIVE: HISTORY AND DOCUMENTS RELATED TO THE FEDERAL STATUTE 461, 464* (2004).

64. To support these goals, as in the Clean Air Act, Congress directed the EPA Administrator to "conduct research on, and survey the results of other scientific studies on, the harmful effects on the health or welfare of persons caused by pollutants," 33 U.S.C. § 1254(c) (2006), including the effects of bioaccumulation. *Id.* § 1254a. In addition, by January 1, 1973, the Administrator was also to "develop and issue to the States for the purpose of carrying out this chapter the latest scientific knowledge available in indicating the kind and extent of effects on health and welfare which may be expected from the presence of pesticides in the water in varying quantities." *Id.* § 1254(l)(1).

65. *Id.* § 1251(a)(1)–(3).

66. *Id.* § 1311(a).

67. See *id.* §§ 1362(12) (defining "discharge of a pollutant" to be "any addition of any pollutant to navigable waters from any point source"); 1362(6) (defining "pollutant" broadly to include all "industrial, municipal, and agricultural waste discharged into water," with limited exceptions); 1362(7) (defining

with the CWA, point source dischargers—people discharging pollutants into water through “any discernible, confined, and discrete conveyance,” like a pipe⁶⁸—must get a permit through one of the Act’s two permit programs—the more narrow section 404 for discharges of dredged or fill material,⁶⁹ or the more general section 402 National Pollutant Discharge Elimination System (NPDES) for all other discharges of pollutants.⁷⁰

For most dischargers, an NPDES permit will be based on technology-based effluent limitations for conventional pollutants, nonconventional pollutants, and toxic pollutants.⁷¹ Nevertheless, the NPDES permitting program also routinely addresses public health considerations. For example, the Act itself absolutely prohibits the discharge of “any radiological, chemical, or biological warfare agent, any high-level radioactive waste, or any medical waste, into the navigable waters.”⁷² Also, to ensure that overall water quality can support desired uses, including fishing and swimming wherever possible,⁷³ the EPA must adjust the technology-based effluent limitations whenever those limitations are insufficient to ensure the attainment and maintenance of water quality necessary to “assure the protection of public health”⁷⁴ Finally, the EPA has authority to strengthen requirements for discharges of toxic pollutants,⁷⁵ including prohibiting all discharges of a particular toxic pollutant,

“navigable waters” to be “the waters of the United States, including the territorial seas”); 1362(14) (defining “point source” to mean “any discernible, confined, and discrete conveyance,” again with limited exceptions).

68. *Id.* § 1362(14).

69. *Id.* § 1344(a).

70. *Id.* § 1342(a).

71. *Id.* §§ 1311(b), 1342(a). Professor McCubbin has argued persuasively that even these “pure” technology-based effluent limitations “tak[e] into account the public health and environmental risks posed by the industrial facilities to be regulated.” McCubbin, *supra* note 49, at 3. As she notes, “the underlying benefit of reducing pollutant discharges is, of course, a reduction in the risks that polluters pose to public health and the environment.” *Id.* at 13. Moreover, “[t]he Agency must know a technology’s risk reduction benefits—measured, if nothing else, by the amount of pollution it reduces—to determine whether it is the ‘best available.’” *Id.* at 19.

72. 33 U.S.C. § 1311(f) (2006).

73. *Id.* §§ 1251(a)(2), 1313(c)(2)(A).

74. *Id.* § 1312(a). *See also, e.g.*, Puerto Rico Aqueduct & Sewer Auth. v. U.S. EPA, 35 F.3d 600, 609 (1st Cir. 1994) (upholding the EPA’s denial of a sewage treatment facility’s application for a waiver from the secondary-treatment-based effluent limitations when there was no showing that the public health would still be protected from the future effects of the discharge under the relaxed standards).

75. “Toxic pollutants” are “those pollutants, or combinations of pollutants, *including disease-causing agents*, which after discharge and upon exposure, ingestion, inhalation or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, *will . . . cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunctions in reproduction or physical deformations*, in such organisms or their offspring.”

if the science indicates that stricter regulation is necessary to avoid damaging effects on living organisms.⁷⁶

Section 404 permits, in turn, must comply with the EPA's section 404(b)(1) guidelines.⁷⁷ The CWA requires the EPA to consider "the effect of disposal of pollutants on human health" in establishing the guidelines,⁷⁸ and the Section 404(b)(1) Guidelines explicitly acknowledge this public health connection in Section 404 permitting.⁷⁹

Health considerations are more prominent in the CWA's general water-quality goals. To guide states in setting water quality standards, Congress requires the EPA to develop water quality criteria that "accurately reflect[] the latest scientific knowledge [] on the kind and extent of all identifiable effects on health and welfare."⁸⁰ Moreover, in the 2000 amendments to the Act, Congress required the EPA to "publish new or revised water quality criteria for pathogens and pathogen indicators . . . for the purpose of protecting human health in coastal recreation waters."⁸¹ State-set water quality standards (or EPA-set water quality standards, if a state fails to set them) and water quality criteria must in general "be such as to protect the public health or welfare."⁸²

33 U.S.C. § 1362(13) (2006) (emphasis added). Thus, by definition, regulation of the toxic pollutants is public health-related regulation.

76. *Id.* § 1317(a). *See also, e.g.,* *Hercules, Inc. v. EPA*, 598 F.2d 91, 126–27 (D.C. Cir. 1978) (upholding the EPA's abbreviated procedures in promulgating effluent limitations for toxic pollutants because those standards were intended to protect the public health, excusing less procedure than the Administrative Procedure Act usually requires).

77. 33 U.S.C. § 1344(b)(1) (2006).

78. Section 404(b)(1) explicitly cross-references Section 403(c), which supplies the quoted language. *Id.* § 1343(c)(1)(A).

79. For example, under these Guidelines, "[n]o discharge of dredged or fill material shall be permitted if it . . . [v]iolates any applicable toxic effluent standard or prohibition under section 307 of the Act . . ." 40 C.F.R. § 230.10(b)(2) (2009). Similarly, the Guidelines prohibit discharges that "will cause or contribute to significant degradation of the waters" involved, with "significant degradation" explicitly including "[s]ignificantly adverse effects of the discharge of pollutants on human health . . ." 40 C.F.R. § 230.10(c) (2009). Moreover, under this program, the EPA can prohibit discharges of dredged or fill material at specific locations whenever "the discharge of such materials into such area will have an unacceptable adverse effect on municipal water supplies, shellfish beds and fishery areas . . ." 33 U.S.C. § 1344(c) (2006).

80. 33 U.S.C. § 1314(a)(1) (2006).

81. *Id.* § 1314(a)(9)(A). EPA published the new pathogen criteria in November 2004. *Water Quality Standards for Coastal and Great Lakes Recreation Waters; Final Rule*, 69 Fed. Reg. 67218 (Nov. 16, 2004) (to be codified at 40 C.F.R. pt. 131). *See also* 33 U.S.C. § 1313(i)(1)(A), (3) (2006) (requiring states to adopt pathogen water quality standards).

82. 33 U.S.C. § 1313(c)(2)(A) (2006). *See also* *Adams v. EPA*, 38 F.3d 43, 55–56 (1st Cir. 1994) (upholding an EPA-issued NPDES permit for wastewater treatment as protective of the public health when the state certified that compliance with the permit would ensure compliance with the state water quality standards, including a coliform standard, and the challenger made no showing that an additional virus

II. STATUTORY ENFORCEMENT OPTIONS IN FEDERAL POLLUTION CONTROL LAWS AND THE STATUTORY DIMENSION OF PUBLIC HEALTH PROTECTION

As Part I demonstrates, public health considerations pervade the Clean Water and Clean Air Acts. Thus, any violation of either Act is likely to impair the public health to some degree.⁸³

Nevertheless, agencies cannot realistically enforce against all violations equally aggressively despite potential public health impacts. Indeed, environmental enforcement decisions do not occur in a vacuum, but instead reflect a number of simultaneous realities: (1) some violations are worse than others; (2) some particularly severe violations are more directly damaging to the environment than to public health; and (3) the EPA and implementing states exercise a great deal of discretion in determining when to take “serious” enforcement actions—actions beyond a mere administrative notice of violation. This part explores the public health-related statutory constraints (if any) on the enforcement agencies’ exercise of their enforcement discretion; the next part will explore how the EPA has actually chosen to exercise its enforcement discretion.

A. The Enforcement Starting Point: Administrative and Civil Strict Liability

In order to ensure compliance with regulatory requirements and the eventual attainment of their overall regulatory goals,⁸⁴ liability under the Acts, as with most federal environmental statutes, is strict.⁸⁵ any violation of the

standard was necessary).

83. MOELLER, *supra* note 17, at 2.

84. See, e.g., *United States v. Ben’s Truck & Equip., Inc.*, 1986 WL 15402, at *3 (E.D. Cal. May 12, 1986) (“the Act and the asbestos NESHAP provide strict liability for civil violations of their provisions. . . . Strict liability is essential to meet the purpose of the Act to protect and improve the quality of the nation’s air.”).

85. *Pound v. Airsol Co.*, 498 F.3d 1089, 1097 (10th Cir. 2007) (CAA); *United States v. Allegheny Ludlum Corp.*, 366 F.3d 164, 174–75 (3d Cir. 2004) (CWA); *United States v. Anthony Dell’Aquila, Enters. & Subsidies*, 150 F.3d 329, 332 (3d Cir. 1998) (CAA); *United States v. Trident Seafoods Corp.*, 92 F.3d 855, 861 (9th Cir. 1996) (CAA); *United States v. B&W Inv. Props.*, 38 F.3d 362, 367 (7th Cir. 1994) (CAA); *United States v. Winchester Mun. Utils.*, 944 F.2d 301, 304 (6th Cir. 1991) (CWA); *United States v. West of England Ship Owner’s Mut. Prot. & Indem. Ass’n*, 872 F.2d 1192, 1198 (5th Cir. 1989) (CWA); *Stoddard v. W. Carolina Reg’l Sewer Auth.*, 784 F.2d 1200, 1208 (4th Cir. 1986) (CWA); *Matter of Oswego Barge Corp.*, 664 F.2d 327, 343 (2d Cir. 1981) (CWA); *United States v. Earth Scis., Inc.*, 599 F.2d 368, 374 (10th Cir. 1979) (CWA); *United States v. Marathon Pipe Line Co.*, 589 F.2d 1305, 1309 (7th

statute—discharging or emitting pollutants without a permit, exceeding the permit limitations, or failure to monitor and report—warrants an enforcement action by the implementing state or the EPA.⁸⁶

Moreover, unlike strict liability claims in tort law, damages are *not* an element of the government’s enforcement action.⁸⁷ That is, the enforcing agency need not prove that a particular discharge of water pollutants or emission of air pollutants causes either measurable environmental harm or harm to particular persons in order to be able to prosecute an enforcement action and assess monetary penalties against the violator.⁸⁸ Indeed, by creating a strict liability regime and eliminating damages as an element of enforcement, Congress attempted to remedy the “tragedy of the commons” and proof-of-causation problems that plagued environmental litigation under the common law of torts.⁸⁹ Instead, the federal pollution control statutes effectively remove causation and injury from the individual to the collective: the Acts recognize that, collectively, polluters have created levels of air pollution and water pollution in many locations that are unhealthy and otherwise undesirable from a public interest perspective and provide a means of reducing or eliminating that pollution.

Nevertheless, this “no damages” strict liability regime also allows the conceptual disconnection of statutory violations from any actual injury—to the environment, to public health, or to individuals. Moreover, the ability to categorize a legal violation as “technical” or “no injury” has enforcement consequences. For example, in *Weinberger v. Romero-Barcelo*,⁹⁰ citizens of Puerto Rico sued to enjoin the U.S. Navy’s weapons training operations on Vieques Island, arguing that the Navy was violating the Clean Water Act by discharging ordnance into coastal waters without a permit. The district court

Cir. 1978) (CWA).

86. Thus, under the Clean Air Act, the state or the EPA Administrator must at least issue a compliance order when “any person has violated or is in violation of any requirement or prohibition of an applicable implementation plan or permit,” 42 U.S.C. § 7413(a)(1) (2006), or has violated any requirement of the acid rain program, the Title V permit program, or the stratospheric ozone program. *Id.* § 7413(a)(3). Similarly, under the Clean Water Act, the EPA or the state must at least issue a compliance order any time a person discharges without a permit, discharges in excess of allowed effluent limitations, violates the recordkeeping and reporting requirements, or otherwise violates the terms of the person’s NPDES or section 404 permit. 33 U.S.C. § 1319(a)(1), (3) (2006).

87. See DANIEL H. COLE, *POLLUTION & PROPERTY* 29–39 (2002) (discussing public regulation of air and water).

88. *Id.*

89. *Id.*

90. 456 U.S. 305 (1982).

agreed that a violation of the CWA was occurring;⁹¹ however, it refused to enjoin the Navy's operations, finding that the weapons training—i.e., bombing of the ocean—caused no environmental harm.⁹² The U.S. Supreme Court agreed with the district court, emphasizing that “[t]he integrity of the Nation’s waters, . . . not the permit process, is the purpose of the” CWA.⁹³ As a result, because in this case “the discharge of ordnance had not polluted the waters,” the district court’s decision not to issue an injunction was justified when “it neither ignored the statutory violation nor undercut the purpose and function of the permit system.”⁹⁴

Thus, the perception of harm, whether to public health or the environment, can be critical to the agencies’ and courts’ assessments of “appropriate” enforcement. Most environmental statutes, moreover, give agencies a range of enforcement options, as the next section details.

B. Levels of Statutory Enforcement

Of course, not all violations of the federal pollution control statutes are merely technical; some rather dramatically damage the environment, impair public health, or cause personal injury. The federal pollution control statutes acknowledge these distinctions by allowing for differential enforcement: enforcement agencies can take stronger enforcement actions against more significant violations, as defined in statutes and enforcement policies. Specifically, the Clean Air and Clean Water Acts allow the federal and delegated state governments to pursue a range of administrative, civil, and criminal enforcement options.⁹⁵

These graduated enforcement mechanisms reflect the violator’s intent and the actual harm created or risked. They thus allow enforcing agencies to tailor enforcement to reflect actual individual contributions to the regulatory commons problem and to more dramatically punish particularly harmful violations. Nevertheless, the Acts are remarkably silent regarding the relevant considerations for distinguishing administrative from civil enforcement. They are, however, more specific regarding the elements that make criminal

91. *Id.* at 307–08.

92. *Id.* at 309–10. In fact, the district court strongly suggested that, by rendering those waters off-limits to civilians, the Navy’s operations actually *improved* the environmental quality of Vieques’ marine waters. *Id.* at 310 n.4 (quoting *Romero-Barcelo v. Brown*, 478 F. Supp. 646, 682 (D.P.R. 1979)).

93. 456 U.S. 305, 314 (1982).

94. *Id.* at 315.

95. See generally 42 U.S.C. § 7413 (2006) (the Clean Air Act’s primary government enforcement provision); 33 U.S.C. § 1319 (2006) (the Clean Water Act’s primary government enforcement mechanism).

enforcement appropriate, and these elements display some evidence of congressional solicitude for personal injury and public health impairment.

1. Administrative Enforcement

Administrative enforcement actions are those enforcement actions that occur within the agency itself. Thus, under the Acts, if the relevant state refuses to take an enforcement action, the EPA must at least issue a notice of violation and compliance order against any person who violates the requirements that the Acts and the related regulations impose.⁹⁶ These orders give violators a deadline by which to come into compliance with the relevant regulatory requirements.⁹⁷

However, violators can also be subject to administrative penalties.⁹⁸ The Acts provide little guidance regarding when the EPA or the state should go beyond a compliance order and seek monetary penalties. However, the Acts do provide a list of relevant factors for determining the *amount* of any administrative penalties assessed.⁹⁹

Neither set of statutory criteria for compliance orders or administrative penalties expressly lists threats to public health as a consideration. Nevertheless, threats to public health are certainly relevant in assessing the seriousness of the violation and perhaps also in the catch-all “other factors.” Thus, as a matter of statutory interpretation, the EPA fairly clearly has

96. 33 U.S.C. § 1319(a)(3) (2006); 42 U.S.C. § 7413(a)(1)(A), (3)(B), (5)(A) (2006).

97. 33 U.S.C. § 1319(a)(5)(A), changed from 33 U.S.C. § 1319(a)(4) (2006).

98. 33 U.S.C. § 1319(g) (2006); 42 U.S.C. § 7413(a)(1)(B), (3)(A), (5)(B) (2006).

99. Under the Clean Water Act, the EPA or the Army Corps of Engineers “shall take into account the nature, circumstances, extent and gravity of the violation, or violations, and, with respect to the violator, ability to pay, any prior history of such violations, the degree of culpability, economic benefit or savings (if any) resulting from the violation, and such other matters as justice may require.” 33 U.S.C. § 1319(g)(3) (2006).

Under the Clean Air Act, if the EPA does choose to assess administrative penalties, its authority is “limited to matters where the total penalty sought does not exceed \$200,000 and the first alleged date of violation occurred no more than 12 months prior to the initiation of the administrative [enforcement] action,” unless the Administrator and the Attorney General decide otherwise. 42 U.S.C. § 7413(d)(1) (2006). Field citations are limited to \$5,000 per day of violation. *Id.* § 7413(d)(3). Criteria for setting the amount of the penalty include,

(in addition to such other factors as justice may require) the size of the business, the economic impact of the penalty on the business, the violator’s full compliance history and good faith efforts to comply, the duration of the violation as established by any credible evidence . . . , payment by the violator of penalties previously assessed for the same violation, the economic benefit of noncompliance, and the seriousness of the violation.

Id. § 7413(e)(1).

authority to consider public health in administrative enforcement actions against persons who violate the CAA and CWA. Nevertheless, threats to public health need not be present for administrative enforcement to occur, nor is the presence or absence of public health threats in any way determinative of the EPA's decisions regarding what kind of administrative enforcement to take or the level of administrative penalties to impose.

2. Civil Enforcement

Agencies also have the option of referring cases to the U.S. Department of Justice for enforcement via civil suit ("civil enforcement actions"). Under the CWA, for example, the EPA "is authorized to commence a civil action for appropriate relief, including a permanent or temporary injunction, for any violation for which he is authorized to issue a[n administrative] compliance order"¹⁰⁰

While the CAA is more complex regarding how it groups types of violations, it similarly states that if the EPA finds that "any person has violated or is in violation of any requirement or prohibition of an applicable implementation plan or permit," and the relevant state refuses to take an enforcement action, it can issue a compliance order, assess administrative penalties, or bring a civil enforcement action in court.¹⁰¹ For any other kind of violation except violations of the new source requirements, the EPA can pursue the full panoply of enforcement options—administrative compliance orders, administrative penalties, civil enforcement in court, or criminal enforcement.¹⁰² Finally, with respect to violations of the requirements for new or modified sources, the CAA provides that the EPA may administratively "issue an order prohibiting the construction or modification" of the violating stationary source, assess administrative penalties, or bring a civil action; moreover, the United States retains the right to bring a criminal action if warranted.¹⁰³ The CAA targets civil enforcement actions at "any person that is the owner or operator of an affected source, a major emitting facility, or a

100. 33 U.S.C. § 1319(b) (2006); *see also id.* § 1319(a)(3) (leaving the choice of a compliance order or civil action to the Administrator).

101. 42 U.S.C. § 7413(a)(1) (2006).

102. *Id.* § 7413(a)(3).

103. *Id.* § 7413(a)(5); *see also id.* § 7413(b) (giving the Administrator authority to bring civil actions).

major stationary source,” but it also includes “any other person” and directs the EPA to pursue civil enforcement “as appropriate.”¹⁰⁴

Neither statute provides criteria for choosing between administrative and civil enforcement. Therefore, the federal environmental statutes do not themselves privilege public health protection as an appropriate factor in deciding between administrative and civil enforcement.

3. Civil Penalties

The Acts allow the courts to assess civil penalties as part of civil enforcement; in fact, some case law indicates that civil penalties are mandatory in civil enforcement actions.¹⁰⁵ Moreover, both statutes list factors for the courts to consider in determining the appropriate amount of the civil penalty.¹⁰⁶

As with administrative penalties, Congress did not explicitly list public health as a factor for courts to consider in assessing civil penalties under the Acts. Nevertheless, consideration of the seriousness of the violations and other relevant factors can allow public health considerations to factor into the civil penalty amount.¹⁰⁷ Indeed, courts often stress these injuries when imposing particularly large penalties. For example, one federal district court upheld an increased civil penalty under the CWA because of risks to the public health from the violating discharge.¹⁰⁸ Another federal district court, while noting

104. *Id.* § 7413(b) (2006).

105. *United States v. Lexington-Fayette Urban County Gov't*, 591 F.3d 484, 488 (6th Cir. 2010); *Leslie Salt Co. v. United States*, 55 F.3d 1388, 1396–97 (9th Cir. 1995); *Atlantic States Legal Found. v. Tyson Foods, Inc.*, 897 F.2d 1128, 1142 (11th Cir. 1990); *Stoddard v. West Carolina Regional Sewer Auth.*, 784 F.2d 1200, 1208 (4th Cir. 1986).

106. Under the CWA,

[i]n determining the amount of a civil penalty the court shall consider the seriousness of the violation or violations, the economic benefit (if any) resulting from the violation, any history of such violations, any good-faith efforts to comply with the applicable requirements, the economic impact of the penalty on the violator, and such other matters as justice may require.

33 U.S.C. § 1319(d) (2006). Under the CAA, the factors are identical to those for administrative penalties—that is, the courts

shall take into consideration (in addition to such other factors as justice may require) the size of the business, the economic impact of the penalty on the business, the violator's full compliance history and good faith efforts to comply, the duration of the violation as established by any credible evidence (including evidence other than the applicable test method), payment by the violator of penalties previously assessed for the same violation, the economic benefit of noncompliance, and the seriousness of the violation.

42 U.S.C. § 7413(e)(1) (2006).

107. *See infra* notes 192–219 and accompanying text.

108. *See, e.g., United States v. Alisal Water Corp.*, 326 F. Supp. 2d 1032, 1038–39 (N.D. Cal. 2004).

that actual environmental harm was not necessary to find a violation “serious” and hence deserving of increased civil penalties, similarly emphasized that “nevertheless, the evidence at trial showed that defendants’ discharges constituted both an actual and a potential threat to the public health and the environment,” cementing the defendants’ civil penalty liability.¹⁰⁹

4. Criminal Enforcement

As one might expect, given the heightened constitutional requirements in criminal law, federal pollution control statutes tend to be more detailed regarding the circumstances under which criminal prosecutions are appropriate. Under the CWA, for example, criminal penalties are available is against any person who:

negligently [or knowingly] introduces into a sewer system or into a publicly owned treatment works any pollutant or hazardous substance which such person knew or reasonably should have known could cause personal injury or property damage or . . . which causes such treatment works to violate any effluent limitation or condition in any permit issued to the treatment works¹¹⁰

Similarly, the Act more stringently punishes violations of the permit requirement, effluent limitations, effluent standards, pretreatment requirements, or monitoring and reporting requirements if serious human injury is likely to result. These criminal negligence provisions have a clear connection to the public health: the CWA will criminally punish any person who negligently upsets the operation of sewage systems and sewage treatment plants, whether the injury is direct (the pollutant or hazardous substance causes bodily injury) or indirect (the pollutant or hazardous substance cause the plant to violate its own discharge requirements, potentially leading to the discharge of raw or partially treated sewage).

The CAA also connects some of its criminal sanctions to public health and personal injury. For example, negligent actions may incur criminal liability only when a person negligently releases listed hazardous air pollutants or non-listed substances that are “extremely hazardous” and thereby “negligently places another person in imminent danger of death or serious bodily injury”¹¹¹ Defendants who knowingly release such hazardous pollutants and knowingly endanger other people face substantially greater

109. United States v. Gulf Park Water Co., Inc., 14 F. Supp. 2d 854, 860 (S.D. Miss. 1998).

110. 33 U.S.C. § 1319(c)(1)(B), (2)(B) (2006).

111. 42 U.S.C. § 7413(c)(4) (2006).

prison sentences and/or fines¹¹²—the potential imprisonment term for knowing endangerment is at least three times longer than for any other “knowing” crime under the Act.¹¹³ Moreover, these provisions single out releases of hazardous air pollutants, which can have not only immediate and acute impacts on individual well-being but also longer term impacts on public health.

Thus, in the criminal context, the Acts evidence Congress’s particular concern to punish violators who culpably put specific individuals or the general public at risk. Moreover, the federal courts have generally underscored the connection between criminal prosecutions under the federal pollution control statutes and public health protection and personal injury prevention by routinely classifying these statutes as “public welfare statutes” akin to the Food, Drug and Cosmetic Act.¹¹⁴ In the words of the Ninth Circuit, “The criminal provisions of the [CWA] are clearly designed to protect the public at large from the potentially dire consequences of water pollution, . . . and as such fall within the category of public welfare legislation.”¹¹⁵

112. *Id.* § 7413(c)(5). As in the CWA, “serious bodily injury” “means bodily injury which involves a substantial risk of death, unconsciousness, extreme physical pain, protracted and obvious disfigurement or protracted loss or impairment of the function of a bodily member, organ, or mental faculty.” *Id.* § 7413(c)(5)(F) (2006).

113. *Compare id.* § 7413(c)(5) (imposing imprisonment terms of up to 15 years), *with id.* §§ 7413(c)(1) (imposing imprisonment for up to five years for knowing violations of state implementation plans, administrative enforcement orders, new source performance standards, national emission standards for hazardous air pollutants, inspection requirements, requirements for hazardous waste combustion, preconstruction requirements, emergency orders, permitting requirements, acid rain requirements, or ozone reduction requirements); 7413(c)(2) (imposing imprisonment of up to two years for false statements or failure to install or maintain monitoring equipment); 7413(c)(3) (imposing imprisonment terms of up to one year for failure to pay fees).

114. *United States v. Hoflin*, 880 F.2d 1033, 1038 (9th Cir. 1989), *cert. denied*, 493 U.S. 1083 (1990) (“RCRA’s purposes, like those of the Food and Drug Act, ‘. . . touch phases of the lives and health of people which, in the circumstances of modern industrialism, are largely beyond self-protection.’” (quoting *United States v. Dotterweich*, 320 U.S. 277, 280 (1943) (construing criminal intent requirements under the Food, Drug, and Cosmetic Act))); *United States v. Weitzenhoff*, 35 F.3d 1275, 1283–86 (9th Cir. 1993), *cert. denied sub nom. Mariana v. United States*, 513 U.S. 1128 (1995) (citing *Hoflin* while concluding that the Clean Water Act is also a public welfare statute). *But see United States v. Ahmad*, 101 F.3d 386, 391 (5th Cir. 1996) (holding that, despite the fact that “[o]n its face, the [CWA] certainly does appear to implicate the public welfare,” the exception was narrow and did not apply).

115. *United States v. Weitzenhoff*, 35 F.3d 1275, 1286 (9th Cir. 1993), *cert. denied sub nom. Mariana v. United States*, 513 U.S. 1128 (1995).

III. EXERCISING AGENCY ENFORCEMENT DISCRETION: THE EPA'S ENFORCEMENT POLICIES AND PUBLIC HEALTH

Part II shows that, outside of criminal enforcement, the EPA has considerable discretion under the federal pollution statutes regarding whether and when to privilege public health considerations in environmental enforcement. Moreover, while the EPA cannot refuse to take *any* enforcement actions, the realities of budget and personnel limitations generally require the EPA to prioritize its pollution enforcement efforts on some grounds.

Therefore, the choices that the EPA makes could have potentially significant effects on the extent to which its environmental enforcement promotes public health goals. First, if the EPA chooses to highlight or target certain types of violations, either by the industry involved or by the kind of harm caused, it may effectively privilege certain regulatory goals over others. Second, in choosing among administrative, civil, and criminal enforcement options, the EPA can signal that it considers certain types of violations to be more important or “serious” than other types of violations.

Finally, the EPA's own enforcement rhetoric can signal how important—or, perhaps more cynically, how valuable for public relations purposes—it deems public health goals to be in its enforcement decisions. OECA's enforcement reports, therefore, can provide important clues regarding the role of public health in the exercise of the agency's enforcement discretion.

A. Prioritization: EPA's National Enforcement Priorities

The EPA has regularly set national priorities for enforcement efforts pursuant to the various federal pollution control statutes, including the Clean Air and Clean Water Acts. These priorities have increasingly promoted the statutes' public health goals.

1. FY2008–FY2010 Enforcement Priorities

In June 2007, OECA announced the EPA's six national enforcement priorities for FY2008–FY2010.¹¹⁶ All of these national priorities promote

116. OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE, U.S. ENVTL. PROT. AGENCY, FY2008 OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE (OECA) NATIONAL PROGRAM MANAGER GUIDANCE 3–7 (June 2007, as updated June 2008), *available through* Office of Enforcement and Compliance Assurance, U.S. Env'tl. Prot. Agency, *National Priorities for Enforcement and Compliance*

human health protection, even while simultaneously advancing environmental protection more generally.

For example, the EPA chose to emphasize the CAA's technology-based national emissions standards for hazardous air pollutants (NESHAPs) through FY2010, noting that these standards "regulate the most hazardous air pollutants (HAPs) and those posing the highest degree of risk to human health and the environment. By ensuring compliance with [these] standards, the Agency reduces public exposure to toxic air emissions."¹¹⁷

Similarly, under the CWA, the EPA has prioritized "discharges from wet weather events," which "represent significant threats to public health and the environment."¹¹⁸ OECA emphasized that sanitary sewer overflows (SSOs) and combined sewer overflows (CSOs) involve discharges of raw sewage, which contain "bacteria, viruses and other pathogens" and can lead to beach and shellfish bed closures. In addition, wet weather discharges from concentrated animal feeding operations (CAFOs) regularly contain high levels of fecal coliform.¹¹⁹

Public health concerns also inform the EPA's other national enforcement priorities—financial responsibility, new source review and prevention of significant deterioration under the CAA, mineral processing, and tribal capacity¹²⁰—to a significant degree. For example, according to OECA, "[f]inancial responsibility protects public health and the environment by promoting the proper and safe handling of hazardous materials and protecting against a liable party defaulting on closure or clean up obligations."¹²¹ Implementing the new source review requirements in areas with already good air quality helps to ensure that this air quality remains in compliance with the health-based NAAQS.¹²²

In its description of the mineral processing national priority, OECA primarily emphasizes that "[t]he mishandling of mineral processing wastes causes significant environmental damage and results in costly cleanups. These highly acidic wastes cause fish kills" and "severe impacts" on wildlife.¹²³ However, it also notes that the acid wastes "elevate levels of arsenic and

Assurance, <http://www.epa.gov/compliance/data/planning/npmguidance2008.pdf> (last updated May 15, 2008) [hereinafter FY2008 ENFORCEMENT PRIORITIES].

117. *Id.* at 5.

118. *Id.* at 4.

119. *Id.* at 4–5.

120. FY2008 ENFORCEMENT PRIORITIES, *supra* note 116, at 4, 6.

121. *Id.* at 4.

122. *Id.* at 6.

123. *Id.*

cadmium in residential wells” and that many of these contaminating “facilities are in close proximity to populations, and the health risk to people living near these facilities is of significant concern to the EPA.”¹²⁴

The national tribal strategy arguably has a more oblique connection to public health. Nevertheless, as OECA emphasizes, “[s]ignificant human health and environmental problems, associated with several media programs, are present in Indian country,” and “[t]he tribal strategy’s primary goal is to significantly improve human health and the environment in Indian country through the EPA working with tribes on compliance assistance, compliance monitoring, and enforcement activities.”¹²⁵

OECA’s general program guidance for FY2008 also reveals a pervasive concern for public health issues. For CWA programs, for example, it stated that:

Priority water areas include watersheds, public drinking water intakes or designated protection areas, waters that could impact shellfish beds, waters with threatened or endangered species, waters designated as primary contact recreation, and waters located in areas with environmental justice concerns¹²⁶

Watersheds and waters with endangered and threatened species reflect ecosystem and biodiversity goals, but the other four categories of priority waters have more-or-less direct connections to human health, from protecting drinking water to avoiding tainted shellfish to protecting humans from exposure to contaminated water.

Given the pervasive health-based focus of the CAA, identifying “discretionary” promotion of health-focused enforcement is more difficult. Nevertheless, OECA has effectively instructed the EPA regional offices and the states to emphasize air toxics and new source review (and the health benefits of these programs, as emphasized in the national priorities discussion) even at the expense of other CAA programs. It noted in its FY2008 guidance that these aspects of the CAA remain priorities and that for all other programs under the Act, “the regions should [merely] continue to maintain a minimum level of activity consistent with the resources available for implementing the program”¹²⁷ Arguably, promotion of more directly health-related programs is most obvious in OECA’s treatment of the Title V permitting program: OECA instructed the EPA regions to conduct compliance

124. *Id.*

125. *Id.* at 6, 7.

126. *Id.* at 22–23.

127. *Id.* at 43–44.

evaluations only for those Title V major sources “that emit or have the potential to emit emissions at or above 80% of the Title V source threshold”¹²⁸—that is, only for the worst contributors to air pollution and its impacts on public health.

2. FY2008–FY2010 Priorities Compared to National Enforcement Priorities in the Last Decade

In some respects, the national priorities for FY2008–FY2010 reflect long-term prioritizations in EPA enforcement goals. For example, as far back as FY1999, the EPA listed agricultural practices and CAFOs as enforcement priorities,¹²⁹ and CWA wet weather problems became priority national problems in FY2001.¹³⁰ CAA toxics and new source review also became national enforcement priorities in FY2001.¹³¹

In other ways, however, the EPA’s national enforcement priorities shifted in FY2008. With the exception of the minerals processing priority, OECA’s FY2008–FY2010 enforcement priorities take a broad programmatic approach to enforcement prioritization. In contrast, in FY1999, OECA’s 11 national priorities targeted individual industrial sectors—agriculture/CAFOs, automotive service and repair shops, coal fired power plants, chemical preparation, dry cleaning, industrial organic chemicals, iron and basic steel products, municipalities, petroleum refining, primary nonferrous metals, and pulp mills.¹³² OECA selected these sectors “based on several factors, including compliance history, regional and state concerns, national scope of the sector, and potential environmental and human health risk identified from pollutant loadings and Toxic Release Inventory (TRI) risk data.”¹³³

While many of the targeted sectors clearly raised public health concerns, OECA often failed to emphasize those public health aspects.¹³⁴ Indeed, “public

128. *Id.* at 44.

129. 1999 ENFORCEMENT REPORT, *supra* note 19, at 2.

130. OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE, U.S. ENVTL. PROT. AGENCY, PROTECTING THE PUBLIC AND THE ENVIRONMENT THROUGH INNOVATIVE APPROACHES: FISCAL YEAR 2001 ENFORCEMENT AND COMPLIANCE ASSURANCE ACCOMPLISHMENTS REPORT 18 (Dec. 1, 2002), *available at* <http://www.epa.gov/compliance/resources/reports/accomplishments/oeca/fy01accomplishment.pdf> [hereinafter 2001 ENFORCEMENT REPORT].

131. *Id.* at 19.

132. 1999 ENFORCEMENT REPORT, *supra* note 19, at 2.

133. *Id.*

134. The automotive service and repair sector contributed chlorofluorocarbons (CFCs) and volatile organic compounds to the atmosphere, “reducing the ozone layer that protects the earth from harmful ultraviolet radiation” and “contributing to ground level ozone,” respectively. *Id.* at A-1. Coal-fired power

health” or “human health” was explicitly relevant only for CAFOs¹³⁵ and the primary nonferrous metals sector.¹³⁶

By FY2001, OECA largely set aside its sector-based prioritization for a programmatic- and problem-based approach, although it did include the petroleum refining sector as an enforcement priority.¹³⁷ Moreover, three of the FY2001 national priorities have clear and emphasized connections to public health protection, including: CWA wet weather problems, where overflows from CAFOs, CSOs, and SSOs “contain bacteria and other pathogens which cause illnesses and lead to impaired waters, including beach and shellfish bed closures”;¹³⁸ Safe Drinking Water Act microbial rules, compliance with which helps to avoid “adverse health effects of microbiological contamination includ[ing] gastrointestinal distress, fever, pneumonia, dehydration (which can be life threatening), or death”;¹³⁹ and Clean Air Act toxics, enforcement against which helped to reduce “public exposure to toxic air emissions”¹⁴⁰ OECA did not emphasize public health concerns for the priorities of CAA new source review and prevention of significant deterioration, the petroleum refinery sector, or Resource Conservation and Recovery Act (RCRA) permit evaders.¹⁴¹

National enforcement priorities in FY2002 were identical to those in FY2001.¹⁴² However, for FY2005 through FY2007, enforcement priorities expanded to include not only air toxics, new source review, petroleum refining, CAFOs, CSOs and SSOs—all of which EPA explicitly connected to potential health problems—but also stormwater, mineral processing, financial responsibility, tribal issues, and environmental justice;¹⁴³ RCRA permit

plants made the list because “this sector ranks first or second in emissions of nitrous oxide (NO_x), sulfur dioxide (SO₂), and particulate matter (PM),” while OECA expressed concern about the cumulative environmental impact caused by the release of cleaning solvents to the ground, water, and air” from dry cleaners. *Id.* at A-2, A-5. “Public health” or “human health” was explicitly relevant only for CAFOs and the primary nonferrous metals sector. *Id.* at A-3, A-16.

135. *Id.* at A-3.

136. *Id.* at A-16.

137. 2001 ENFORCEMENT REPORT, *supra* note 130, at 17.

138. *Id.* at 18.

139. *Id.* at 19.

140. *Id.*

141. *Id.*

142. OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE, U.S. EPA, ENVIRONMENTAL RESULTS THROUGH SMART ENFORCEMENT: FISCAL YEAR 2002 ENFORCEMENT AND COMPLIANCE ASSURANCE ACCOMPLISHMENTS REPORT 20 (June 27, 2003), available at <http://www.epa.gov/compliance/resources/reports/accomplishments/oeca/fy02accomplishment.pdf> [hereinafter 2002 ENFORCEMENT REPORT].

143. OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE, U.S. EPA, FY2006 OECA ACCOMPLISHMENTS REPORT 9–11 (Mar. 12, 2007), available at <http://www.epa.gov/compliance/resources/>

evaders dropped out as a priority. EPA did not emphasize public health impacts from stormwater,¹⁴⁴ but noted that “[l]arge-scale mineral processing and mining operations often severely affect water supplies and wildlife and create environmental damage. Many facilities are located in populated areas, making health risks a significant concern for EPA.”¹⁴⁵ Similarly, “[h]aving the financial resources to perform closure and cleanup are an important part of protecting human health and the environment from solvents, dioxins, oils, heavy metals, polychlorinated biphenyls (PCBs), and other dangerous pollutants that contaminate soils, ground water, surface waters, and sediments.”¹⁴⁶ The tribal focus sought to address “significant human health and environmental problems associated with drinking water, solid waste, and environmental risks (*e.g.*, lead-based paint),”¹⁴⁷ while the environmental justice priority sought to “provide an environment where all people enjoy the same degree of protection from environmental and health hazards and equal access to the decision-making process to maintain a healthy environment in which to live, learn, and work.”¹⁴⁸ Thus, public health concerns were explicitly relevant to all but one of the 10 national enforcement priorities for FY2005 to FY2007. Moreover, the EPA completed its petroleum refineries enforcement initiative at the end of this period, emphasizing that the eliminated or reduced air pollutants “contribute to respiratory illness and heart disease, childhood asthma, acid rain, and reduced visibility.”¹⁴⁹

3. Ambivalence in the Enforcement Guidance Overall

While the FY2008–FY2010 national enforcement priorities suggest a particularly strong focus on public health-related goals—a focus that has been increasing since FY1999—the FY2008 national program guidance nevertheless also indicates ambivalence regarding the overall place of health-based enforcement priorities nationwide. For example, OECA stated that, within the CWA NPDES permit program, “each violation deserves *some type of* enforcement response.”¹⁵⁰ Similarly, under the CAA,

reports/accomplishments/oeca/fy06accomplishment.pdf[hereinafter 2006 ENFORCEMENT REPORT]; see also 2007 ENFORCEMENT REPORT, *supra* note 23, at 9–11.

144. 2006 ENFORCEMENT REPORT, *supra* note 143, at 10 (emphasizing water quality impairment).

145. *Id.* at 11.

146. *Id.*

147. *Id.*

148. *Id.* at 12.

149. 2007 ENFORCEMENT REPORT, *supra* note 23, at 11.

150. FY2008 ENFORCEMENT PRIORITIES, *supra* note 116, at 27 (emphasis added).

Federal enforcement will be considered where delegated agencies fail to take appropriate action. In addition, regions should take appropriate federal enforcement actions in situations where federal involvement could be particularly helpful in bringing the matter to a successful and environmentally beneficial resolution . . . or is essential to ensure fair and equal environmental protection mandated by law.¹⁵¹

Thus, OECA has not taken—and probably could not officially take—any enforcement actions “off the table.”

Moreover, OECA has contextualized the more health-focused national priorities within six categories of enforcement actions of particular interest:

(1) National Enforcement Priority cases/inspections; (2) regional enforcement Priority cases/inspections; (3) Multimedia inspection/cases; (4) Cases involving violations at multiple facilities; (5) Cases/Inspections involving large and sophisticated corporations whose violations have demonstrable environmental impact; (6) and cases involving facilities categorized as SNC [Significant Noncompliers], HPV [High Priority Violators], or another category of repeat “bad actor.”¹⁵²

Thus, the national enforcement priorities and their health-based focus are only one subset of the EPA’s national and regional enforcement priorities, many of which do not include an explicit public health connection. Indeed, Categories (3) through (5) target more wide-spread violations and violations with significant *environmental* harm, while Category (6) targets particularly culpable violators.

As this Article goes to press, the EPA has announced its candidate enforcement priorities for FY2011–FY2013.¹⁵³ These candidates include air toxics under the CAA, CAFOs under the CWA, environmental justice, Indian Country drinking water under the Safe Drinking Water Act, marine debris, mineral processing, municipal infrastructure, new sources review and prevention of significant deterioration under the Clean Air Act, RCRA enforcement, RCRA financial assurance, resource extraction, pesticides at day care facilities, surface impoundments, wetlands, and worker protection standards.¹⁵⁴ This list suggests that both continuing (air toxics, CAFOs) and new (pesticides at day care facilities, worker protection) environmental health and human safety considerations will continue to influence EPA enforcement

151. *Id.* at 49.

152. *Id.* at 13.

153. Office of Enforcement & Compliance Assurance, U.S. EPA, *National Priorities for Enforcement and Compliance Assurance*, <http://www.epa.gov/compliance/data/planning/priorities/index.html> (last updated Feb. 2, 2010).

154. *Id.*

priorities but also, again, that public health concerns will not necessarily dominate pollution enforcement.

B. Choosing Among Administrative, Civil, and Criminal Enforcement

As noted, aside from imposing heightened intent requirements and additional elements for criminal liability, the Clean Air and Clean Water Acts provide remarkably little guidance to the EPA and state enforcement agencies regarding the “proper” level of enforcement against particular violations. To a large extent, therefore, these choices—and the values that they reflect—are largely matters of EPA enforcement discretion.

With respect to the Clean Water Act, EPA issued its *Guidance on Choosing Among Clean Water Act Administrative, Civil and Criminal Enforcement Remedies*¹⁵⁵ in 1987 (the 1987 CWA Guidance), and those principles remain in effect for the agency. The 1987 CWA Guidance recognizes that enforcement choices balance general guidance and principles, EPA priorities, and budget and personnel resources.¹⁵⁶

With respect to the Clean Air Act, EPA issued its *Guidance on Choosing the Appropriate Forum in Clean Air Act Stationary Source Civil Enforcement Actions* in 1991 (the 1991 CAA Guidance).¹⁵⁷ This guidance responded to the 1990 amendments to the Clean Air Act and their expansion of the EPA’s administrative enforcement options under that Act,¹⁵⁸ and it remains in effect.

1. Administrative Enforcement

a. Clean Water Act

The 1987 CWA Guidance emphasizes that “EPA as a general rule should choose the least resource-consuming enforcement option that will do the

155. U.S. EPA, GUIDANCE ON CHOOSING AMONG CLEAN WATER ACT ADMINISTRATIVE, CIVIL, AND CRIMINAL ENFORCEMENT REMEDIES (Aug. 28, 1987), *available at* <http://www.epa.gov/compliance/resources/policies/civil/cwa/cwacivcriminfremed-mem.pdf> [hereinafter 1987 CWA GUIDANCE].

156. *Id.* at 3 (“Although this guidance may recommend a particular enforcement option for particular types of violations, other factors—such as Agency priorities and available resources—must also enter into the enforcement decision.”).

157. U.S. EPA, GUIDANCE ON CHOOSING THE APPROPRIATE FORUM IN CLEAN AIR ACT STATIONARY SOURCE CIVIL ENFORCEMENT ACTIONS (Oct. 29, 1991), *available at* <http://www.epa.gov/compliance/resources/policies/civil/caa/stationary/caaforum-guid.pdf> [hereinafter 1991 CAA GUIDANCE].

158. *Id.* at 1.

job”¹⁵⁹ As a result, EPA’s default position is to pursue administrative enforcement unless there is some reason not to; as the 1987 Guidance states explicitly, “the real issue is when *not* to use this administrative penalty authority.”¹⁶⁰ Nevertheless, the Guidance also indicates that administrative enforcement is particularly appropriate for “paperwork violations”—late filing of Daily Monitoring Reports (DMRs), failure to file DMRs—and for minor violations warranting only small, if any, penalties.¹⁶¹

The 1991 CAA Guidance is less decisive about its preference for administrative enforcement, but that ambivalence derives from the statutory limitations on administrative enforcement¹⁶²—not the public health goals of the Act. As a result:

It is important that the Agency view this new authority as a supplement to, not a replacement of, the Agency’s existing civil judicial enforcement program. The administrative forum will provide a more streamlined enforcement option, suitable for addressing many violations. There are, however, statutory limits on the use of administrative remedies.¹⁶³

One such limitation is the cap on penalties. As a result, the guidance advises that EPA can pursue administrative enforcement for even multiple violations of the Act, so long as the total penalty remains below \$200,000.¹⁶⁴ Moreover, field citations are most appropriate for truly minor violations.¹⁶⁵

2. When Civil Enforcement Is Appropriate

a. Clean Water Act

Under the 1987 CWA Guidance, the EPA’s choice to pursue civil enforcement is largely disconnected from public health concerns. Relying on legislative history from the Water Quality Act of 1987, which amended the CWA to give the EPA administrative penalty authority, the 1987 Guidance suggests that civil court enforcement is “necessary for cases involving novel issues of law or contested penalty assessments, cases requiring injunctive

159. 1987 CWA GUIDANCE, *supra* note 155, at 2.

160. *Id.*

161. *Id.* at 6–7.

162. 1991 CAA GUIDANCE, *supra* note 157, at 1.

163. *Id.*

164. *Id.* at 2.

165. *Id.* at 4 n.1.

relief, serious violations of the Act, or large penalty actions, and cases where remedies are sought requiring significant construction or capital investment.”¹⁶⁶ As a general rule, where the EPA does not believe that the combination of administrative penalties and a compliance order will stop the violation, or where delays from the administrative enforcement process are likely to result in ongoing violations, “or in any situation where the noncompliance is serious and continuing and the violator is uncooperative, the EPA should commence a civil action to obtain a TR or preliminary injunction enjoining further violations.”¹⁶⁷

Nevertheless, more specific EPA enforcement guidance suggests that significant risks to either human health or the environment warrant injunctions and hence warrant civil enforcement in court. For example, the EPA issued new enforcement guidance for CAFOs in 2003.¹⁶⁸ The CAFO guidance instructs the EPA regional offices to develop enforcement plans that target “CAFO noncompliance problems at the largest facilities in the State or Region which pose significant human health or environmental risks and identify the appropriate enforcement response necessary to achieve compliance.”¹⁶⁹ “A principal factor to consider when initially selecting a CAFO sector or watershed for investigation, should be whether discharges present a significant human health or environmental risk.”¹⁷⁰ The guidance emphasizes injunctive relief (requiring CAFOs to get NPDES permits and to use Best Management Practices)¹⁷¹ and hence privileges civil enforcement, and it promotes “an overall general deterrence message.”¹⁷² The EPA also committed to providing assistance to the Regions “to measure the environmental and/or human health outcomes of their enforcement activities.”¹⁷³ Certain “large CAFOs with significant enforcement problems” can become candidates for national rather

166. 1987 CWA GUIDANCE, *supra* note 155, at 3 (quoting S. REP. NO. 99-50, 95th Cong., 2d Sess. (1985)); *see also id.* at 1 (emphasizing especially the need for injunctive relief, penalties over \$125,000, or binding legal precedent).

167. *Id.* at 3–4.

168. *Final CWA Enforcement Strategy Update for Concentrated Animal Feeding Operations*, Memorandum from Mark Pollins, Director of the Water Enforcement Division, EPA, to NPDES Compliance and Enforcement Branch Chiefs, Regions I–X (Aug. 18, 2003), *available at* <http://www.epa.gov/compliance/resources/policies/civil/cwa/memo-finalcwaenforcementstrategyupdateforcafo81803.pdf> [hereinafter 2003 CAFO ENFORCEMENT GUIDANCE].

169. *Id.* at 1.

170. *Id.* at 2.

171. *Id.* at 3.

172. *Id.*

173. *Id.*

than regional enforcement actions.¹⁷⁴ Finally, the guidance emphasizes that “[t]he Region should initiate follow-up enforcement, including administrative and judicial actions under Sections 309 and 504 of the CWA” and “should adhere to the Agency’s national policy of escalating enforcement responses . . . for continuing noncompliance”¹⁷⁵ In effect, therefore, the more significant a CAFO’s effects on human health and the environment are deemed to be, and the longer those violations continue, the more likely that the Region will pursue civil enforcement.

b. Clean Air Act

The relevant factors that the EPA will consider for civil enforcement under the 1991 CAA Guidance are similar to those in the 1987 CWA Guidance—and similarly fail to privilege public health considerations. For example, the CAA Guidance emphasizes that “[l]ong-term, court-supervised injunctive relief is available only in the judicial forum.”¹⁷⁶ In addition, if the EPA chooses to conduct extensive discovery or pursue penalties of more than \$200,000, it should pursue enforcement in federal court.¹⁷⁷ Finally,

When an enforcement action involves novel legal issues, the Agency must carefully weigh the decision to pursue the action in the administrative or judicial forum. A favorable opinion in federal district court will set a substantially stronger beneficial precedent than will a favorable administrative opinion. However, when an enforcement action arises in a judicial district which has been hostile to the Agency’s interest in the past, the action might be better brought in the administrative forum even if it involves precedential issues.¹⁷⁸

Thus, the 1991 CAA Guidance presents the choice between administrative and civil enforcement as being primarily a matter of strategic and procedural considerations, not one based on the level of harm caused or risked—although penalty consideration may serve as indirect proxies for environmental and public health considerations.

Nevertheless, as with the CWA, more specific EPA enforcement guidance for the CAA indicates that significant public health effects warrant court involvement. For example, violations of air toxic emissions requirements

174. *Id.*

175. *Id.* at 4.

176. 1991 CAA GUIDANCE, *supra* note 157, at 1.

177. *Id.* at 1–3.

178. *Id.* at 3.

qualify as High Priority Violations (HPV) warranting enhanced enforcement efforts.¹⁷⁹ If these violators do not resolve their violations within nine to ten months (270 to 300 days), they will generally be subjected to court enforcement actions.¹⁸⁰

c. Public Health Effects and Injunctions in the Federal Courts

Beyond influencing the EPA's decision to go to court, public health concerns increase both the need for and the likelihood of getting injunctive relief. Specifically, when enforcement does occur in federal court and judges acknowledge that violations of pollution control statutes put the public health at risk, they are far more likely to enjoin such violations, both preliminarily and permanently. For example, in *Weinberger* the U.S. Supreme Court noted that court orders requiring immediate cessation of discharges *would* be appropriate when illegal discharges presented “an imminent and substantial endangerment to the health of persons”¹⁸¹ Similarly, a federal district court has held that broken sewer lines that resulted in an ongoing discharge of raw sewage warranted a permanent injunction against the operator, in large part because of the serious risk posed to the public health.¹⁸²

In addition, acknowledged public health effects from environmental violations can influence the court's balancing of harms in the injunction analysis, both by rendering an increased risk legally cognizable and by underscoring that injury to the public health is by definition injury to many individual members of the public. For example, in one of the earliest regulatory pollution control cases, risk to the public health justified an injunction in a case that involved taconite pollution of Lake Superior.¹⁸³ Science suggested, but had not definitely proven, that taconite, a form of asbestos, might cause health problems through either or both of two exposure routes: air and water. Because of the lack of definitive proof of causation, however, the more traditional injunction, intended to stop “demonstrable danger to the public health,” was unavailable.¹⁸⁴ Nevertheless, relying on

179. *Policy on Timely and Appropriate Enforcement Response to High Priority Violations*, Memorandum from Eric Schaeffer, Director, Office of Regulatory Enforcement, to various EPA Directors and Assistant Regional Administrators, at 6 (Dec. 22, 1998), available at <http://www.epa.gov/compliance/resources/policies/civil/caa/stationary/issue-ta-rpt.pdf>.

180. *Id.* at 14.

181. *Weinberger*, 456 U.S. 305, 317 (1982) (quoting 33 U.S.C. § 1364(a) (1976 ed., Supp. IV)).

182. *United States v. Government of Virgin Islands*, 248 F. Supp. 2d 420, 437 (D.V.I. 2003).

183. *Reserve Mining Co. v. EPA*, 514 F.2d 492 (8th Cir. 1975).

184. *Id.* at 507.

Minnesota's state air pollution laws and public nuisance¹⁸⁵ for the air exposure risk and the pre-1972 Federal Water Pollution Control Act for the water exposure risk,¹⁸⁶ the Eighth Circuit issued the injunction anyway, satisfied that the taconite pollution posed a public health *risk* that should be stopped.¹⁸⁷

Finally, in many jurisdictions, the public health aspects of pollution regulation changes the very nature of the balancing test for injunctive relief. The U.S. District Court for the District of Wyoming, for example, has held that because the CWA is an environmental and public health statute, the focus in an injunction evaluation shifts from "irreparable harm" to concern for the general public interest.¹⁸⁸ Similarly, the U.S. District Court for the District of Oregon refused to balance in *Oregon State Public Interest Research Group v. Pacific Coast Seafoods*,¹⁸⁹ a CWA citizen suit seeking to enjoin discharges from a seafood processing plant that included *E. coli* and *enterococcus* bacteria, both of which cause gastroenteritis.¹⁹⁰ The Oregon District Court concluded that "courts are not required to balance the equities when the moving party is a government agency or a citizen standing in its place, such as the case of CWA plaintiff-citizen suits, or where the activity to be enjoined may endanger the public health."¹⁹¹

3. Calculating Penalties

a. Clean Water Act

Under the 1987 CWA Guidance, the EPA will generally seek civil penalties in civil enforcement actions where the primary goal is an injunction.¹⁹² However, if the agency perceives a need for substantial civil

185. *Id.* at 522–24.

186. *Id.* at 527–28. "The evidence shows Reserve's water discharge to be potentially harmful to the public health. As such, these discharges pollute the waters of Lake Superior in violation of the Minnesota water quality standards" and endanger the "health or welfare of persons," allowing federal enforcement action.

187. *Id.* at 520. *See also* United States v. Government of Virgin Islands, 248 F. Supp. 2d 420, 437 (D.V.I. 2003) (holding that broken sewer lines that resulted in an ongoing discharge of raw sewage warranted a permanent injunction against the operator, in part because of the serious risk to public health).

188. *Wilson v. Amoco Corp.*, 989 F. Supp. 1159, 1171 (D. Wyo. 1998). *See also* Kentucky Resources Council, Inc. v. U.S. EPA, 304 F. Supp. 2d 920, 923–30 (W.D. Ky. 2004) (issuing an injunction on the basis of protecting the public health by protecting ambient air quality).

189. 374 F. Supp. 2d 902 (D. Or. 2005).

190. *Id.* at 905.

191. *Id.* at 908.

192. 1987 CWA GUIDANCE, *supra* note 155, at 4.

penalties (more than \$125,000) or a substantial risk that the administrative penalty decisionmaking process will result in a disproportionately low penalty, a civil rather than administrative enforcement action is warranted.¹⁹³ As a result, the EPA's overall civil penalty policies are relevant to the choice between administrative and civil enforcement actions.

The EPA generally considers impacts to the public health when determining the penalties it seeks against violators. Indeed, in its 1995 CWA settlement penalty policy,¹⁹⁴ the EPA noted that, in its enforcement actions, it "seeks substantial monetary penalties which promote environmental compliance and *help protect public health* by deterring future violations by the same violator and deterring violations by other members of the regulated community."¹⁹⁵ The EPA seeks to fulfill four goals in assessing civil penalties: deterring noncompliance, ensuring a level playing field, imposing consistent penalties across the country, and using logical calculation methodologies.¹⁹⁶

To ensure a level playing field among regulated entities, "every effort should be made to calculate and recover the economic benefit of noncompliance."¹⁹⁷ The economic benefit component ensures that violators do not profit from their violations to the disadvantage of competitors.¹⁹⁸

Full deterrence, however, requires the agency to take into account the seriousness of the violation, which is captured in the gravity component of the civil penalty calculation.¹⁹⁹ EPA calculates the gravity component of CWA civil penalties by adding together four components: the significance of the violation; health and environmental harm; the number of effluent limit violations; and the significance of non-effluent limit violations, such as monitoring and reporting violations.²⁰⁰

The penalty policy clearly promotes stiffer penalties for violations with actual or potential public health impacts in the first two of these components. Regarding the significance of the violation, violations of effluent limitations for toxic pollutants are weighted more heavily than other kinds of violations,

193. *Id.* at 5.

194. U.S. EPA, INTERIM CLEAN WATER ACT SETTLEMENT PENALTY POLICY (Mar. 1, 1995), *available at* <http://www.epa.gov/compliance/resources/policies/civil/cwa/cwapol.pdf> [hereinafter SETTLEMENT PENALTY POLICY].

195. *Id.* at 2 (emphasis added).

196. *Id.* at 3 (emphasis added).

197. *Id.* at 4; *see also id.* at 3 (tying the goal to economic benefit recovery).

198. *Id.* at 4.

199. *Id.* at 6.

200. *Id.* at 7–10.

and fecal coliform violations are also treated specially.²⁰¹ In turn, the health and environmental harm component applies for each “month in which one or more violations present actual or potential harm to human health or the environment.”²⁰² Within this component, moreover, impacts on human health, such as through contamination of drinking water or subsistence fishing, earn weights of 10 to 50 points, while impacts on the aquatic environment that implicate human health concerns, such as fish kills, beach closures, restrictions on waterbody use, or interference with a sewage treatment plant, earn weights of 4 to 50.²⁰³ All other environmental impacts earn weights of 1 to 25 points.²⁰⁴ Thus, violations implicating public health concerns can influence civil penalty calculations at least twice as heavily as similarly serious “purely” environmental harms.

The 1995 policy allows for adjustments to the gravity component based on three factors: flow reduction; the history of the violator’s recalcitrance; and quick settlement.²⁰⁵ While the last two factors focus on the violator, the first allows for reductions in the gravity component if the violator’s facility has lower flows of effluent into the affected waterbody and hence poses less overall risk of public health or environmental harm.²⁰⁶

b. Clean Air Act

As noted above, the 1991 CAA Guidance specifies that, if EPA pursues enforcement against “violations resulting in a calculated penalty of over \$200,000, the violations should be pursued through a judicial action.”²⁰⁷ However, given the health-based nature of the CAA, the Guidance’s linking of large penalty assessments to court enforcement suggests that violations that result in substantial risk or harm to the public health will result in judicial rather than administrative enforcement actions.

The EPA published its current civil penalty policy for stationary sources at nearly the same time that it published its 1991 CAA Guidance.²⁰⁸ Under this

201. *Id.* at 8.

202. *Id.*

203. *Id.* at 9.

204. *Id.*

205. *Id.* at 12.

206. *Id.*

207. 1991 CAA GUIDANCE, *supra* note 157, at 2.

208. U.S. EPA, CLEAN AIR ACT STATIONARY SOURCE CIVIL PENALTY POLICY (Oct. 25, 1991), available at <http://www.epa.gov/compliance/resources/policies/civil/caa/stationary/penpol.pdf> [hereinafter STATIONARY SOURCE CIVIL PENALTY POLICY].

policy, and very similarly to the CWA penalties, calculation of administrative and civil penalties begins with two factors:²⁰⁹ the economic benefit conferred by the violator's noncompliance²¹⁰ and a "gravity component" that reflects the seriousness of the violation.²¹¹ The penalty should, at a minimum, require the violator to disgorge the economic benefit it received from violating the Act.²¹²

Public health considerations are most relevant to the gravity component, which in general the violator cannot mitigate away.²¹³ Nevertheless, public health is relevant to only the first of the gravity component's three considerations, which include actual or possible harm; the importance of the violation to the CAA's regulatory scheme; and the size of the violator.²¹⁴

The "actual or possible harm" consideration asks "whether (and to what extent) the activity of the defendant actually resulted or was likely to result in the emission of a pollutant in violation of the level allowed by an applicable State Implementation Plan, federal regulation or permit."²¹⁵ Five factors are relevant to this inquiry, the first four of which can take account of public health effects: the amount of pollutant; the sensitivity of the environment, especially in terms of nonattainment areas; toxicity of the pollutant; length of time of violation; and size of the violator.²¹⁶ Each hazardous air pollutant involved in the violation warrants \$15,000 in penalties, according to the policy. Similarly, if a regulated party violates the CAA by emitting criteria pollutants into nonattainment areas—that is, areas already violating the health-based NAAQS—the policy dictates penalties of between \$10,000 and \$18,000, depending on the pollutant and the area's level of nonattainment.²¹⁷ Thus, the policy emphasizes the types of violations that most directly undermine the CAA's health-based goals.

The EPA can then adjust the calculated penalty in light of the violator's conduct (degree of willfulness or negligence, degree of cooperation, and history of noncompliance) and/or the environmental damage caused.²¹⁸ Again, public health considerations can be relevant to this last factor. Indeed, as its example of "severe environmental damage" that would warrant increased

209. *Id.* at 1.

210. *Id.* at 4.

211. *Id.* at 8.

212. *Id.* at 4.

213. *Id.* at 1. Up to 10% mitigation is allowed, however, if the violator cooperates. *Id.*

214. *Id.* at 9.

215. *Id.* at 9.

216. *Id.* at 9–10.

217. *Id.* at 11.

218. *Id.* at 16–19.

penalties, EPA offered “a significant release of a toxic air pollutant in a populated area.”²¹⁹

4. Criminal Enforcement

Criminal enforcement does not offer the EPA the same range of prosecutorial discretion as the choice between administrative and civil enforcement. Most importantly, the EPA must be able to prove criminal intent, and this absolute requirement has almost nothing to do with the public health (or environmental, for that matter) impact from the violation. In addition, to succeed with criminal enforcement, the prosecution must be able to prove the specific elements described in the pollution control statutes.

This emphasis on criminal intent pervades the EPA’s enforcement policies. For example, despite the 1987 CWA Guidance’s basic preference for undertaking the smallest expenditure of resources necessary to achieve compliance, usually administrative enforcement, the EPA has recognized that criminal enforcement may be warranted “even if a civil action or administrative enforcement would achieve compliance.”²²⁰ The EPA has indicated that enforcement offices should commence criminal investigations any time there is evidence of negligent or knowing violations and that “[c]riminal enforcement rather than administrative penalty proceedings should be taken for serious violations that are knowing or negligent.”²²¹ Echoing this view, in its FY2008 enforcement guidance, OECA noted that “[i]n situations where violations are knowingly and willfully committed, EPA uses criminal enforcement actions.”²²² Indeed, public health impairment is only one of seven factors that EPA listed in the 1987 CWA Guidance for determining whether criminal enforcement is appropriate, and then only obliquely, as—“Did the conduct involve a particularly dangerous material?”²²³ The other factors focus on the violator’s culpability, the foreseeability of environmental harm, and the EPA’s deterrence goals.²²⁴

Criminal enforcement guidance is even more limited for the CAA. Congress significantly expanded the EPA’s criminal enforcement authority in

219. *Id.* at 19.

220. 1987 CWA GUIDANCE, *supra* note 155, at 2 n.2.

221. *Id.* at 1, 4.

222. FY2008 ENFORCEMENT PRIORITIES, *supra* note 116, at 13.

223. *Id.* at 5.

224. *Id.* at 4–5.

the 1990 amendments to the CAA.²²⁵ Because the 1991 CAA Guidance focuses on the distinction between administrative and civil enforcement, it notes only that “criminal violations must be addressed in a criminal judicial action.”²²⁶ However, the EPA’s 1993 criminal enforcement guidance for the CAA notes that the 1990 amendments “will have a significant impact upon the number and types of CAA criminal investigations. The primary focus of criminal cases under the prior CAA was upon violations of the National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations governing asbestos removal procedures.”²²⁷ Thus, the 1990 amendments represented a significant broadening of criminal enforcement beyond a fairly specific health threat to “groundbreaking and challenging investigations and prosecutions of new statutory provisions and their progeny regulations.”²²⁸ In particular, EPA emphasized that the new Title V permit program “will be similar to the CWA’s NPDES permitting program, which has been the source of many good criminal cases.”²²⁹

Even so, as with its new administrative enforcement authority, the EPA tended to emphasize the statutory limitations on its criminal enforcement authority. For example, stationary source criminal liability focuses on owners and operators, and “Congress wanted criminal responsibility of an owner or operator to be limited to senior management and corporate officers, except in instances where the criminal violation was of a ‘knowing and willful’ magnitude of intent.”²³⁰ In addition, the EPA emphasized that information obtained during self-audits should normally not be the basis for criminal prosecutions,²³¹ and it excluded violations of mobile source and fuel standards from criminal sanctions.²³²

Thus, considerations of public health effects would seem to play a rather limited role in the exercise of the EPA’s discretion with respect to criminal enforcement under either Act. Nevertheless, the EPA can choose between civil

225. *New Criminal Enforcement Responsibilities Under 1990 Clean Air Act Amendments*, Memorandum from Kathleen A. Hughes, Acting Director, Criminal Enforcement Counsel Division, to Regional Criminal Enforcement Counsels and Dale Boll, Director, CID, at 1–2 (Apr. 19, 1993), available at <http://www.epa.gov/compliance/resources/policies/civil/caa/stationary/newcrim-caa-rpt.pdf> [hereinafter 1993 CAA CRIMINAL ENFORCEMENT GUIDANCE].

226. 1991 CAA GUIDANCE, *supra* note 157, at 2.

227. 1993 CAA CRIMINAL ENFORCEMENT GUIDANCE, *supra* note 225, at 1.

228. *Id.*

229. *Id.* at 7.

230. *Id.* at 3.

231. *Id.* at 3–4.

232. *Id.* at 5.

and criminal enforcement on the basis of these effects—a fact that becomes most clear in its civil penalty policies. For example, in its 1991 stationary source civil penalty guidance for the CAA, the EPA allows evidence of knowing or negligent conduct to be one reason for enhancing *civil* penalties.²³³ Similarly but less explicitly, the 1995 CWA civil penalty policy allows the EPA to enhance *civil* penalties based on the violator's recalcitrance, which can include bad faith and failure to comply with prior orders,²³⁴ both of which speak to the violator's intent. Thus, despite broad language promoting criminal enforcement any time the violator possesses the requisite intent, the EPA has left itself the option of pursuing some potentially criminal violations through civil enforcement even when the requisite intent is present, suggesting that the gravity of the potential public health or environmental impacts plays a role in the exercise of prosecutorial discretion.

C. The EPA's Enforcement and Compliance Reports, FY1999 to FY2009

Subparts A and B indicate that the EPA often considers public health effects in establishing its enforcement policies and priorities, even if it does not focus exclusively on those impacts. One would expect, therefore, that the EPA (acting through OECA) would emphasize public health impacts in its assessments of its enforcement accomplishments.

Nevertheless, OECA's rhetoric of enforcement assessment has varied considerably over the last decade, particularly with respect to the outcome measures that it chooses to highlight. Many of these measures are purely quantitative accountings of the enforcement actions themselves—number of administrative orders issued, number of civil and criminal cases filed, total values of the administrative and civil penalties assessed and criminal fines imposed, number of criminal convictions, years of jail time sentenced, value of injunctive relief obtained, money violators had to spend on pollution control equipment, and money violators had to spend on supplemental environmental projects (SEPs). While these can provide measures of EPA enforcement *effort*, they supply almost no indication the actual environmental or public health benefits that enforcement provided.

To be meaningful, assessments of these public benefits from the EPA's enforcement almost always have to be at least partially qualitative and descriptive: What specific harms did an enforcement action stop or prevent?

233. STATIONARY SOURCE CIVIL PENALTY POLICY, *supra* note 208, at 16.

234. SETTLEMENT PENALTY POLICY, *supra* note 194, at 12.

However, the EPA and OECA often prefer purely quantitative measures here, as well, especially for environmental protection outcomes. Such measures of environmental outcomes typical include pounds of pollutants reduced or eliminated, cubic yards of soil decontaminated, and gallons (or other volume measure) of water treated. While these measures provide some basic indication of environmental benefit (clean is generally better than dirty) and are easily compared from year-to-year, they lack both the rhetorical power and the depth of meaning that more qualitative and descriptive evaluations can provide.

OECA enforcement reports over the last decade have shifted from almost purely quantitative to pervasively qualitative and descriptive back to mainly quantitative assessments of EPA enforcement activities. As a result, despite the increasing role that public health considerations have played in the setting of national enforcement priorities, OECA often obscures the public health benefits of environmental regulation and enforcement, especially for programs other than the CAA.

*1. OECA's Enforcement Report for FY1999*²³⁵

In July 2000, OECA published its enforcement report for FY1999. In summarizing the EPA's accomplishments for that year, the report stressed quantitative measures rather than qualitative assessments of environmental or public health impacts. Thus, according to Assistant Administrator Steven Herman's opening summary:

Enforcement actions concluded in FY99 will reduce over 6.8 billion pounds of pollutants. Additionally, polluters were required to spend a record \$3.4 billion to correct violations and take steps to protect the environment. We also achieved a record \$236.8 million in environmentally beneficial projects. A record \$166.7 million in civil penalties was assessed, including the largest Clean Air Act settlement in history against seven diesel engine manufacturers who used illegal devices to disable their emission control systems. This case alone will result in 75 million tons of nitrogen oxide reductions over the next quarter century. We took 3,935 civil judicial and administrative enforcement actions in 1999, the highest number of civil actions taken over the last three years.²³⁶

This quantitative rhetoric promoted a deterrence/punishment vision of environmental enforcement, divorced from any real attempt to explain the public benefits of the EPA's enforcement actions. The summary of criminal

235. 1999 ENFORCEMENT REPORT, *supra* note 19.

236. *Id.* at i.

enforcement reflected a similar vision of environmental enforcement, despite a mention of public benefit as well:

Our strong criminal enforcement program reflects our goal of punishing those who callously disregard our nation's environmental laws and who put the public at serious risk when they do so. Most significantly in 1999, a record 208 years of jail time was imposed on criminal defendants. This increase in sentences is extremely important as a deterrent to others. A prison sentence is personal—it's not a cost of business that can be passed onto the consumer.²³⁷

One explanation for this rhetorical style is the fact that the 1999 Report incorporated "new outcome measures for evaluating the behavioral and environmental results of our activities"²³⁸ developed in OECA's February 1997 National Performance Measures Strategy (NPMS).²³⁹ These outcome measures did not include public health benefits, instead emphasizing increased rates of compliance and pollutant reductions.²⁴⁰ Only in Phase II of the NPMS, to begin in FY2000, would OECA evaluate "environmental and human health improvements from compliance assistance" and "environmental and human health improvements from integrated initiatives."²⁴¹

Even so, OECA still emphasized that its "compliance monitoring program often entails making a targeted effort to reduce significant noncompliance (SNC) in high-priority areas (i.e., those areas posing the most significant public health and environmental risks)."²⁴² Moreover, an entire section of its report was entitled "Protecting the Environment and Your Health Through Compliance Monitoring Activities."²⁴³ Similarly, the report emphasized that the "EPA gives priority to taking enforcement actions that reduce the greatest risks to human health or the environment and produce maximum environmental benefit," and OECA's "enforcement program also acts swiftly to address conditions that may present an imminent and substantial endangerment to human health or the environment."²⁴⁴

Nevertheless, and perhaps as a result of the phasing of the NPMS, OECA only rarely reported the public health benefits of its enforcement actions in FY1999, and often even then only obliquely. For example, it noted that its

237. *Id.*

238. *Id.* at 3.

239. *Id.* at 14.

240. *Id.* at 3, 14.

241. *Id.* at 15.

242. *Id.* at 18.

243. *Id.* at 20–22.

244. *Id.* at 24.

settlement of a Safe Drinking Water case involving the Army's Redstone Arsenal in Alabama "will protect Redstone's water system."²⁴⁵

Public health considerations did take center stage in some of OECA's descriptions of particular enforcement actions. For example, an agreement between the EPA, the City of Manchester, New Hampshire, and the New Hampshire Department of Environmental Services to address the City's CSO discharges into the Merrimack River "includes a 10-year, \$52.4 million plan to remove the majority of sewer overflows into the river" and "also includes environmental and public health projects," such as "a \$500,000 program to reduce childhood asthma and lead poisoning."²⁴⁶ A phosphorus facility in Idaho would better manage its wastes to prevent the release of "phosphine and hydrogen cyanide, highly toxic gases that can cause serious health and environmental problems"; it also committed to a \$63 million program to improve air quality in the region and a \$1.65 million public health assessment and education program to investigate the effects of [its contaminants] on human health and the environment, particularly within nearby tribal lands."²⁴⁷ New York City entered into a consent decree that required it to filter its Croton water supply, because "filtering drinking water substantially reduces the risk of waterborne disease in surface water systems, which are more susceptible to potential contamination from human and animal wastes and from microbial contaminants."²⁴⁸

Thus, the FY1999 enforcement report did explain the public health benefits of some specific pollution-related enforcement actions. However, the overall rhetoric of the report places far more emphasis on basic compliance, on punishment, and on raw reductions in pollutants than on the specific public health or environmental benefits of the EPA's enforcement efforts.

*2. OECA's Enforcement Report for FY2001*²⁴⁹

The OECA's next enforcement report, published in 2002, reported on FY2001 enforcement activities and reflected a change in presidential administration. In his opening greeting, Assistant Administrator Suarez put far

245. *Id.* at 7.

246. *Id.* at 26. *See also id.* at 40 (emphasizing that "[a]nimal waste runoff from animal feeding operations is a major source of water pollution that can cause environmental and public health threats.").

247. *Id.* at 28. *See also id.* at 29 (emphasizing known causal link between lead and neurological and bone diseases).

248. *Id.*

249. 2001 ENFORCEMENT REPORT, *supra* note 130.

less emphasis on the quantitative aspects of the EPA's enforcement efforts and more on improving the environment and public health and safety:

Reducing pollution is a primary goal for the enforcement and compliance program. Last year we and our partners prevented millions of pounds of *harmful* pollutants from being released into the environment and ensured that billions of pounds of pollutants were *safely* treated and managed. We also required violators to spend nearly \$1 billion on environmental improvement projects—up 60 percent from the previous year.²⁵⁰

In the same vein, the “EPA’s enforcement and compliance assurance program’s mission is to protect human health and the environment by ensuring that regulated entities, federal, state, tribal, and local governments comply with our nation’s environmental requirements for keeping our air, land, and water *clean*.”²⁵¹ From the very beginning of the report, therefore, OECA emphasized, if subtly, the public benefits of environmental enforcement, including public health.

Part of this change in focus reflects the full implementation of the NPMS. As OECA noted, the “EPA’s enforcement and compliance assurance program is focused on producing measurable results to protect public health and the environment. . . . EPA is now actively engaged in using outcome data to improve program effectiveness and ensure accountability to the public.”²⁵²

Even the deterrence function of enforcement took on a more publicly-minded rhetoric. Thus, the

EPA and each state have an enforcement program to ensure that laws lead to the results that Congress and the public want. . . . Although directed at a specific violator, enforcement causes a deterrent effect that motivates other people and companies to comply and ensures a level playing field for those companies that do not violate the law.²⁵³

Injunctive relief served to “undo past harm and prevent future damage to the environment,” while civil penalties “eliminat[ed] economic advantage gained through noncompliance.”²⁵⁴

250. *Id.* at 3 (emphasis added). *See also id.* at 9 (“In FY01, EPA secured commitments for an estimated reduction of more than 660 million pounds of *harmful* pollutants, and the *treatment and safe management* of an estimated record 1.84 billion pounds of pollutants,” and violators would spend “\$4.39 billion on *pollution controls and environmental cleanup*” (emphasis added)).

251. *Id.* at 5 (emphasis added).

252. *Id.* at 7.

253. *Id.* at 14–15.

254. *Id.* at 15.

OECA's explanations of why particular enforcement actions matter became more qualitative and detailed in the 2001 report, with respect to both health and environmental goals. For example, with respect to CAFOs, OECA explained that the pollutants from CAFOs "can kill fish, cause excessive algae growth, and contaminate drinking water. In addition, emissions of air pollutants from very large CAFOs may result in significant health effects for nearby residents."²⁵⁵ An emergency order issued against the Tommy Naylor Farm CAFO in North Carolina sought to prevent nitrate contamination of drinking wells, because "[d]rinking water with high levels of nitrate can cause serious illness and even death in infants and small children."²⁵⁶ With respect to toxics, the EPA "targeted enforcement at sources with high risk for emissions of air toxics," which are "the most hazardous air pollutants as well as those posing the greatest risks to human health and the environment because they are released frequently or in large amounts."²⁵⁷ The EPA thus criminally punished Koch Industries' failure "to properly control [emissions of] benzene, a known carcinogen."²⁵⁸

A similar emphasis on the public health benefits of pollution enforcement emerges in the report's discussion of regional enforcement efforts. For example, "EPA Region 2 held a mercury reduction and pollution prevention workshop for federally owned healthcare facilities to better educate healthcare staff on minimizing and properly handling hazardous wastes,"²⁵⁹ while Region 3 entered consent agreement with AK Steel to reduce nitrate contamination of Connoquenessing Creek, a source of drinking water, to the health-based standard under the Safe Drinking Water Act.²⁶⁰ Region 8 "issued an emergency administrative order requiring several oil companies to deliver full replacement water for all household uses . . . to 20 families whose private water supply have, or are risk of having, unsafe levels of the contaminants benzene and total dissolved solids."²⁶¹ Region 9 addressed drinking water supplies contaminated by methyl tertiary butyl ether (MTBE) leaking from underground gasoline storage tanks.²⁶²

Thus, the FY2001 report presented a fairly dramatic shift in environmental enforcement assessment rhetoric, from mere quantitative

255. *Id.* at 21.

256. *Id.* at 22.

257. *Id.* at 27.

258. *Id.* at 26.

259. *Id.* at 33.

260. *Id.* at 33-34.

261. *Id.* at 37.

262. *Id.*

assessment of pollutants reduced and fines assessed to qualitative explanations of the public benefits that derive from environmental enforcement. Public health protection, as noted, played a prominent role in this new mode of reporting.

3. OECA's Enforcement Report for FY2002²⁶³

OECA's FY2002 enforcement report reads much like its 2001 report. Administrator Christine Todd Whitman stressed in her opening message that "[m]illions of pounds of *harmful* pollutants will be reduced, cleaned up or treated, and all of us will enjoy *cleaner* air, water, and land."²⁶⁴ Moreover, the EPA focused its enforcement resources "on cases that posed the most serious threats to public health and the environment."²⁶⁵ Assistant Administrator Suarez emphasized the universal goal of environmental and public health protection,²⁶⁶ stressed that the EPA was for the first time reporting "a wider range of results achieved through our enforcement actions in the areas of groundwater, wetlands, and drinking water protection,"²⁶⁷ and underscored the EPA's role in homeland security investigations, including the anthrax investigation in Washington, D.C.²⁶⁸

The FY2002 report announced that the EPA's mission "is to improve the environment and protect human health by ensuring compliance with environmental requirements, preventing pollution and promoting environmental stewardship."²⁶⁹ Civil enforcement focused on "significant noncompliers" who "are the worst polluters, based on the history and magnitude of their violations,"²⁷⁰ while "[c]riminal actions are pursued against those who callously disregard our nation's environmental laws and who put the public at serious risk when they do so."²⁷¹

OECA reported for the first time on how enforcement actions were leading to groundwater treatment, connecting such treatment to safe public water supply: "an estimated 2.8 billion gallons of groundwater will be treated," and "more than 3 million people will be served by drinking water

263. 2002 ENFORCEMENT REPORT, *supra* note 142.

264. *Id.* at 2 (emphasis added).

265. *Id.*

266. *Id.* at 3.

267. *Id.*

268. *Id.* at 4.

269. *Id.* at 5.

270. *Id.* at 11.

271. *Id.* at 12.

systems that will be brought into compliance” as a result of FY2002 enforcement actions.²⁷² The EPA also “secured commitments for the reduction of more than an estimated 260 million pounds of harmful pollutants”²⁷³

In addition to commenting on public health impacts from several specific enforcement sectors,²⁷⁴ as it had in FY2001, OECA in its FY2002 report also took time to articulate the public benefits more generally of “cleaner air,” “purer water,” and “better protected land.” For example:

Air pollution threatens the health of human beings and other living things on our planet. While often invisible, pollutants in the air create smog and acid rain, cause cancer or other serious health effects, diminish the protective ozone layer in the upper atmosphere and contribute to the potential for world climate change. Almost 170 million tons of pollution are emitted into the air each year in the United States. Approximately 133 million people live in areas where monitored air quality is unhealthy.²⁷⁵

Less expansively, OECA connected water pollution enforcement to “safe sources of drinking water, edible fish, swimmable beaches, and healthy watersheds.”²⁷⁶ Finally:

Improper waste handling, management and disposal practices present significant environmental threats. These improper activities also economically undercut facilities that operate in compliance with the provisions of the Resource Conservation and Recovery Act (RCRA) and could lead to future contaminated sites under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or Superfund).²⁷⁷

RCRA in particular “is intended to protect human health and the environment from the hazards posed by handling and disposal of wasters.”²⁷⁸

Thus, in its FY2002 enforcement report, OECA continued its rhetorical commitment to qualitative evaluations of its enforcement actions. Moreover,

272. *Id.* at 15.

273. *Id.* at 17.

274. *Id.* at 22 (power plant sector), 23 (wood products sector), 24 (petroleum refinery sector), 26 (air toxics), 28 (stratospheric ozone), 30 (CAFOs, CSOs, SSOs, and the Safe Drinking Water Act microbial rules), 32–33 (CSOs and SSOs), 34 (stormwater runoff), 36 (CAFOs), 37 (Safe Drinking Water Act), 39 (oil spills), 40 (cruise line discharges), 42–43 (leaking underground storage tanks), 44–45 (RCRA corrective actions), 46 (Superfund and lead removal), 49 (pesticide enforcement), 51–52 (lead paint), 52–53 (asbestos).

275. *Id.* at 21.

276. *Id.* at 30.

277. *Id.* at 42.

278. *Id.*

it emphasized that the public health and environmental benefits of environmental enforcement cut across all media.

*4. FY2003 Enforcement Assessment*²⁷⁹

In the press release announcing the EPA's enforcement accomplishments for FY2003, OECA returned to a primarily quantitative assessment:

In addition to the approximately 600 million pounds of pollutants to be reduced, treated or properly managed, EPA enforcement resulted in the treatment of over 3.7 million tons (7.5 billion pounds) of contaminated soil. Last year, EPA began estimating as well the gallons of contaminated groundwater to be treated (6.5 billion), acres of wetlands that will be restored (1,050), and the number of people served by drinking water systems that will be brought into compliance (2 million) as a result of EPA enforcement activity.

As a result of enforcement settlements, almost \$2.9 billion in injunctive relief will go toward the cleanup of polluted sites and protection against further environmental harm. . . . In addition, the value of Supplemental Environmental Projects, which are undertaken voluntarily as a result of an enforcement settlement action, were up 12 percent to \$65 million this year.

In the Superfund Program, EPA secured private party commitments for cleanup and cost recovery that exceeded \$1.1 billion. More than 87 percent of new remedial action starts at non-federal Superfund sites were initiated by private parties.²⁸⁰

Some of these measures, such as treatment of soil and restoration of wetlands, certainly suggest public benefits, even though OECA did not spell out those benefits. Similarly, EPA Assistant Administrator Suarez strove to connect the quantitative data to public health. "EPA's going after what really counts—reducing pollution and protecting public health," said Suarez. "We don't count our success in the number of notices of violation we write, as some would suggest."²⁸¹ This quotation reveals some EPA sensitivity to merely quantitative accounting and also a distinction between counting EPA enforcement activities—notice of violation—and counting things that matter more to environmental and public health goals, such as pounds of pollutants

279. Printed annual enforcement reports are apparently not available for FY2003, FY2004, and FY2005. However, summaries of the annual enforcement results for FY2003 are available at: Office of Enforcement and Compliance Assurance, U.S. EPA, *Annual Results—FY2003*, <http://epa.gov/compliance/data/results/annual/fy2003.html> (as viewed Feb. 8, 2009, and as last updated Jan. 16, 2009).

280. Press Release, U.S. EPA, Pollution Reduction Enforcement Numbers More Than Double; Agency Using Better Data to Guide Enforcement Initiatives (Dec. 11, 2003), <http://yosemite.epa.gov/opa/admpress.nsf/b1ab9f485b098972852562e7004dc686/85880c6b2c3f00f985256df900645bb0?OpenDocument>.

281. *Id.*

removed, investments in pollution control technologies, and supplemental projects.

Nevertheless, quantitative assessments—including the counting and comparing of various types of EPA enforcement efforts—dominated OECA’s summaries for FY2003.²⁸² Even in its enforcement highlights, OECA drew explicit connections between particular enforcement actions and human well-being—qualitative assessments related to public health—for only a handful of the 23 specific enforcement actions that it described in more detail, even though many involved CAA violations, sewage problems, oil spills, PCB contamination, and asbestos exposure.²⁸³

5. FY2004 Enforcement Assessment

In its press release reporting on EPA’s FY2004 enforcement accomplishments, OECA again stressed many of the largely unilluminating quantitative measures of enforcement effort:

EPA enforcement actions concluded in fiscal year (FY) 2004 will reduce a projected one billion pounds of pollution and require cleanups estimated to total a record \$4.8 billion—significant increases from last year. Other annual measures of the Agency’s

282. See, e.g., Office of Enforcement and Compliance Assurance, U.S. EPA, *FY 2003 End of Year Enforcement & Compliance Assurance Results* 3–13 (Dec. 11, 2003), available at <http://epa.gov/compliance/resources/reports/endofyear/eoy2003/fy2003enforcementandcomplianceendofyearcharts.pdf> (tabulating pollutant reductions, total entities reached, entities using compliance assurance centers, administrative compliance orders, administrative penalty complaints, value of enforcement actions, judicial civil referrals, companies voluntarily disclosing violations, civil enforcement actions, criminal enforcement actions, and cumulative cleanup and cost recovery). In addition, the EPA introduced a new methodology for counting civil enforcement actions. Office of Enforcement and Compliance Assurance, U.S. EPA, *New EPA Methodology for Civil Enforcement Case Initiation Counting* (Nov. 17, 2003), available at <http://epa.gov/compliance/resources/reports/endofyear/eoy2003/newcasecountingmethod.pdf>.

283. See Office of Enforcement and Compliance Assurance, U.S. EPA, *FY 2003 Case Highlights* 5, 6, 7, 9, 10, 11, available at <http://epa.gov/compliance/resources/reports/endofyear/eoy2003/fy2003casehighlights.pdf> (noting that a gasoline pipeline spill in Bellingham, Washington, had killed two boys and injured nine other people, applauding Toledo citizens for voting to improve their wastewater treatment plant and thereby take “an important step in strengthening their community’s quality of life, health, and long-term environmental viability,” noting that as part of its sewage treatment liability, the Puerto Rico Aqueduct and Sewer Authority “agreed to spend \$1 million on a supplemental environmental project that will help low-income, rural communities improve the quality of their drinking water,” reporting that “[l]eaking USTs can present health and environmental risks, including the potential for fire and explosion,” noting criminal prosecution of a refinery where one man was killed and five others injured, emphasizing that “exposure to benzene is a known cause of cancer” in a Clean Air Act and Clean Water Act criminal enforcement case, and noting that “[i]nhaling airborne asbestos is a known cause of lung cancer, a lung disease known as ‘asbestosis’ and mesothelioma, which is a cancer of the chest and abdominal cavities,” in another criminal enforcement case).

enforcement and compliance activity—such as the number of inspections (up 11 percent from FY 2003) and investigations (up 32 percent from FY 2003)—surpassed or kept pace with previous years, indicating continued progress in deterring violations of the nation’s environmental laws and reflecting an emphasis on environmental benefits and compliance.²⁸⁴

Nevertheless, EPA Acting Assistant Administrator Tom Skinner stressed that “‘EPA’s enforcement strategy is focused on what matters most: achieving real environmental improvements that benefit everyone.’”²⁸⁵

Indeed, a few of the quantitative measures that OECA provided strongly suggested public benefits from environmental enforcement: “3.4 million cubic yards of contaminated soil and sediment and 9.5 million cubic yards of groundwater will be cleaned up, 1,300 acres of wetlands will be protected, and the drinking water of four million Americans will comply with EPA standards.”²⁸⁶ Moreover, in its enforcement highlights, OECA again explicitly connected some enforcement actions to public benefits, most often by generally describing the benefits of particular enforcement programs or priorities. For example, coal-fired electric plants illegally emit “pollution that causes smog, acid rain and soot.”²⁸⁷ Similarly, sewer overflows were acknowledged to have multiple impacts on human health and the environment:

Combined sewer overflows (CSOs) and sanitary sewer overflows (SSOs) typically contain pollutant concentrations that can cause or contribute to violations of water quality standards, precluding the use of the water body for swimming, boating, fishing or such activities. CSOs and SSOs also contribute to beach closings, shellfish bed closures, contamination of drinking water supplies and other environmental damage because they discharge untreated wastewater that contains microbial pathogens, suspended solids, toxics, nutrients, trash and pollutants that deplete dissolved oxygen.²⁸⁸

Enforcement of the Emergency Planning and Community Right to Know Act—a federal statute that requires private entities to report releases of toxic substances into the environment²⁸⁹—also had a direct public benefit, because

284. Press Release, Office of Enforcement & Compliance Assurance, U.S. EPA, EPA FY2004 Enforcement Secures Cleanups Worth a Record \$4.8 Billion Preventing One Billion Pounds of Pollution (Nov. 15, 2004), *available at* <http://yosemite.epa.gov/opa/admpress.nsf/b1ab9f485b098972852562e7004dc686/04b3e855d5a0b21785256f4d006bd344!OpenDocument> [hereinafter 2004 EPA Press Release].

285. *Id.*

286. *Id.*

287. Office of Enforcement & Compliance Assurance, U.S. EPA, *FY2004 Civil Enforcement Highlights*, <http://www.epa.gov/compliance/resources/reports/endofyear/eoy2004/2004civilhighlights.html> (last updated Jan. 16, 2009) [hereinafter EPA 2004 Civil Enforcement Highlights].

288. *Id.*

289. 42 U.S.C. § 11023(a) (2006).

such enforcement “helps ensure that the public has timely access to information about releases of chemicals in the community by providing a stronger incentive for facilities to submit their reports on time,”²⁹⁰ while Supplemental Environmental Projects achieved a number of different kinds of public benefits:

Lead-based paint abatement and diesel school bus retrofits focused on improving children’s health removing harmful pollutants from their environment. Numerous settlements included emergency response supplemental environmental projects in which hazardous response equipment was provided to local communities. Finally, environmental restoration supplemental environmental projects provided for improved water quality, restoration of wetlands, and conservation of environmentally important properties.²⁹¹

Such qualitative descriptions were notably lacking, however, for certain enforcement programs important to public health, such as the National Lead-Based Paint Enforcement Program and enforcement of CERCLA.²⁹²

OECA was often more specific (and more graphic) about the public benefits of its criminal enforcement actions. For example, a hazardous waste enforcement action against AAD Distribution and Dry Cleaning Services in California involved “drums of PERC, a cancer-causing hazardous waste,” while Rhodia, Inc.’s illegal storage in Montana of elemental phosphorus-contaminated sludge “posed a serious threat to the environment and human safety since elemental phosphorus waste can spontaneously ignite when exposed to air, creating a risk of explosion.”²⁹³ Similarly, RT Automotive’s illegal disposal of paint fumes was made graphically relevant when “[t]wo police officers and four firefighters required medical evaluation after approaching the trailer because of exposure to fumes.”²⁹⁴ Saybolt Inc.’s falsification of oxygen tests on gasoline explicitly threatened public health, because sub-standard gasoline causes “[h]igh automobile emissions[, which in turn] lead to high atmospheric ozone levels, which increase the incidence of breathing disorders such as emphysema and asthma.”²⁹⁵ David van Dyke’s improper handling of sewage sludge at the Warsaw, Indiana, wastewater treatment plant led to “the release of untreated sewage into the creek, which killed thousands of fish in Walnut Creek between late July and early August

290. EPA 2004 Civil Enforcement Highlights, *supra* note 287.

291. *Id.*

292. *Id.*

293. EPA 2004 Civil Enforcement Highlights, *supra* note 287.

294. *Id.*

295. *Id.*

2002,” while Industrial Zeolite in Louisiana “released 1.1 million gallons of wastewater exhibiting a high pH into a ditch that flows into the Callahan Bayou,” which “can harm fish and wildlife.”²⁹⁶

Nevertheless, the great weight of OECA’s performance measures for FY2004 were purely quantitative.²⁹⁷ Especially in comparison to the qualitative and graphic details provided for many criminal enforcement efforts, these quantitative measures did not meaningfully convey the public health import of the EPA’s enforcement efforts.

6. FY2005 Enforcement Assessment

Quantitative measures also dominated in OECA’s assessments for FY2005 enforcement. For example, in that year’s press release, OECA emphasized that:

EPA enforcement actions in fiscal year 2005 resulted in legal commitments by companies, governments and other regulated entities to reduce a projected 1.1 billion pounds of pollution and require that they spend a record \$10 billion to come into compliance with environmental laws. This is an increase of \$5 billion over last year. EPA’s criminal enforcement program helped successfully prosecute some of the largest environmental crimes in history in FY 2005, with judges imposing significant sentences and large criminal fines.²⁹⁸

This quantitative emphasis did not quite jibe with EPA Assistant Administrator Granta Y. Nakayama’s assertion that “‘EPA’s enforcement strategy and accomplishments demonstrate our commitment to achieving cleaner air, cleaner water and healthier communities.’”²⁹⁹

However, as noted above, FY2005 was also the first year that OECA began to monetize public health benefits from enforcement. Moreover, it contextualized those benefits among other more direct public benefits from the EPA’s enforcement efforts:

296. *Id.*

297. 2004 EPA Press Release, *supra* note 284. See also Office of Enforcement & Compliance Assurance, U.S. EPA, *FY 2004 End of Year Enforcement and Compliance Assurance Results* (Nov. 15, 2004), available at <http://www.epa.gov/compliance/resources/reports/endofyear/eoy2004/fy04results.pdf> (visually tabulating similar quantitative measures).

298. Press Release, Office of Enforcement & Compliance Assurance, U.S. EPA, *EPA Enforcement Cuts Pollution by 1 Billion Pounds; Requires \$10 Billion to Be Spent on Cleaning Up* (Nov. 15, 2005), available at <http://yosemite.epa.gov/opa/admpress.nsf/d9bf8d9315e942578525701c005e573c/dd8415693467dbdd852570ba005be46f?OpenDocument>.

299. *Id.*

Among the environmental benefits resulting from agency actions during FY 2005, EPA estimates that 28.2 million cubic yards of contaminated soil and 1.6 billion cubic yards of contaminated water will be cleaned up; 1,900 acres of wetlands will be protected; and the drinking water of more than 8 million Americans be safer. Criminal defendants will pay \$100 million in criminal fines and restitution and serve more than 186 years in jail. Our 10 biggest air pollution cases will reduce more than 620 million pounds of pollutants annually and that will produce annual human health benefits valued at more than \$4.6 billion. The benefits include reductions in premature mortality, bronchitis, hospitalizations and work days lost.³⁰⁰

Moreover, as in its FY2004 reporting, OECA provided a few explicit insights into the public health benefits of its civil enforcement efforts outside of the CAA program. As one example, as a result of a CWA enforcement action:

At a cost estimated at \$2 billion, Los Angeles will rebuild at least 488 miles of sewer lines and clean 2,800 miles of sewers annually to reduce by about 46 million gallons the raw sewage discharged annually—by a system that serves 3.8 million people. In addition to a \$1.6 million penalty to be shared equally between the United States and the Los Angeles Regional Water Quality Control Board, Los Angeles will perform \$8.5 million in environmental projects throughout the city to restore streams and wetlands and to capture and treat polluted storm drain flows.³⁰¹

The Louisville and Jefferson County Metropolitan Sewer District in Kentucky agreed to “perform \$2.25 million in environmental projects to provide public health screenings for residents of neighborhoods adjacent to industrialized areas, raise environmental awareness and convert and reclaim a landfill into a public use area” as part of the CWA enforcement action against it, and “EPA entered into legally binding agreements with 11 major domestic airlines and nine smaller airlines to ensure the safety of the drinking water used by their passengers and crew.”³⁰² Finally, “Camwest and BP agreed to implement supplemental environmental projects on the Wind River Indian Reservation that will provide significant environmental improvements to the drinking water systems of the Shoshone and Northern Arapaho tribes.”³⁰³

300. *Id.*

301. Office of Enforcement & Compliance Assurance, U.S. EPA, *Compliance and Enforcement Annual Results: FY2005 Water Case Highlights*, <http://www.epa.gov/compliance/resources/reports/endofyear/eoy2005/2005watercasehighlights.html> (last updated Jan. 16, 2009).

302. *Id.*

303. Office of Enforcement & Compliance Assurance, U.S. EPA, *Compliance and Enforcement Annual Results: FY2005 Supplemental Enforcement Projects Highlights*, <http://www.epa.gov/compliance/resources/reports/endofyear/eoy2005/2005sepscsehighlights.html> (last updated Jan. 16, 2009).

Also as in the FY2004 reporting, OECA was more likely to supply specific and graphic details about the public benefits of its criminal enforcement actions. An asbestos prosecution against AAR Contractors, for example, recognized that “[t]he defendants directed illegal activities of 500 asbestos workers and laboratory officials. As many as 100 former AAR workers are now substantially likely to develop asbestosis, lung cancers or mesothelioma, a fatal form of [lung] cancer.”³⁰⁴ Bouchard Transportation Company’s spill of 98,000 gallons of industrial fuel off of Cape Cod “killed 450 protected birds, forced the closure of thousands of acres of the bay’s shellfish beds for several months for cleanup, and polluted nearly 90 miles of Massachusetts shoreline,” while at Motiva Enterprises:

workers were sent to the refinery’s acid tank farm to repair a catwalk connecting the tanks. Flammable vapors ignited, producing an explosion that knocked a 415,000 gallon capacity tank containing spent sulfuric acid off its foundation, killing one worker and injuring numerous others. Additionally, approximately 99,000 gallons of spent sulfuric acid drained into the Delaware River for days after the explosion killing thousands of fish and crabs.³⁰⁵

Finally, Kerrville Painting Company was criminally prosecuted for improperly sandblasting and painting bridges in Arkansas, because “[b]ridge sandblasting and painting typically generates wastes contaminated with lead that must be disposed of properly to avoid exposure of the public, fish and wildlife to lead and lead compounds. Exposure to sufficient quantities of lead can cause neurological and developmental disorders in humans.”³⁰⁶

Nevertheless, as in prior years, OECA emphasized quantitative measures of enforcement accomplishments. As a result, these few case highlights and the new monetization of public health benefits of CAA enforcement often became lost in the more traditional quantitative measures.³⁰⁷

304. Office of Enforcement and Compliance Assurance, U.S. EPA, *Compliance and Enforcement Annual Results: FY2005 Criminal Enforcement Highlights*, <http://www.epa.gov/compliance/resources/reports/endofyear/eoy2005/2005criminalhighlights.html> (last updated Jan. 16, 2009).

305. *Id.*

306. *Id.*

307. *Compare, e.g.*, Office of Enforcement & Compliance Assurance, U.S. EPA, *EPA FY 2005 Enforcement & Compliance Results 5* (Nov. 15, 2004), available at <http://www.epa.gov/compliance/resources/reports/endofyear/eoy2005/2005resultscharts.pdf> (summarizing public health benefits), with *id.* at 3–4, 6–19 (tabulating fines, enforcement efforts, and criminal sentences).

7. OECA Enforcement Report for FY2006³⁰⁸

The next formal OECA enforcement report did not appear until 2007 and covered FY2006. Assistant Administrator Granta Y. Nakayama's opening message stressed both qualitative and quantitative enforcement measures. For example, he claimed that EPA was "making significant progress in protecting the nation's environment and public health, and achieving lasting environmental results"³⁰⁹ and emphasized that the criminal enforcement program focused "on cases that have the largest environmental impact," maximizing the EPA's "impact in protecting human health and the environment."³¹⁰ At the same time, even though nine of the ten national enforcement priorities for FY2006 had explicit public health connections,³¹¹ he stressed only that these "priority enforcement activities are responsible for nearly 75 percent of the 890 million pounds of pollutant reductions achieved, as well as more than 70 percent of the \$4 billion worth of investments in pollution prevention and control obtained in injunctive relief."³¹²

For the first time, however, OECA also formally reported health benefits in financial and qualitative terms. While monetization of such benefits is another form of quantitative assessment, it is a quantification of qualitative benefits—we now know the actual public health *value* of such enforcement, not just the tons of pollutants reduced or penalties assessed. The differences in rhetorical impact are difficult to miss, especially because OECA connected the monetized public health benefits to specific descriptions of those benefits. Thus, civil air enforcement in FY2006 "resulted in a total of more than 583 million pounds of pollutants reduced," which "will have substantial benefits for public health."³¹³

The annual human health benefits from these air emission reductions are valued at \$3.5 billion. The health benefits include reducing premature deaths among people with heart or lung disease, preventing hundreds of cases of bronchitis and nonfatal heart attacks, as well as preventing thousands of cases of respiratory ailments, including aggravated asthma.³¹⁴

308. 2006 ENFORCEMENT REPORT, *supra* note 143.

309. *Id.* at 2.

310. *Id.* at 3.

311. *See id.* at 9–12 (listing potential public health impacts for all national enforcement priorities except stormwater).

312. *Id.* at 2; *see also id.* at 14 (emphasizing the results from priority enforcement actions).

313. *Id.* at 15.

314. *Id.*

Although not expressed in financial terms, OECA's description of its work in environmental justice also underscored the public health importance of this national enforcement priority. OECA listed eight national environmental justice priority efforts, five of which directly promote health: reducing asthma attacks, reducing toxic air pollutants, reducing blood lead levels, ensuring that fish and shellfish are safe to eat, and ensuring that water is safe to drink.³¹⁵ Two others—ensuring that companies meet environmental laws and revitalizing brownfields and contaminated soils³¹⁶—can also have fairly immediate public health impacts. The eighth priority, collaborative problem-solving,³¹⁷ emphasizes procedure rather than health or environmental results—but problem-solving can certainly contribute to either one.

However, beyond air enforcement and environmental justice, the 2006 enforcement report approaches public health rhetoric far less enthusiastically than it approaches the importance of the EPA's enforcement priorities. For example, throughout its 2006 report, OECA emphasized that prioritization was an effective approach to environmental enforcement. Thus, "74 percent of the total pollution reductions and 71 percent of the total pollution prevention and control investments obtained by the civil enforcement program in FY2006 were in national priority areas."³¹⁸ Similarly, after explaining the dramatic health benefits of air enforcement, OECA noted that "[t]he most significant air pollution reductions for enforcement actions concluded in FY2006 resulted from OECA's work in national priority areas."³¹⁹ It also emphasized its enforcement success in its water enforcement priorities³²⁰ and the fact that it opened 24 criminal enforcement cases in six national priority areas.³²¹

Moreover, despite the fact that almost all of the national priorities have explicit connections to public health, OECA preferred non-health quantitative measures for its performance in areas other than air enforcement. Such measures included, for example, 26 million pounds of pollutant reductions from CSOs and SSOs and investments of \$930 million in sewer system upgrades,³²² a \$10.25 million penalty in an enforcement action under the Toxic Substances Control Act,³²³ 154 years in jail and \$43 million in criminal fines

315. *Id.* at 19–20.

316. *Id.* at 20.

317. *Id.*

318. *Id.* at 14.

319. *Id.* at 15.

320. *Id.* at 16–17.

321. *Id.* at 16.

322. *Id.* at 17.

323. *Id.*

for the criminal enforcement program, \$391 million to study and clean up 15 million cubic yards of contaminate soil and 1.3 billion cubic yards of contaminated ground water,³²⁴ and \$400,000 in penalties from plus \$125 million “to clean up more than 850 million cubic yards of soil, sediment, and water” at federal facilities.³²⁵

8. OECA Enforcement Report for FY2007³²⁶

OECA’s enforcement report for FY2007, published in May 2008, states that “OECA’s mission is to improve the environment and protect public health by ensuring compliance with the nation’s environmental laws.”³²⁷ As in the report for FY2006, OECA emphasized the public health benefits of air enforcement but opted for a quantitative assessment of enforcement in other programs.

For the air programs, OECA again both monetized the public health benefits of its enforcement actions and qualitatively described those benefits. For example, in his opening message, Assistant Administrator Nakayama emphasized that:

EPA’s 12 largest stationary source air enforcement cases alone will reduce more than 500 million pounds of harmful air pollutants, with annual human health benefits estimated at \$3.8 billion. These health benefits include approximately 500 fewer premature deaths in people with heart or lung disease; 50,000 fewer days of missed work or school; and 1,000 fewer hospital visits due to asthma or heart failure annually. These enforcement actions also will reduce harmful air emissions, including 308 million pounds of sulfur dioxide (SO₂), 187 million pounds of nitrogen oxides (NO_x), and 11 million pounds of particulate matter annually.³²⁸

The report’s longer exposition of the EPA’s air enforcement efforts emphasized that “OECA’s focus on priority areas yields substantial benefits for public health” and identified specific health benefits beyond those listed by the Assistant Administrator: “[a]bout 1,500 fewer cases of chronic bronchitis and acute bronchitis”; “[a]bout 1,000 fewer nonfatal heart attacks”; “[m]ore than 8,000 fewer cases of upper aggravated asthma”; and “[m]ore than 15,000 few cases of upper and lower respiratory symptoms.”³²⁹ Such

324. *Id.* at 18.

325. *Id.* at 19.

326. 2007 ENFORCEMENT REPORT, *supra* note 23.

327. *Id.* at ii (inside of front cover).

328. *Id.* at 2. *See also id.* at 6 (summarizing the same information in essentially the same way).

329. *Id.* at 12.

qualitative descriptions also applied to specific types of air enforcement actions. For example, coal-fired electric utilities “release sulfur dioxide (SO₂) and nitrogen oxides (NO_x), which cause respiratory problems and contribute to childhood asthma, acid rain, smog, and haze,” while mobile sources emit toxic air pollutants like “cancer-causing benzene” and other pollutants “that are responsible for respiratory illnesses.”³³⁰ Similarly, agricultural processing facilities release oilseed, a hazardous air pollution that “can cause adverse effects on the central nervous system, the heart, and other organs.”³³¹

In contrast, and again as was the case for the FY2006 report, OECA rhetorically submerged the public health benefits of enforcement efforts in other program areas. For example, enforcement actions against CSOs and SSOs “led to investments of \$3.5 billion in pollution controls to remove 45 million pounds of pollutants,” and “[t]hese investments are more than three times greater than those obtained in FY 2006.”³³² To be sure, OECA did acknowledge that “[w]hen overflows occur, pollutants enter waterways, causing human health risks such as diseases that can range in severity from mild gastroenteritis to life-threatening cholera,”³³³ but most of its descriptions of the results from CWA enforcement emphasized the poundage of pollutants reduced and the monetary value of investment in pollution control equipment.³³⁴ As for land contamination:

Superfund enforcement and other remediation agreements committed responsible parties to invest \$688 million last year to clean up contamination and reimburse EPA \$314 million for past response and oversight costs. The parties agreed to clean up a record-setting 79 million cubic yards of contaminated soil, or enough to cover more than 12,000 football fields with 3 feet of dirt. Polluters also agreed to clean up 1.4 billion cubic yards of contaminated water, which is enough to fill more than 425,000 Olympic-size swimming pools.³³⁵

330. *Id.* at 14.

331. *Id.* at 15.

332. *Id.* at 2.

333. *Id.* at 13. *See also id.* at 10 (similarly noting that “[w]et weather discharges contain bacteria, pathogens, and other pollutants that can cause illnesses in humans, lead to water quality impairment (including beach and shellfish bed closures), and harm our nation’s water resources.”).

334. *See id.* at 6 (summarizing the same information in essentially the same way), 13 (summarizing the results of Clean Water Act enforcement more generally in terms of 178 million pounds of pollutants reduced and \$3.6 million invested in pollution control), 15 (describing sewer system improvements in terms of \$3.5 billion in investments and 45 million pounds of pollutants reduce and CAFOs in terms of 15 million ponds of pollutants reduced and \$30 million in pollution controls), 26 (describing enforcement at nine Amtrak facilities as preventing almost 400,000 pounds of pollutants from entering waterways), 34–35 (summarizing such numbers by program and by type of enforcement activity).

335. *Id.* *See also id.* at 5 (tabulating estimated pollutant reduction commitments from FY2003 to FY2007), 6 (tabulating investments in pollution control and environmental projects over the same years and

Finally, even though criminal enforcement “[e]mphasize[d] ‘high-impact’ cases that will yield the greatest environmental and human health benefits and promote significant deterrence,”³³⁶ OECA tended to emphasize quantitative measures of EPA’s enforcement effort—cases initiated, defendants charged, years of sentences, amount of fines, costs of projects, and pounds of pollution reduced—rather than qualitative improvements in environmental quality or public health.³³⁷

This contrast in rhetorical presentation is stark and gives the distinct impression that only CAA programs—along with enforcement efforts in Indian country³³⁸ and environmental justice actions³³⁹—substantially protect public health. More disturbingly, OECA’s presentation of the results of water- and land-based enforcement efforts do not even present a clear picture of the ultimate environmental benefits of those enforcement efforts: Are stream or meadow ecosystems being restored? Endangered or threatened species benefitted? Fish kills and beach closures avoided? The public benefits of all this cleanup are at best only implicit.

9. OECA Enforcement Report for FY2008³⁴⁰

In early December 2008, OECA published its enforcement report for FY2008. While OECA continued to monetize and describe specifically the public health benefits of air enforcement actions, it also continued to more generally avoid reporting qualitative assessments of how its enforcement actions improved environmental quality³⁴¹ or providing public health

also summarizing the same information in essentially the same way).

336. *Id.* at 16.

337. *Id.* at 16–17.

338. *See id.* at 20 (emphasizing that “[i]n FY 2007, EPA’s tribal activities addressed imminent threats to human health,” such as drinking water supplies and smoke from a burning open dump).

339. *See id.* at 21–22 (emphasizing priorities of reducing asthma attacks, reducing exposure to air toxics, reducing incidences of elevated blood lead levels, ensuring that fish and shellfish are safe to eat, and ensuring that water is safe to drink).

340. OFFICE OF ENFORCEMENT AND COMPLIANCE, U.S. EPA, OECA FY 2008 ACCOMPLISHMENTS REPORT: PROTECTING PUBLIC HEALTH AND THE ENVIRONMENT (Dec. 4, 2008), *available at* <http://www.epa.gov/compliance/resources/reports/accomplishments/oeca/fy08accomplishment.pdf> [hereinafter 2008 ENFORCEMENT REPORT].

341. *But see id.* at 15 (describing Agrofos Fertilizer’s fish kill), 19 (explaining that “EPA’s criminal enforcement program addresses all of the environmental statutes and it uses a strategic approach to identify cases with significant environmental and human health impact, cases which enhance deterrence, and cases which advance EPA’s enforcement priorities”).

benefits³⁴² in other programs, again favoring quantitative measures of its enforcement efforts. Moreover, it pursued this rhetorical disjunction despite emphasizing that “OECA’s goal is to ensure that the environmental and public health benefits that are promised by our nation’s environmental laws are realized.”³⁴³ For example, Assistant Administrator Nakayama summarized that:

In FY 2008, EPA concluded civil and criminal enforcement actions requiring polluters to spend an estimated \$11.8 billion, an agency record, on pollution controls, cleanup and environmental projects. This exceeds the FY 2007 amount by approximately \$800 million. This means that each workday OECA was securing agreements from violators to invest an estimated \$47 million to achieve compliance. The combined total for the last five years is an estimated \$45 billion (\$5.5, \$11.3, \$5.4, \$11.0, and \$11.8 billion, respectively)—exceeding EPA’s total annual budget over the same period.

After all the complying actions for FY 2008 cases are completed, EPA estimates that 3.9 billion pounds of pollution will be reduced or removed annually from the environment, the highest amount since FY 1999. In the last five years EPA’s record for estimated pollution reductions stood at 1.1 billion pounds for FY 2005. The estimated pollutant reductions resulting from FY 2008 enforcement actions exceed FY 2005 by almost four times. The FY 2008 estimate also exceeds the combined results obtained during FY 2004–2007 by nearly 100 million pounds.

*Nearly half of this year’s pollution reductions are the result of an enforcement action taken against American Electric Power, one of the largest environmental settlements of all time. EPA, along with our partners at the U.S. Department of Justice, and the States of New York, Connecticut, New Jersey, Vermont, New Hampshire, Maryland, Rhode Island, and the Commonwealth of Massachusetts, negotiated this historic settlement which will save an estimated \$32 billion in health costs per year.*³⁴⁴

As in the FY2007 report, information regarding pounds of pollutants reduced, money spent on compliance, and the value of penalties and environmental projects permeates the FY2008 report.³⁴⁵ Perhaps most tellingly, in a section

342. *But see id.* at 26 (listing health-related priorities for environmental justice actions), 28 (emphasizing actions to protect drinking water in Indian country).

343. *Id.* at 4.

344. *Id.* at 2 (emphasis added).

345. *See id.* at 6 (providing extensive information about pounds of pollutants reduced), 7 (providing information about the dollar values of investments in pollution-control technology, civil penalties, criminal penalties, and environmental projects), 8 (providing information about entities reaches through compliance assistance), 10 (counting inspections and evaluations), 11 (couching environmental results in terms of pounds of pollutants reduced and pollution control investments), 14 (noting pounds of pollutants reduced and control investments for coal-fired power plants), 15 (noting pounds of pollutants reduced and control investments for storm water and the civil penalties, pounds of pollutants reduced, pollution control investment, and environmental conservation for a wastewater discharge), 16 (summarizing pollutants reduced and pollution control investments by program, plus tabulating civil penalties assessed), 18

entitled “Delivering Environmental Results,” OECA emphasized that “[i]n FY 2008, EPA’s concluded enforcement actions will reduce pollutant emissions to air, water and land by an estimated 3.9 billion pounds per year when the pollution controls and other measures required by these actions are installed and operational,” that “[t]hese pollution reductions will result from legally enforceable commitments by violators to invest an estimated \$11.8 billion, the highest amount on record, on installing pollution controls, cleanup and environmental projects,” and that it achieved these results primarily by focusing on its enforcement priorities, which reflected “areas of significant non-compliance with the nation’s environmental laws across the country that resulted in substantial amounts of illegal pollution.”³⁴⁶

As in FY2007, OECA essentially limited its discussion of the public health benefits of its FY2008 environmental enforcement to its discussion of enforcement under the CAA.³⁴⁷ The EPA’s ten largest enforcement actions against stationary sources yielded \$35 billion in health benefits for the nation. “These health benefits include:”

- Approximately 4,000 avoided premature deaths in people with heart or lung disease;
- Over 2,000 fewer emergency room visits for diseases such as asthma and respiratory failure;
- About 6,000 fewer cases of chronic bronchitis and acute bronchitis;
- About 4,000 fewer nonfatal heart attacks;
- Over 30,000 fewer cases of upper aggravated asthma;
- Over 50,000 fewer cases of upper and lower respiratory symptoms; and
- Over 200,000 fewer days when people would miss work or school.³⁴⁸

While these specifics are powerful evidence of the public health benefits of CAA enforcement, this qualitative analysis for the CAA, in the context of quantitative counting for other pollution statutes, again gives the impression that public health benefits accrue only (or at least primarily) from reductions in air pollution, not in other EPA programs.

(tabulating criminal enforcement results), 19 (emphasizing criminal fines), 21 (presenting figures on volumes of soil and water cleaned up under Superfund, plus emphasizing the amounts spent on such cleanups), 22 (tabulating private party commitments under Superfund), 23–25 (emphasizing penalties assessed against, pounds of pollutants reduced at, and dollar investment in pollution control for federal facilities), 34–35 (listing pounds of pollutants reduced, fines, values of investments in pollution control, and values of investments in environmental projects by program area and type of enforcement).

346. *Id.* at 11.

347. *Id.* at 14. *But see also id.* at 12–13 (acknowledging public health effects in the wet weather, minerals processing facilities, financial responsibility, and Indian country enforcement priorities).

348. *Id.* at 14.

10. Enforcement Results for FY2009

As this Article goes to press, the EPA has not yet released its formal accomplishments report for FY2009. Nevertheless, it has announced its enforcement and compliance results for that year.³⁴⁹ These announcements highlight public health benefits from environmental enforcement, but again privilege the CAA.

On its web site, for example, that EPA announces:

EPA continues to vigorously enforce the nation's environmental laws. In fiscal year (FY) 2009, the Environmental Protection Agency's enforcement and compliance program concluded civil and criminal enforcement actions requiring polluters to invest an estimated \$5.4 billion to reduce pollution, clean up contaminated land and water, achieve compliance and fund environmentally beneficial projects. Civil and criminal defendants committed to reduce pollution by approximately 570 million pounds annually once all required controls are fully implemented.

EPA targets its enforcement actions to address the most important environmental and public health problems. Approximately 57% of pollution reductions and 71% of pollution control investments obtained through the Agency's FY 2009 enforcement actions focused on water and air pollution priority problems.

EPA's top Clean Air Act enforcement actions during FY 2009 reduced approximately 230 million pounds of sulfur oxides (SO_x), nitrogen oxides (NO_x) and particulate matter (PM) per year when all the required pollution controls are in place, *resulting in estimated health benefits of between \$4 billion to \$9.8 billion.*³⁵⁰

Thus, the EPA still explicitly ties its enforcement priorities to public health as well as environmental problems, but it monetizes public health benefits only for CAA enforcement.

Importantly, however, in FY2009 EPA began to present its enforcement results through an interactive map,³⁵¹ recognizing that most quantitative measures of its enforcement efforts do not adequately convey the public importance of those efforts:

349. Office of Enforcement & Compliance Assurance, U.S. EPA, *Compliance and Enforcement Annual Results 2009 Fiscal Year*, <http://www.epa.gov/compliance/resources/reports/endofyear/eoy2009/index.html> (last updated Dec. 23, 2009).

350. *Id.*

351. Office of Enforcement & Compliance Assurance, U.S. EPA, *Map of All Enforcement Actions*, <http://www.epa.gov/compliance/resources/reports/endofyear/eoy2009/2009-map-allactions.html> (last updated Dec. 23, 2009).

EPA mapped the locations of more than 90 percent of the facilities that were the subject of enforcement actions last year. EPA did not map the locations of drinking water treatment plants due to potential security concerns.

For the past 10 years, EPA has described annual enforcement results by focusing primarily on two measures, the estimated pounds of pollutants reduced and estimated cost of commitments made by defendants to control or reduce pollution. These measures vary significantly from year to year and are dependent upon the number of large cases that settle in a given year.

While these large cases are a vital part of our work to protect public health and improve compliance, they do not reflect the totality of the annual environmental enforcement activities, and do not capture the number and variety of enforcement actions taken to help clean up local communities. The new mapping tool will help increase transparency, improve access to data, and provide the public with the bigger picture of enforcement activity occurring in communities around the country.³⁵²

Thus, while quantitative enforcement reporting remains important in FY2009,³⁵³ the EPA is working to improve communication of qualitative public health and environmental benefits to the public.

This impulse is also evident in other EPA reporting summaries for FY2009. For example, while the CAA remains the focus of public health benefit summaries, the EPA expanded such reporting in limited ways to hazardous waste cleanup and CWA enforcement:

EPA's top Clean Air Act enforcement actions of FY 2009 reduced emissions of particulate matter, sulfur dioxide, nitrogen oxides, VOCs, and ammonia, resulting in annual benefits of:

- Between \$4.0 to \$9.8 billion in avoided health costs
- Between 450 to 1,200 avoided premature deaths in people with heart or lung disease
- Over 790 fewer emergency room visits or hospital admissions
- About 1,000 fewer cases of chronic bronchitis and acute bronchitis
- About 720 fewer nonfatal heart attacks
- Over 7,700 fewer cases of aggravated asthma
- Over 15,000 fewer cases of upper and lower respiratory symptoms
- Over 58,000 fewer days when people would miss work or school.
- Air Toxics enforcement actions in 76 counties protected the 26 million people living in those counties
- Hazardous waste enforcement actions protected an estimated 96 thousand people who live within 500 meters of hazardous waste facilities

352. Press Release, U.S. EPA, U.S. EPA Releases Annual Enforcement Results and Mapping Tool (Dec. 23, 2009), *available at* <http://yosemite.epa.gov/opa/admpress.nsf/d0cf6618525a9efb85257359003fb69d/3342886e4aa895db8525769500589311!OpenDocument>.

353. Office of Enforcement & Compliance Assurance, *Numbers at a Glance*, <http://www.epa.gov/compliance/resources/reports/endofyear/eoy2009/2009numbers.html> (last updated Dec. 23, 2009).

- 23% of EPA CWA enforcement actions reduced pollutants discharged into waters that states have identified as impaired.³⁵⁴

Similarly, some descriptions of specific enforcement efforts in areas other than air quality emphasized the public health import of the EPA's efforts. For example, with respect to the Standard Mine enforcement action, the EPA noted that "[t]he contaminants of concern are primarily heavy metals including manganese, lead, zinc, cadmium, and copper. Contaminated water from the now abandoned Standard Mine flows into Elk Creek, a major tributary to Coal Creek, which serves as a source of drinking water to the residents of Crested Butte."³⁵⁵

CONCLUSION

This review of the EPA's enforcement policies over the last decade shows that the agency does indeed privilege the federal pollution control statutes' public health goals in certain aspects of environmental enforcement. For example, since FY2001, the EPA has tended to choose national enforcement priorities that have fairly strong and obvious connections to public health protection. Moreover, in its last four enforcement reports, OECA has emphasized the effectiveness of cleaving to these priorities.³⁵⁶ Thus, the EPA has effectively emphasized the public health benefits of environmental regulation through these enforcement priorities.

Similarly, actual or risked public health impacts can influence the type of enforcement action that the EPA chooses to take. Violations that put the public health at risk are likely both to prompt the EPA to pursue injunctive relief and to increase the amount of penalties sought, both of which counsel for civil rather than administrative enforcement. In cases where the requisite

354. Office of Enforcement & Compliance Assurance, U.S. EPA, *Fiscal Year 2009 Enforcement and Compliance Annual Results 7* (Nov. 23, 2009), available at <http://www.epa.gov/compliance/resources/reports/endofyear/eoy2009/fy2009results.pdf>.

355. Office of Enforcement & Compliance assurance, U.S. EPA, *Land Enforcement Case Highlights*, <http://www.epa.gov/compliance/resources/reports/endofyear/eoy2009/2009civilenflandhighlights.html> (last updated Dec. 24, 2009).

356. Office of Enforcement & Compliance Assessment, U.S. EPA, *Compliance and Enforcement Annual Results Fiscal Year 2009*, <http://www.epa.gov/compliance/resources/reports/endofyear/eoy2009/index.html> (last updated Dec. 23, 2009) ("EPA targets its enforcement actions to address the most important environmental and public health problems. Approximately 57% of pollution reductions and 71% of pollution control investments obtained through the Agency's FY 2009 enforcement actions focused on water and air pollution priority problems."); 2008 ENFORCEMENT REPORT, *supra* note 340, at 11; 2007 ENFORCEMENT REPORT, *supra* note 23, at 9; 2006 ENFORCEMENT REPORT, *supra* note 143, at 14–15.

intent is present, particularly egregious risks to persons and public health can also warrant criminal enforcement.³⁵⁷

Such public health emphases in enforcement have also provided OECA with much rhetorical power in presenting its enforcement achievements to Congress and the public, especially with respect to enforcement under the CAA. Perversely, however, until FY2009, OECA retreated from its 2001 and 2002 multi-media (air, water, land) explanations of how EPA enforcement actions protect and enhance the public health (or improve environmental quality and function, for that matter) in favor of largely unrevealing quantitative assessments of its enforcement activities in non-air programs.

Overall, rhetorically, OECA's FY2006, FY2007, and FY2008 enforcement reports strongly suggest that only CAA enforcement substantially protects the public health and that the public benefits—health *or* environmental—of other pollution control statutes are obscure or limited. This rhetoric is odds both with the EPA's national enforcement priorities—almost all which have had, since FY2005, explicit connections to public health concerns—and the goals and requirements of the statutes themselves. The FY2009 expansion of public health impact reporting—however limited—to hazardous waste and water enforcement, coupled with new measures to increase the public transparency of the benefits of environmental enforcement, thus signals a welcome revived commitment on the EPA's part to emphasizing these public benefits of environmental enforcement.

357. *See, e.g.,* United States v. Plaza Health Laboratories, Inc., 3 F.3d 643, 643–44 (2d Cir. 1993) (involving EPA's criminal prosecution of a defendant who had purposefully disposed of vials of human blood, some contaminated with hepatitis B, into the Hudson River, where they were found by schoolchildren).

