PROSECUTING COMPANIES FOR ENVIRONMENTAL CRIMES UNDER THE TOXIC SUBSTANCES CONTROL ACT: IMPLICATIONS FOR ENVIRONMENTAL JUSTICE COMMUNITIES

BY

JOSHUA OZYMY & MELISSA JARRELL OZYMY*

Chemical substance crimes that involve significant harm or culpable conduct impact marginalized communities at a much greater rate than the general population. While the Biden Administration has made historic commitments to fund enhanced enforcement efforts in environmental justice communities to protect them from toxic exposures, we still know very little about how companies have been criminally prosecuted for violations of the Toxic Substances Control Act (TSCA) and how TSCA criminal enforcement might be applied to marginalized communities. Using content analysis of 2,728 environmental crime prosecutions derived from U.S. Environmental Protection Agency (EPA) criminal investigations, 1983–2021, we analyzed all criminal prosecutions of companies under TSCA. Results show that EPA adjudicated twenty-six prosecutions, with fifty-six years of probation and over $33 million assessed to companies at sentencing, but a few large-penalty outliers considerably impacted total monetary penalties. Forty-six percent of prosecutions involved polychlorinated biphenyls (PCBs), 30% involved asbestos, and 23% involved lead-based paint. We conclude by discussing the value of TSCA criminal enforcement for criminal deterrence and the necessity of additional resources for expanding prosecutions under TSCA, as well as offering prescriptions for increasing TSCA criminal enforcement as part of a broader enforcement strategy to mitigate environmental harm in marginalized communities.

*Joshua Ozymy is a Professor of Criminal Justice at the University of Nevada, Reno. Melissa Jarrell Ozymy is a Professor of Criminal Justice and Chair of the Department of Criminal Justice at the University of Nevada, Reno.

I. INTRODUCTION

Hoskins Manufacturing Company produced specialty nickel-chrome alloys.[1] The U.S. Environmental Protection Agency (EPA) prosecuted the company for abandoning transformers containing polychlorinated biphenyls (PCBs) at a facility near Charlevoix, Michigan in violation of the Toxic Substances Control Act[2] (TSCA).[3] The court sentenced the company to serve twelve months of probation, pay $1.7 million in restitution, and issue a public apology in various periodicals.[4]

When companies violate environmental laws governing chemical substances, EPA's typical approach is to bring the company into compliance through administrative or civil remedies, but if a company fails to gain compliance, or the violations involve significant harm or culpable conduct, EPA may engage in criminal investigations ahead of pursuing criminal prosecution to punish companies and deter future offenses.[5] Congress's inclusion of criminal provisions calling for stiff

---

[1] *Summary of Criminal Prosecutions: Hoskins Manufacturing Company*, U.S. ENV'T PROT. AGENCY, https://perma.cc/4C5B-58C5 (type "Hoskins Manufacturing Company" in "Defendant"; then type "Michigan" in "Geographic Location"; then type "2009" in "Enforcement Case Dates"; then press "Search") (last visited Oct. 20, 2023) (summarizing the investigation, prosecution, and sentencing of Hoskins Manufacturing Company for the company's violation of TSCA).

[2] Toxic Substances Control Act, 15 U.S.C. §§ 2601–2697 (2018).

[3] Amy L. Payne, *Company to Pay $1.7M for Abandoning Toxic Equipment*, MLIVE (Nov. 19, 2008, 1:02 PM), https://perma.cc/W8DA-RP42; *Summary of Criminal Prosecutions: Hoskins Manufacturing Company*, *supra* note 1.

[4] Hoskins Manufacturing Company was the focus of a joint criminal investigation by EPA and the Michigan Department of Environmental Quality after Superfund response teams responded to three of the company's abandoned manufacturing sites. U.S. DEP'T OF JUST., ENV'T CRIMES MONTHLY BULL. (2008), https://perma.cc/5B8N-EPXB. Some remediation work surrounding the company's violations is still ongoing and is the subject of a Brownfield redevelopment program. *See* Jessica Matthews, *Environmental Clean-Up Continues at Old Manufacturing Site*, WHMI 93.5 (Jan. 26, 2021), https://perma.cc/CAC3-XN5V.

[5] Earl E. Devaney, Dir., Off. of Crim. Enf't, U.S. Env't Prot. Agency, Memorandum on the Exercise of Executive Discretion 3 (Jan. 12, 1994), https://perma.cc/YTR7-D6CR; *see, e.g.*, Robert G. Schwartz, Jr, *Criminalizing Occupational Safety Violations: The Use of "Knowing Endangerment" Statutes to Punish Employers for Maintaining Toxic Working Conditions,* 14 HARV. ENV'T L. REV. 487 (1990) (generally discussing criminal enforcement

punishments in environmental laws, including large penalties and the possibility of incarceration, was clearly meant to deter such environmental crimes.[6] While criminal enforcement remedies play an important role by ensuring companies obey laws governing chemical substances, we still have a relatively weak empirical understanding of how EPA has historically prosecuted companies for TSCA crimes.[7] Moreover, while the Biden administration has made historic efforts to fund enhanced enforcement efforts in environmental justice communities, and both EPA and the U.S. Department of Justice (DOJ) have developed enforcement goals for these communities, the enforcement opportunities arising under TSCA still appear to be overlooked.[8] Given that the environmental justice movement began with a PCB landfill in Warren County, North Carolina,[9] exploring the place of TSCA criminal enforcement in a concerted enforcement strategy for environmental justice communities is long overdue.

---

of environmental statutes under the "knowing endangerment" provisions of the Resource Conservation and Recovery Act (RCRA) and Clean Water Act (CWA)).

[6] *See, e.g.*, David A. Rich, *Personal Liability for Hazardous Waste Cleanup: An Examination of CERCLA Section 107*, 13 B.C. ENV'T. AFFS. L. REV., 643, 644, 646, 647, 651 (1986) (detailing that under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), violators may be required to pay for cleanup costs, which can cost tens of billions of dollars, and under RCRA, violators may face maximum penalties fines of up to $50,000 per day and two years in prison); Mark. R. McPhail, *Environmental Law: CERCLA Liability of Corporate Parents for Their Dissolved or Undercapitalized Subsidiaries*, 44 OKLA. L. REV. 345, 345–48, 357–58 (1991) (explaining that CERCLA specifically imposes liability on corporations, though in some jurisdictions the corporate veil must be pierced before a parent company can be held liable under the Act); Kathryn R. Heidt, *Liability of Shareholders Under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA),* 52 OHIO ST. L.J. 133, 134–35 (2001) (detailing two exceptions to limited liability in the corporate context: piercing the corporate veil and the "corporate actor" rule); Rita Cain, *Shareholder Liability under Superfund: Corporate Veil or Vale of Tears?,* 17 J. LEGIS. 1, 1–2 (1991) (discussing Superfund cleanup liability as applied to corporate shareholders). Corporate officers possess a burden of knowledge and hold an obligation to safeguard their employees and the public from harm from toxic substances. *See* Barbara DiTata, *Proof of Knowledge Under RCRA and Use of the Responsible Corporate Officer Doctrine*, 7 FORDHAM ENV'T L.J., 795, 797 (2011) (listing criminal penalties under RCRA).

[7] For recent empirical research on TSCA criminal enforcement, see Joshua Ozymy & Melissa L. Jarrell, *The Toxic Crusaders: Exploring the History of the Criminal Enforcement of the Toxic Substances Control Act*, 42 MITCHELL HAMLINE L.J. PUB. POL'Y & PRAC. 182 (2021).

[8] Press Release, U.S. Env't Prot. Agency, EPA Launches New National Office Dedicated to Advancing Environmental Justice and Civil Rights (Sept. 24, 2022), https://perma.cc/4ZKW-LQ8R (announcing the EPA's improved position to better environmental justice, enforce civil rights laws in overburdened communities, and deliver new grants and technical assistance); Press Release, U.S. Dep't of Just., Justice Department Launches Comprehensive Environmental Justice Strategy (May 5, 2024), https://perma.cc/EH3T-N7JL (announcing a new environmental justice enforcement strategy).

[9] *The Warren County PCB Landfill—North Carolina,* BFA ENV'T CONSULTANTS, https://perma.cc/H35Y-R3TK (last visited Oct. 9, 2023).

We address this lack of knowledge with an analysis of 2,728 criminal investigations undertaken by EPA from 1983 to 2021 that led to criminal prosecution. We selected all cases prosecuted under TSCA and then further selected all cases of companies criminally prosecuted under the statute. Through this approach, we provide a systematic understanding of prosecutions and sentencing patterns over time, as well as draw out broader themes that define the types of crimes prosecuted under TSCA since the criminal enforcement regime institutionalized in the 1980s. We then discuss these results in the context of enhancing enforcement efforts in environmental justice communities via TSCA criminal enforcement. We begin with a brief overview of TSCA, followed by a discussion of civil and criminal enforcement, our data and analytical strategy, results, discussion, and conclusion.

II. A BRIEF OVERVIEW OF TSCA

TSCA authorizes EPA to regulate chemical substances, including their manufacturing, distribution, use, disposal, importation, and exportation.[10] All chemical substances regulated by EPA under TSCA are listed in the Toxic Substances Control Act Chemical Inventory, which contains 86,718 chemicals, 42,242 of which are currently active.[11] TSCA authorizes EPA to require companies that manage any of these aspects of chemical substances to provide reporting and record-keeping and to report any substance that possesses significant risk to human or environmental health.[12] EPA may test, or require companies to test, chemical substances or mixtures for risks.[13] If chemical substances are new or have a significant new use, EPA can require pre-manufacture notification and subject the substance to Significant New Use Rules (SNURs), requiring companies to provide notice to EPA that the

[10] *Summary of the Toxic Substances Control Act*, U.S. ENV'T PROT. AGENCY, https://perma.cc/RN56-BXEG (Sept. 29, 2023); *see also* David Markell, *An Overview of TSCA, its History and Key Underlying Assumptions, and its Place in Environmental Regulation*, 32 WASH. U. J.L. & POL'Y 333, 351–52 (2010) (describing TSCA's jurisdictional scope). TSCA defines a chemical substance as any "organic or inorganic substance of a particular molecular identity," including any combination of listed substances "occurring in whole or in part as a result of a chemical reaction or occurring in nature, and any element or uncombined radical" and includes: organics, inorganics, polymers, and chemical substances of unknown or variable composition, complex reaction products, and biological materials (UVCBs), but excludes pesticides, food additives, drugs, cosmetics, tobacco and tobacco products, nuclear materials, and munitions. *About the TSCA Chemical Substance Inventory*, U.S. ENV'T PROT. AGENCY, https://perma.cc/FUM2-LXPE (June 9, 2023).

[11] *How to Access the TSCA Inventory*, U.S. ENV'T PROT. AGENCY, https://perma.cc/EKW5-RPT8 (Aug. 16, 2023).

[12] *Summary of the Toxic Substances Control Act*, *supra* note 10.

[13] *Id.*

chemical meets certain guidelines before importing, manufacturing, or distributing the substance.[14] TSCA is organized into six titles.[15]

EPA has employed TSCA to address widely used chemical substances known to pose broad problems to human health and the environment, rather than focus on banning specific substances.[16] Through this approach, EPA has focused on substances that are now well-known and common (or were common) in the environment and which pose (or posed) broader health concerns, such as PCBs, asbestos, radon, and lead-based paint.[17] EPA enforcement efforts under TSCA are

---

[14] *Actions Under TSCA Section 5*, U.S. ENV'T PROT. AGENCY, https://perma.cc/UAA3-PM92 (June 15, 2023).

[15] LINDA-JO SCHIEROW, CONG. RSCH. SERV., RL31905, THE TOXIC SUBSTANCES CONTROL ACT (TSCA): A SUMMARY OF THE ACT AND ITS MAJOR REQUIREMENTS 3–12 (2013) (explaining that Title I authorizes EPA to define and control chemical substances, Title II centers on the Asbestos Hazard Emergency Response Act (AHERA), Title III centers on radon gas in home and provides funding for abatement, Title IV centers on the Residential Lead-Based Paint Hazard Reduction Act of 1992, Title V develops a state grant program, and Title VI authorizes EPA to create standards for formaldehyde in composite wood products).

[16] *See, e.g.*, Asbestos; Reporting and Recordkeeping Requirements Under the Toxic Substances Control Act (TSCA), 88 Fed. Reg. 47782, 47785 (July 25, 2023) (codified at 40 C.F.R. pt. 704) (regulating multiple forms of asbestos under TSCA and recognizing health risks of asbestos); Alternate PCB Extraction Methods and Amendments to PCB Cleanup and Disposal Regulations, 88 Fed. Reg. 59662, 59663–64 (Aug. 29, 2023) (to be codified at 40 C.F.R. pt. 761) (regulating PCBs under TSCA and recognizing their health and environmental risks).

[17] *Toxic Substances Control Act (TSCA) and Federal Facilities*, U.S. ENV'T PROT. AGENCY, https://perma.cc/R3MR-EMA9 (Aug. 8, 2023). Congress passed a mercury export ban in 2008. *Questions and Answers on the Mercury Export Ban Act (MEBA) of 2008*, U.S. ENV'T PROT. AGENCY, https://perma.cc/J29H-PUB2 (Dec. 21, 2022). PCBs were used frequently in commerce in the United States before manufacturing was banned in 1979. *Learn about Polychlorinated Biphenyls*, U.S. ENV'T PROT. AGENCY, https://perma.cc/VGE4-KF95 (last updated Apr. 12, 2023). PCBs were prevalent in electrical and heat transfer applications and as plasticizers. *Id.* A common use of PCBs was in electrical transformers and capacitators and many still contain PCBs. *Id.* AHERA requires schools to inspect their facilities for asbestos, create asbestos management plans, and response actions for removing asbestos, and authorizes EPA to promulgate regulations under TSCA. *Asbestos Laws and Regulations*, U.S. ENV'T PROT. AGENCY, https://perma.cc/RKU6-BNXJ (Aug. 8, 2023). EPA is authorized to manage asbestos through a variety of other statutes, including the Clean Air Act (CAA) and CERCLA. *Id.* Radon is a naturally occurring gas and the number one cause of lung cancer among non-smokers in the United States. *What is Radon?*, U.S. ENV'T PROT. AGENCY, https://perma.cc/9L3V-N335 (Jan. 23, 2023); *Health Risk of Radon*, U.S. ENV'T PROT. AGENCY, https://perma.cc/P9J8-CHMV (last updated Jan. 5, 2023). The EPA helped to develop standards of practice for radon mitigation in homes, schools, and large buildings. *Radon Standards of Practice*, U.S. ENV'T PROT. AGENCY, https://perma.cc/HU6K-HTP7 (Sept. 23, 2023). Lead-based paint removal and remediation requires certification by the EPA or an authorized state agency under TSCA. *Lead Abatement Program: Training and Certification Program for Lead-Based Paint Activities (TSCA Sections 402/404)*, U.S. ENV'T PROT. AGENCY, https://perma.cc/KGU3-FBGF (June 30, 2023). While Congress banned lead-based paints for residential use in 1978, many older homes and buildings still contain lead-based paint. *Lead in Paint*, U.S. CTR. FOR DISEASE CONTROL, https://perma.cc/LT3N-WG7N (Dec. 16, 2022). When the paint peels and cracks it poses a significant risk of harm to children who eat the lead paint chips or breathe in the lead dust. *Id.*

thus centered on regulating the use, disposal, distribution, processing, importation, and manufacturing of chemical substances, overseeing the New Chemical Review Program, and carrying out the safety evaluation of existing chemicals such as PCBs and others under the Title II Asbestos Hazard Emergency Response Act (AHERA) Program, the Lead-Based Paint Program, and the formaldehyde standards for composite wood products.[18] In 2016, Congress passed the Frank Lautenberg Chemical Safety for the 21st Century Act[19] requiring EPA to create protocols and time limitations for testing substances against a risk-based standard, implement reasonable review times for new introductions of chemical substances, and prioritize ten chemical substances that pose the most significant risks to human health for risk assessment.[20]

---

[18] *Summary of the Toxic Substances Control Act*, *supra* note 10. Section five of TSCA mandates EPA's New Chemicals program, which manages the potential risk to human health and the environment from chemicals new to the marketplace. *Basic Information for the Review of New Chemicals*, U.S. ENV'T PROT. AGENCY, https://perma.cc/K27U-V2HL (July 5, 2023) (explaining the basic functions and origin of the New Chemicals Program); *Toxic Substances Control Act (TSCA) and Federal Facilities, supra* note 17 (noting that a mercury export ban was passed in 2008).

[19] Frank R. Lautenberg Chemical Safety for the 21st Century Act, Pub. L. No. 114-182, § 1, 130 Stat. 448 (2016) (amending Toxic Substances Control Act, 15 U.S.C. §§ 2601–2697 (2018)) (codified as amended in scattered sections of 15 U.S.C., 42 U.S.C., 47 U.S.C.).

[20] *Id.* § 3, 130 Stat. at 461–464. TSCA was subjected to numerous criticisms regarding EPA's inability or unwillingness to regulate toxic substances, slow response times for registrations, and other issues. *See, e.g.*, John S. Applegate, *Synthesizing TSCA and REACH: Practical Principles for Chemical Regulation Reform*, 35 ECOLOGY L.Q. 721, 734, 743 (2008) (discussing the disappointments and dysfunctionalities of TSCA and how the European Union's subsequently enacted comprehensive regulation for industrial chemicals reversed many legislative choices Congress made in TSCA). Many see the Act as a lost opportunity on most fronts. *See id.*; James T. O'Reilly, *What REACH Can Teach us About TSCA: Retrospectives on America's Failed Toxics Statute*, 1 EUR. J. RISK REGUL. 40, 40 (2010) (discussing how the disappointment in TSCA stems from the chemical industry's effectiveness in placing controls on the powers of the EPA); Brett Oberst et al., *Obama and the EPA Take on TSCA Reform*, 40 ENV'T L. REP., 10123, 10123–25 (2010) (discussing the need to reform TSCA due to the law's ineffectiveness in regulating and controlling chemicals); Kristen Ekey, *Tick Toxic: The Failure to Clean Up TSCA Poisons Public Health and Threatens Chemical Innovation*, 38 WM. & MARY ENV'T L. & POL'Y REV. 169, 169 (2013) (asserting that TSCA fails to keep pace with technology, control chemicals for public health purposes, and incentivize green chemistry development); Tracy Bach, *Better Living Through Chemicals (Regulation)? The Chemical Safety Improvement Act of 2013 Through an Environmental Public Health Law Lens*, 15 VT. J. ENV'T L., 490, 491 (2014) (asserting that TSCA is very limited in researching and controlling synthetic chemicals and the Chemical Safety Improvement Act of 2013 may improve chemical regulation); Chris Hastings, *TSCA Reform and the Need to Preserve State Chemical Safety Laws*, 30 J. LAND USE & ENV'T L. 307, 307–08 (2015) (discussing proposed amendments to TSCA and the need for a cooperative approach between state and federal regulation); Mitchell L. Guc, Comment, *TSCA and the Lautenberg Act: Bloated Regulation, or Effective Legislation?*, 49 U. TOLEDO L. REV. 461, 463, 465–66 (2018) (comparing the amended TSCA to the original statute); Frederick A. McDonald, Note, *Omnipresent Chemicals: TSCA Preemption in the Wake of PFAS Contamination*, 37 PACE ENV'T L. REV. 139 (2019) (discussing state regulation of per- and polyfluoroalkyl substances (PFAS) under amended TSCA); Frank R. Lautenberg Chemical Safety for the 21st Century Act, § 1, 130 Stat. 448 (2016). Prior to

III. CIVIL AND CRIMINAL REMEDIES FOR NON-COMPLIANCE

When companies violate laws governing chemical substances, EPA typically utilizes one or a combination of administrative and civil tools to bring companies back into compliance.[21] EPA, as well as state agencies, can use a series of administrative tools, such as issuing a notice of violation or order of correction, levying a fine if such orders are not complied with over time, or seeking civil judicial remedies.[22] Civil tools may include: imposing environmental monitoring or mitigation plans, petitioning a court to issue a temporary or permanent injunction to prevent companies from engaging in polluting activities, issuing administrative orders on consent or agreement to require companies to remediate pollution, or negotiating a supplemental environmental project.[23] If administrative or civil tools fail, EPA may pursue a civil lawsuit and a company may be found liable for damages and guilty in court; alternatively, companies may choose to enter into a consent decree with EPA to regain compliance and avoid admitting guilt.[24]

When companies continue to commit chemical substances crimes, and civil and administrative remedies prove unsuccessful to bring them back into compliance, EPA may pursue a criminal investigation that may lead to criminal prosecution.[25] Misdemeanor penalties for violating federal environmental laws stretch back to the very end of the 19th century, coming first with the Rivers and Harbors Act and the Lacey

---

the Frank R. Lautenberg Chemical Safety for the 21st Century Act's passage, there was no strict obligation imposed on EPA to engage in risk assessments of any specific chemical substance, giving rise to significant criticism that the agency's regulation of harmful chemical substances under TSCA was ineffective. *See The Frank R. Lautenberg Chemical Safety for the 21st Century Act*, U.S. ENV'T PROT. AGENCY, https://perma.cc/9XHF-CX63 (May 1, 2023) (noting the "much needed improvement[]" of adding risk-based chemical assessments to TSCA).

[21] *Waste, Chemical, and Cleanup Enforcement*, U.S. ENV'T PROT. AGENCY, https://perma.cc/W36K-AURU (Sept. 5, 2023) (detailing enforcement actions under various statutes regulating waste, chemicals, and cleanup efforts, including chemical enforcement under TSCA); *Basic Information on Enforcement*, U.S. ENV'T PROT. AGENCY, https://perma.cc/GR53-3KCU (Nov. 2, 2022) (providing an overview of regulatory enforcement actions).

[22] *Basic Information on Enforcement*, U.S. ENV'T PROT. AGENCY, https://perma.cc/W4JH-A8AX (Nov. 2, 2022).

[23] *Id.*; Lawrence E. Starfield, Acting Assistant Adm'r, U.S. Env't Prot. Agency, Memorandum on Using All Appropriate Injunctive Relief Tools in Civil Enforcement Settlements (Apr. 26, 2021), https://perma.cc/WVJ2-RHW4 (last updated on May 18, 2023) (outlining tools to be used in civil regulatory enforcement cases, including environmental monitoring plans, mitigation plans, and supplemental environmental projects).

[24] *Basic Information on Enforcement*, *supra* note 22.

[25] Devaney, s*upra* note 5, at 3–5; *see also* Raymond W. Mushal, *Up from the Sewers: A Perspective on the Evolution of the Federal Environmental Crimes Program*, 4 UTAH L. REV. 1103, 1104–05 (2009) (exploring the evolution and emergence of criminal enforcement of environmental programs as a result of ineffectual enforcement options that existed prior).

Act.[26] As the global movement to criminalize serious violations of environmental law flourished in the 1970s, American environmentalists began to consider expanding these laws to include criminal penalties.[27] This process began to take shape with changes to major environmental laws in the 1980s, when Congress added criminal provisions to these statutes, first with the Resource Conservation and Recovery Act (RCRA) in 1984,[28] the Federal Water Pollution Control Act (more commonly known as the Clean Water Act (CWA)) in 1987,[29] the Clean Air Act (CAA) in 1990,[30] and so on.[31] The formal ability to police environmental crimes dates back to 1976, when EPA issued the agency's first extensive guidelines for criminal case procedure,[32] and 1978, when EPA and DOJ created a Hazardous Waste Taskforce that initiated fifty-two civil actions under RCRA.[33] EPA formed the Office of Enforcement in 1981 and initially hired two criminal investigators, adding twenty more the following year.[34] Congress granted EPA criminal investigators full law enforcement authority in 1988, and the Attorney General permitted

---

[26] The Rivers and Harbors Appropriation Act of 1899 was the first federal statute to criminalize environmental transgressions; the Refuse Act is the specific section that prohibits the dumping of refuse in the navigable waters of the United States. Refuse Act of 1899, ch. 425, § 13, 30 Stat. 1121, 1152; Mushal, *supra* note 25, at 1104–05 (explaining that the Refuse Act of 1899 was the first environmental protection statute with teeth, as it was a criminal statute imposing penalties on violators); Rivers and Harbors Act, 33 U.S.C. § 403 (2018) (banning the alteration, obstruction, or other unpermitted changes to the navigable waters of the United States); Lacey Act, ch. 553, §§ 2–3, 31 Stat. 187, 188 (1900) (banning the unpermitted interstate trade in wildlife).

[27] Michael R. Pendleton, *Beyond the Threshold: The Criminalization of Logging*, 10 SOC'Y & NAT. RES., 191–93 (1997). Some U.S. states also shared these concerns. *See, e.g.*, Anthony J. Celebrezze et al., *Criminal Enforcement of State Environmental Laws: The Ohio Solution*, 14 HARV. ENV'T L. J., 217, 220 (1990). This was also part of the broader movement to found EPA, consolidate regulatory authority for much of the environment under one agency, and to pass or amend in major ways, federal laws safeguarding public health through the protection of the nation's air and water and the regulation of hazardous wastes, pesticides, and toxic chemicals. *Historical Development of Environmental Criminal Law*, U.S. DEP'T OF JUST. ENV'T & NAT. RES. DIV., https://perma.cc/4UUB-D7H2 (Sept. 12, 2023); *The Origins of EPA*, U.S. ENV'T PROT. AGENCY, https://perma.cc/P47X-38DG (last updated Jun. 5, 2023).

[28] Hazardous and Solid Waste Amendments of 1984, Pub. L. No. 98-616, 98 Stat. 3221, 3223.

[29] Water Quality Act of 1987, Pub. L. No. 100-4, 101 Stat. 7, 42.

[30] Clean Air Act Amendments of 1990, Pub. L. No. 101-549, 104 Stat. 2399, 2675.

[31] *See also* Toxic Substances Control Act, Pub. L. No. 94-469, 90 Stat. 2003, 2037 (1976); Federal Insecticide, Fungicide, and Rodenticide Act of 1972, Pub L. 92-516, 86 Stat. 973, 993; Comprehensive Environmental Response, Compensation, and Liability Act of 1980, Pub. L. 96-510, 94 Stat. 2767, 2773; *Historical Development of Environmental Criminal Law*, *supra* note 27.

[32] Robert I. McMurry & Stephen D. Ramsey, *Environmental Crime: The Use of Criminal Sanctions in Enforcing Environmental Laws*, 19 LOYOLA L.A. L. REV. 1133, 1137 (1986).

[33] *Id.* at 1138. DOJ attorney Peter Beeson was subsequently assigned to EPA and served as the Director of the Office of Criminal Enforcement, cementing institutional ties between the agencies. *Id.* at 1140.

[34] Mushal, *supra* note 25, at 1109.

EPA enforcement officers to carry firearms in their official capacity by 1989.[35] The passage of the Pollution Prosecution Act in 1990 granted EPA the authority to hire 200 criminal investigators, now housed within the Criminal Investigation Division (EPA-CID).[36]

DOJ's oversight of the environment began with the formation of the Public Lands Division in 1909,[37] but the agency did not launch the Environmental Crimes Unit (DOJ-ECS) until 1982 beginning with three attorneys operating out of the Enforcement Section of what is now called the Environmental and Natural Resources Division (ENRD); the Unit became an independent Section known as the Environmental Crimes Section (ECS) in 1987.[38] There are currently forty-three attorneys and a dozen support staff housed within DOJ-ECS specializing in the prosecution of environmental crimes.[39]

When EPA criminal investigators build cases, they often do so from civil inspections, regulatory reports, former employees, or whistleblowers, taking cases to DOJ attorneys to determine whether to file a criminal information or convene a grand jury.[40] These investigations are collaborative in nature, with investigators often working with state or federal law enforcement and environmental

---

[35] *Id.* at 1110. The investigators were granted full law enforcement authority from Congress with the Medical Waste Tracking Act of 1988 (P.L. 100-582). U.S. ENV'T PROT. AGENCY, REVIEW OF THE OFFICE OF CRIMINAL ENFORCEMENT, FORENSICS AND TRAINING 7–8 (2003), https://perma.cc/H77B-K2LP [hereinafter EPA 2003 REVIEW].

[36] Pollution Prosecution Act of 1990, Pub. L. No. 101-593, § 202, 104 Stat. 2954, 2962 (setting a minimum of 200 investigative staff). The total number of current criminal investigators varies from 140 to around 200, depending on source. *See* U.S. ENV'T PROT. AGENCY, U.S. ENVIRONMENTAL PROTECTION AGENCY CRIMINAL ENFORCEMENT PROGRAM: AMERICA'S ENVIRONMENTAL CRIME FIGHTERS, https://perma.cc/H9H4-8S4S (last visited Oct. 25, 2023) (stating that there are 200 investigators as of time of publication); *EPA CID Agent Count*, PUB. EMPS. FOR ENV'T RESP. (2019), https://perma.cc/Q2Q3-DB9A (showing the number of agents ranged between 140 to 175 from 2012 to 2019).

[37] *History*, U.S. DEP'T OF JUST., ENV'T & NAT. RES. DIV., https://perma.cc/AL4Q-FLKH (Sept. 14, 2023) (recounting creation of the Public Lands Division and the ENRD).

[38] *Development of Environmental Criminal Law*, U.S. DEP'T OF JUST., ENV'T & NAT. RES. DIV., https://perma.cc/W6TU-GQAT (Sept. 12, 2023) (recounting the 1982 creation of Environmental Crimes Unit and its evolution into Environmental Crimes Section); Joseph G. Block, *Environmental Criminal Enforcement in the 1990s*, 3 VILL. ENV'T L.J. 33, 34 (1992) (recounting creation of three-attorney unit in 1982).

[39] *Environmental Crimes Section*, U.S. DEP'T OF JUST., ENV'T & NAT. RES. DIV., https://perma.cc/75KS-6D9X (last updated Sept. 11, 2023) (describing structure and focus of ECS).

[40] Joel A. Mintz, *Some Thoughts on the Interdisciplinary Aspects of Environmental Enforcement,* 36 ENV'T L. REP. 10495, 10495 (2006) (explaining that investigators bring administrative and civil enforcement cases based on information from "on-site inspections; self-monitoring, recordkeeping, and self-reporting; complaints from citizens; and ambient environmental monitoring of conditions close to facilities"); Michael Herz, *Structures of Environmental Criminal Enforcement*, 7 FORDHAM ENV'T LAW J. 679, 693–94, 693 n.43 (1996) (explaining that DOJ conducts litigation for the United States and its administrative agencies and secures any evidence required for that litigation).

agencies.[41] The overlapping nature of many state and federal environmental statutes may result in the referral of cases to state prosecutors. [42]

When companies engage in criminal violations of TSCA, there are a number of criminal provisions prosecutors may use to charge them or their officers. These crimes may include: knowing endangerment, where a person knew at the time of the violation that the violation could place another person in imminent danger of death or bodily injury; knowingly or willfully failing to comply with a regulation order or inspection; failing to comply with PCB regulations; failing to submit the notice requirement that a chemical substance was a new chemical or that it was manufactured or processed for a use designated by regulation as a new use; failing to comply with reporting requirements; or knowingly or willfully denying EPA access to the premises after appropriate notice was given to an owner, operator, or agent in charge of a facility.[43] Of these, knowing endangerment carries the stiffest penalty, with individuals facing fines up to $250,000 and fifteen years in prison and corporations facing a maximum fine of $1 million per violation.[44]

---

[41] Joel A. Mintz, *Treading Water: A Preliminary Assessment of EPA Enforcement During the Bush II Administration*, 34 ENV'T. L. REP. 10912, 10923, 10925 (2004).

[42] Susan L. Smith, *Shields for the King's Men: Official Immunity and Other Obstacles to Effective Prosecution of Federal Officials for Environmental Crimes*, 16 COLUM. J. ENV'T L. 1, 54 & n.194 (1991) (detailing the overlapping nature of state and federal environmental statutes).

[43] TSCA, 15 U.S.C. §§ 2614, 2615 (2018) (delineating criminal acts under TSCA).

[44] *Id.* § 2615(b). Corporate officers are responsible for employee safety, particularly from hazardous substances. *See*, *e.g.*, Robert T. McGovern, United States v. Johnson & Towers, Inc.*: Corporate Employee Criminal Liability Under RCRA*, 2 PACE ENV'T L. REV. 316, 324 (1985) (discussing how individual employees can be potential defendants in RCRA suits if they have "requisite responsible positions" with the corporate defendant); Ronald M. Broudy, *RCRA and the Responsible Corporate Officer Doctrine: Getting Tough on Corporate Offenders by Sidestepping the Mens Rea Requirements*, 80 KY. L.J. 1055, 1066–67 (1992) (noting that the knowledge requirement of mens rea can be fulfilled by inference, as corporate managers are assumed to know of violations); Sidney M. Wolf, *Finding an Environmental Felon Under the Corporate Veil: The Responsible Corporate Officer Doctrine and RCRA*, 9 J. LAND USE & ENV'T L. 1, 7 (1993) (noting that under the responsible corporate officer doctrine, corporate officials may be held criminally responsible for misconduct they are either unaware of or did not participate in). A corporate officer can be held accountable even if they did not commit the crime but oversaw polices or procedures that may have prevented it. John R. Bashaw & Mary Mintel Miller, *The Responsible Corporate Officer Killed the LLC,* AM. BAR ASS'N (Feb. 16, 2016), https://perma.cc/TZ7N-QCAQ; Robert G. Schwartz, Jr., *Criminalizing Occupational Safety Violations: The Use of "Knowing Endangerment" Statutes to Punish Employers for Maintaining Toxic Working Conditions*, 14 HARV. ENV'T L. REV. 487, 487 (1990) (discussing how a corporation's failure to provide employees with personal protective equipment (PPE) satisfied RCRA's "knowing endangerment" provision); Turner T. Smith Jr. & Roszell D. Hunter, *Hazardous Wastes: The Knowing Endangerment Offense*, 2 J. ENV'T L. 262, 268–69 (1990) (discussing a prosecution under RCRA in which a corporate entity was found to have knowingly placed employees in imminent danger of death or serious injury); Karen M. Hansen, *"Knowing" Environmental Crimes*, 16 WM. MITCHELL L. REV. 987, 998–1000 (1990) (discussing how a corporate officer's position to prevent or correct a statutory violation has served as a basis for criminal liability).

The severity of punishments for criminal violations of TSCA, particularly knowing endangerment, shows Congress's intent to deter companies from committing chemical substances crimes.[45] Prosecutors have secured significant penalties at sentencing.[46] Research shows the presence of certain aggravating factors motivates the decision to prosecute environmental offenders[47] and seek significant penalties for environmental crimes.[48] Yet it remains unclear whether the criminal provisions of TSCA deter companies from committing crimes or how prosecutors have used those provisions historically to punish companies.[49] The following Part provides a response to these

---

[45] Mushal, *supra* note 25, at 1105 & n.8.

[46] Joshua Ozymy et al., *Persistence or Partisanship: Exploring the Relationship between Presidential Administrations and Criminal Enforcement by the U.S. Environmental Protection Agency 1983-2019*, 81 PUB. ADMIN. REV. 49, 51 (2021). See generally, for example, the following state and local criminal enforcement studies: Matthew S. Crow et al., *Camouflage-Collar Crime: An Examination of Wildlife Crime and Characteristics in Florida*, 34 DEVIANT BEHAV. 635 (2013) (detailing a study of empirical data regarding the characteristics of fish and wildlife crime in Florida); Joshua C. Cochran et al., *Court Sentencing Patterns for Environmental Crimes: Is there a "Green" Gap in Punishment?* 34 J. QUANTITATIVE CRIMINOLOGY 37–39 (2018) (examining environmental felony convictions in Florida over a 15-year period, as well as the outcomes of various sanctions); Michael J. Lynch, *County-Level Environmental Crime Enforcement: A Case Study of Environmental /Green Crimes in Fulton County, Georgia, 1998–2014*, 40 DEVIANT BEHAV. 1090, 1095 (2019) (examining environmental crimes, punishments, and recidivism among offenders from 1998-2014).

[47] *See* Joshua Ozymy & Melissa Jarrell, *Why do Regulatory Agencies Punish? The Impact of Political Principals, Agency Culture, and Transaction Costs in Predicting Environmental Criminal Prosecution Outcomes in the United States*, 33 REV. POL'Y RSCH. 71, 71–73 (2016) (examining factors behind decisions to prosecute environmental crimes, including professional norms that value "strong" enforcement).

[48] *See* David M. Uhlmann, *Prosecutorial Discretion and Environmental Crime*, 38 HARV. ENV'T L. REV. 159, 175–76, 214–15 (2014) [hereinafter Uhlmann, *Environmental Crime*] (concluding that prosecutors brought charges almost exclusively when the identified and discussed aggravating factors were involved); David M. Uhlmann, *Prosecutorial Discretion and Environmental Crime Redux: Charging Trends, Aggravating Factors, and Individual Outcome Data for 2005-2014*, 8 MICH. J. ENV'T & ADMIN. L. 297, 364 (2019) [hereinafter Uhlmann, *Environmental Crime Redux*] (concluding that prosecutors have continued to exercise their discretion to prosecute only when one or more aggravating factors are involved, specifically focusing on violation involving harm, deceptive or misleading conduct, or operating outside the regulatory system).

[49] *See* Larry D. Wayne, *A Case for Criminal Enforcement of Federal Environmental Laws,* 38 NAVAL L. REV. 105, 106 (1989) (discussing the deterrent value of environmental law enforcement). For a discussion of deterrence and white-collar crime, see Carole M. Billiet & Sandra Rousseau, *How Real is the Threat of Imprisonment for Environmental Crime?,* 37 EUR. J.L. & ECON. 183, 183–86 (2014) (finding prison terms to be an effective sanction for controlling the behavior of corporate officials); Raymond Paternoster, *How Much Do We Really Know About Criminal Deterrence*, 100 J. CRIM. L. & CRIMINOLOGY 765, 765–67 (2010) (finding that legal sanctions may have a small deterrent effect). For a general discussion of deterrence theory, see *Five Things About Deterrence*, NAT'L INST. OF JUST., U.S. DEP'T OF JUST., https://perma.cc/D45K-TJYX (last visited Oct. 25, 2023); Gary S. Becker, *Crime and Punishment: An Economic Approach,* 76 J. POL. ECON. 169, 178–199 (1968) (explaining an advantage to using fines for deterrence to achieve socially optimal outcomes); Richard A. Posner, *An Economic Theory of the Criminal Law,* 85 COLUM. L.

shortcomings, with an analysis of the criminal prosecution of companies under TSCA from 1983 to present. This approach revealed charging and sentencing patterns, as well as general themes, allowing for a better understanding of how prosecutors have historically used the criminal provisions of TSCA against companies and the outcomes of those prosecutions.

IV. DATA AND ANALYSIS

We utilized content analysis of the EPA's Summary of Criminal Prosecutions Database for the analysis herein.[50] The Database provides case summaries on criminal prosecutions resulting from EPA-CID criminal investigations from 1983 to the present.[51] We explored the Database by fiscal year (FY) and gathered data on all prosecutions adjudicated from the first case (1983) to April 30, 2022, when we ceased data collection. Total cases analyzed included 2,728 criminal prosecutions, which were further selected for prosecution of TSCA crimes, and then further whittled down to cases with companies as named defendants. Using this selection criteria, we found that, since 1983, twenty-six prosecutions had been adjudicated. Once we collected our cases, we gathered the following data from each narrative case summary: summary of the case, primary defendant, docket number, FY identifier, number of defendants, whether a company was a named defendant, environmental statutes violated, presence of other criminal charges, such as false statements, wire fraud, conspiracy, mail fraud, smuggling and the like, and sentencing data, including total probation in months assessed to all companies in each prosecution and all monetary penalties assessed to companies in each case, including fines, special assessments, restitution, fees, community service payments, and any other monetary penalties assessed at sentencing.

We employed content analysis to understand the data. Two coders worked independently to code and assign values to the data points. We conducted a pilot test for four weeks, until problems with the data and other issues became evident and strategies were developed to

---

REV. 1193, 1195 (1985) (arguing that privately enforced damage suits are ineffective means of deterrence); Michael J. Lynch et al., *The Weak Probability of Punishment for Environmental Offenses and Deterrence of Environmental Offenders*: *A Discussion Based on USEPA Criminal Cases, 1983–2013*, 37 DEVIANT BEHAV. 1095, 1095–1100 (2016) (suggesting that the low probability of environmental crime cases being criminally prosecuted generates very little to no deterrence effect). If penalties are not sufficiently high, companies may view penalties as the cost of doing business, rather than having a deterrent effect. *See* Daniel P. Fernandez et al., *Monetary Consequences of Environmental Regulations: Cost of Doing Business or Non-Deductible Penalties or Fines?*, 9 AM. U. BUS. L. REV. 123, 141 (2020).

[50] *Summary of Criminal Prosecutions*, U.S. ENV'T PROT. AGENCY, https://perma.cc/X2ZW-QC64 (last updated June 16, 2023).

[51] *Cases and Settlements*, U.S. ENV'T PROT. AGENCY, https://perma.cc/PY5K-R9YC (last updated June. 1, 2023).

understand these issues. We commenced coding with one of the authors reviewing cases where there were discrepancies. We then met to find consensus on values. Most of the differences that arose in coding came from complex sentencing data with multiple defendants. Our total inter-coder reliability for the entire dataset was roughly 95%.[52]

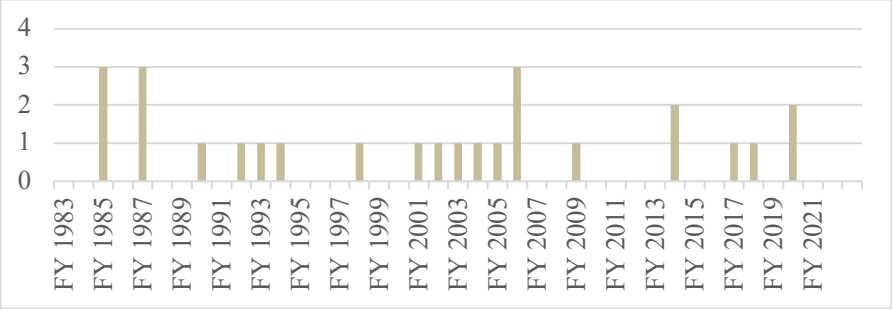
V. RESULTS

The analysis is parceled into three sections. First, we explored total prosecutions, number of defendants, and sentencing outcomes in TSCA prosecutions. Second, we described key cases that resulted in large penalties, which help to define the broader trends from Section A. Finally, we organized TSCA prosecutions from 1983 to 2021 into general categories to explore broader themes.

A. Total Prosecutions, Number of Defendants, and Sentencing Outcomes

Figure 1 shows total prosecutions adjudicated annually for companies convicted of criminal violations under TSCA. Three prosecutions were adjudicated in 1985, and that number grew to six by the end of the decade. In the 1990s, five prosecutions were adjudicated. From 2000 to 2009, the number of prosecutions rose to nine, and from 2010 to 2021, prosecutions declined to six. Of cases analyzed, a grand total of twenty-six prosecutions were adjudicated from 1983 to 2021, averaging less than one prosecution per year.

Figure 1. Total Prosecutions of Companies for TSCA Crimes, Adjudicated by Fiscal Year.

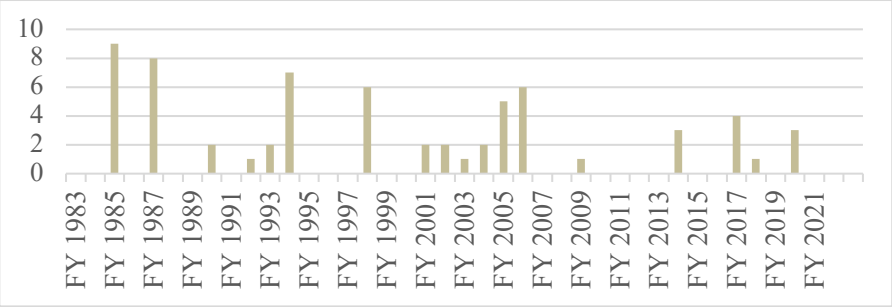


Source: *Summary of Criminal Prosecutions*, *supra* note 50.

[52] Defined as the agreed upon items, divided by non-agreed items. *See* OLE R. HOLSTI, CONTENT ANALYSIS FOR THE SOCIAL SCIENCES AND HUMANITIES 140 (1969) (stating that the index of reliability is equal to % observed agreement minus % expected agreement, divided by 1 minus % expected agreement).

Figure 2 shows the total number of defendants in TSCA prosecutions per year. A total of seventeen defendants were prosecuted throughout the 1980s. During the 1990s, the number of defendants prosecuted rose slightly to eighteen. From 2000 to 2009, defendants prosecuted remained steady at nineteen, and declined to eleven from 2010 to 2021 by the end of the decade. In TSCA prosecutions against companies, sixty-five defendants were prosecuted in total.

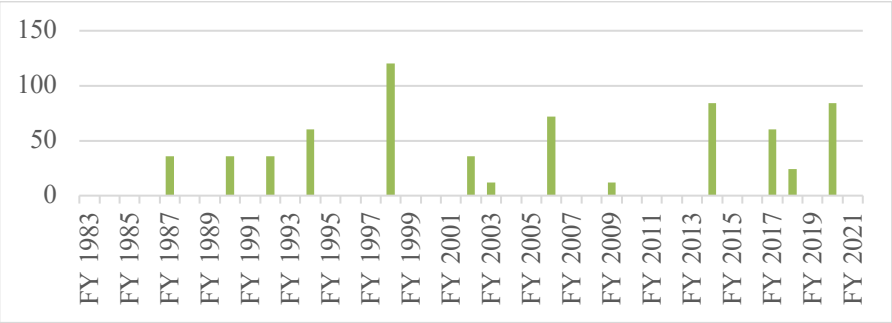
Figure 2. Number of Defendants in TSCA Prosecutions of Companies by Fiscal Year.



Source: *Summary of Criminal Prosecutions*, *supra* note 50.

Figure 3 shows the total number of months of probation assessed to criminal violators of TSCA between 1983 and 2021. During the 1980s, prosecutors secured a total of thirty-six months of probation against companies for criminal violations of TSCA. In the 1990s, probation rose significantly to 252 months. From 2000 to 2009, total probation decreased to 132 months and rose again to 252 months between 2010 and 2021. Of cases analyzed, companies received a grand total of 652 months of probation at sentencing for TSCA crimes.

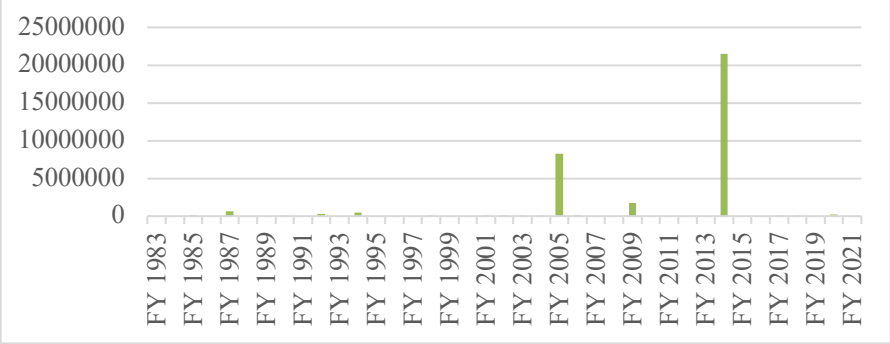
Figure 3. Total Probation Time in Months Assessed to Companies in TSCA Prosecutions by Fiscal Year.



Source: *Summary of Criminal Prosecutions*, *supra* note 50.

Figure 4 illustrates total monetary penalties assessed to companies convicted of criminal violations of TSCA between 1983 and 2021. During the 1980s, penalties levied against companies for TSCA crimes totaled $744,000. From 1990 to 1999, penalties increased to over $857,000. From 2000 to 2009, total penalties increased to over $10 million, and from 2010 to 2021, increased again to over $21 million. Our analysis shows that prosecutors secured a grand total of more than $33 million in monetary penalties against convicted companies at sentencing.[53]

Figure 4. Total Monetary Penalties Assessed to Companies in TSCA Prosecutions by Fiscal Year.



Source: *Summary of Criminal Prosecutions*, *supra* note 50.

B. Large Penalty Cases

Certain large penalty cases impacted the overall trends discussed in Section A. The probation penalties analyzed were fairly evenly distributed, but Table 1 lists a few large penalty cases.[54] The largest probation penalty assessed to a company for a crime under TSCA was against IEMC Environmental Group.[55] EPA prosecuted IEMC Environmental Group for the improper removal and subsequent asbestos contamination of the Fayette Mall in Lexington, Kentucky;[56] Weaver Electric Company for illegally burying electrical transformers containing PCBs at a horse

[53] A few outliers define these sentencing trends, discussed in the following section. *See infra* text accompanying note 59.

[54] The average amount of probation assessed to companies at sentencing was about 26 months per prosecution. *See infra* Part V.

[55] IEMC was sentenced to serve 60 months of probation and to pay a $200 fine, while its subsidiary, IES Lead Paint, was sentenced to serve 60 months of probation and pay a $200 fine. *Summary of Criminal Prosecutions: IEMC Environmental Group*, U.S. ENV'T PROT. AGENCY, https://perma.cc/X9BC-6E4K (type "IEMC Environmental Group" in "Defendant"; then select "TSCA—Toxic Substances Control Act" in "Statute"; then press "Search") (last updated Oct. 10, 2023) (summarizing the federal prosecution of IEMC Environmental Group and related defendants, No. 96-25-S (E.D. Ky. 1996)).

[56] *Id.*

farm in Elisabeth, Colorado;[57] and Collegiate Entrepreneurs, Inc. for improperly painting and renovating at least ten homes with lead-based paint and then falsifying records.[58]

Table 1. Large Probation Sentences Assessed to Companies in TSCA Prosecutions.

Defendant	*Fiscal Year*	*Crime*	*Total Probation (Months)*
IEMC Environmental Group	1998	Asbestos Crime	120
Weaver Electric Company	1994	PCBs Crime	60
Collegiate Entrepreneurs	2020	Lead-Based Paint Crime	60

Source: *Summary of Criminal Prosecutions*, *supra* note 50.

Table 2 explores large monetary penalties assessed at sentencing. Unlike probation, total monetary penalties depended significantly on a few prosecutions listed in the table.[59] EPA prosecuted P&W Oil Company for illegally mixing and reselling oil contaminated with PCBs;[60] AAR Contractor for engaging in an elaborate criminal conspiracy to illegally

[57] *Summary of Criminal Prosecutions: Weaver Electric Company*, U.S. ENV'T PROT. AGENCY, https://perma.cc/4QLS-MD7U (last updated Oct. 10, 2023) (type "Weaver Electric Company" in "Defendant"; then select "TSCA—Toxic Substances Control Act" in "Statutes"; then press "Search") (summarizing the federal prosecution of Weaver Electric Company and related defendants, No. 92-CR-300 (D. Colo. 1992)). The company also submitted false invoices to EPA acknowledging the transformers had been properly disposed of, and employees illegally burned PCB fluid. *Id.* The company was sentenced to serve 60 months of probation, to spend $300,000 on environmental mediation, and pay a $200,000 fine and $1,025 special assessment fee. *Id.*

[58] *Summary of Criminal Prosecutions: Collegiate Entrepreneurs, Inc.,* U.S. ENV'T PROT. AGENCY, https://perma.cc/9KWK-KQUX (type "Collegiate" in "Defendant"; then press "Search") (last updated October 25, 2023) (summarizing the prosecution of Collegiate Entrepreneurs, (D. Conn. 2020)). The company was sentenced to serve five years of probation and to pay a fine of $50,000, as well as $30,000 in restitution, and is prohibited from engaging in projects involving the remediation of lead-based paint. *Id.*

[59] The prosecution of P&W represents 64% of total monetary penalties assessed to companies in our analysis. The prosecution of AAR Contractor represents about 25% of total monetary penalties in the analysis. This leaves only about $3.7 million in penalties across the remaining prosecutions.

[60] *Summary of Criminal Prosecutions: P&W Oil Company, Inc.* (E.D. N.C. 2014), U.S. ENV'T PROT. AGENCY, https://perma.cc/7QE6-SKLC (Type "P&W Oil" in "Defendant"; then press "Search"). The company collected, transported, and disposed of oil but also conducted tank cleaning and waste removal, although it was only authorized to handle oil with PCBs containing no more than two parts per million (ppm). *Id.* The company blended and resold oil that was contaminated with PCBs that, when tested, was in excess of 4,925 ppm. *Id.* The oil was sold to Colonial Oil, which found the contamination and had over three million gallons incinerated at a cost of $17 million. *Id.* The company was sentenced to pay restitution in the amount of $21,373,143.38 to both Colonial Oil and International Paper. *Id.*

remove and dispose of asbestos and falsify laboratory results;[61] Hoskins Manufacturing Company for abandoning electrical transformers that leaked PCBs, requiring EPA to perform emergency cleanup;[62] and Robert E. Derecktor of Rhode Island, Inc. for the illegal disposal of transformers that leaked PCBs.[63]

Table 2. Large Monetary Penalties Assessed to Companies in TSCA Prosecutions.

Defendant	*Fiscal Year*	*Crime*	*Total Monetary Penalties**
P & W Oil Company, Inc.	2014	PCBs Crime	$21.3 Million
AAR Contractor	2007	Asbestos Crime	$8.3 Million
Hoskins Manufacturing Company	2009	PCBs Crime	$1.7 Million
Robert E. Derecktor of Rhode Island, Inc.	1987	PCBs Crime	$600,000

Source: *Summary of Criminal Prosecutions*, *supra* note 50. *Numbers are rounded to the nearest hundred-thousand dollars.

[61] EPA, *Summary of Criminal Prosecutions: AAR Contractor, Inc.* (N.D. N.Y) https://perma.cc/5D5V-23VY (type "AAR" in "Defendant"; then press "Search"; then scroll down and click "AAR Contractor, Inc.") (last updated Oct. 25, 2023). The company was charged with violating the Racketeer Influenced and Corrupt Organizations Act (RICO), conspiracy to violate TSCA and the CAA, and violating the CAA. *Id.* The company was sentenced to pay a $4,400 special assessment fee, forfeit $2,033,457.70, and pay $22,875,575.46 in restitution jointly and severally with co-defendants Alexander and Raul Salvagno. *Id.*; EPA, *Summary of Criminal Prosecutions: Eric Farbent* (N.D. N.Y.) https://perma.cc/XU64-NKNM (Type "Farbent in "Defendant"; then press "Search"). To calculate the penalty assessed to the company with the other defendants, we split the fine across them and then added the special assessment fee. A related prosecution of Eric Farbent also includes the penalties against AAR but does not name it as a defendant. *Id.* Given this is the same case and docket number, we do not add this case into the analysis.

[62] *Summary of Criminal Prosecutions: Hoskins Manufacturing Company*, *supra* note 1. The company was charged under TSCA and sentenced to serve a year of probation, publish public apologies in various periodicals, and pay $1.7 million in restitution to offset emergency response costs to remediate the facilities. *Id.*

[63] *Summary of Criminal Prosecutions: Robert E. Derecktor of Rhode Island*, U.S. ENV'T PROT. AGENCY, https://perma.cc/F5ZR-3RRE (type "Derecktor" in "Defendant"; then press "Search"; then scroll down and click on "Robert E. Derecktor of Rhode Island") (last updated Oct. 10, 2023) (summarizing the prosecution of Robert E. Derecktor of Rhode Island, Inc., No. 86-022 (D. Rhode Island 1987)). The company operated a shipyard for building and repairing vessels. *Id.* Transformers from the shipping yard were found buried and leaking PCBs at a farm owned by the president of the company. *Id.* The company was sentenced to pay a $600,000 fine. *Id.*

C. Primary Crimes Prosecuted Under TSCA

Table 3 provides the final section of the analysis, where we aggregated and categorized prosecutions by what we feel was the primary crime at the center of the case and drew out broader themes across cases in which companies were criminally prosecuted under TSCA. These TSCA prosecutions can be categorized around three primary themes: crimes involving PCBs, asbestos crimes, and lead-based paint crimes.

Table 3. Primary Themes that Emerge when Companies are Prosecuted for TSCA Crimes.

Theme	*Number of Prosecutions*	*Percentage of Total**
PCBs Crime	12	46%
Asbestos Crime	7	27%
Lead-Based Paint Crime	6	23%
Other	1	4%
Total Prosecutions	26	

*Percentages are rounded to the nearest one percent.

In twelve prosecutions, or 46% of total prosecutions, the primary crime centered on PCBs. Electrical transformers are one of the last common sources of PCBs, and the high cost of properly disposing of contaminated transformers incentivizes criminal behaviors.[64] Companies faced prosecution for the illegal disposal of electrical transformers in almost half of the cases analyzed. The prosecutions of Cambridge Mill Products, Plymouth Utilities, and Custom Food Machinery provide case examples.

EPA prosecuted Cambridge Mill Products for the illegal disposal of PCBs in violation of TSCA;[65] Plymouth Utilities for improperly disposing of PCB-contaminated electrical transformers at a salvage yard;[66] and Custom Food Machinery for illegally burying electrical transformers containing PCBs.[67]

---

[64] Ozymy & Jarrell, *supra* note 7, at 193 n.51, 203 n.63.

[65] *Summary of Criminal Prosecutions: Cambridge Mill Products* (N.D. Ohio 85-5089L, 1987), U.S. ENV'T PROT. AGENCY, https://perma.cc/5KC8-2SRY (type "Cambridge Mill" in "Defendant"; then press "Search"; then scroll down and click on "Cambridge Mill Products") (last updated Oct. 10, 2023). Excavation at a mine site revealed barrels contaminated with PCBs that were illegally disposed of and the company was fined $25,000, and ordered to pay $23,000 in clean-up costs. *Id.*

[66] *Summary of Criminal Prosecutions: Plymouth Utilities* (N.D. Ohio, 5:93MG3013, 1993), U.S. ENV'T PROT. AGENCY, https://perma.cc/K6BR-5N59 (type "Plymouth Utilities" in "Defendant"; then press "Search"; then scroll down and click on "Plymouth Utilities") (last updated Oct. 10, 2023). The case summary fails to report any penalties assessed against the company. *Id.*

[67] *Summary of Criminal Prosecutions: Custom Food Machinery* (N.D. California 87-20002, 1987), U.S. ENV'T PROT. AGENCY, https://perma.cc/7ZL2-D2CD (type "Custom Food"

In seven prosecutions, or 30% of overall prosecutions reviewed, the primary crime was asbestos related. In each of these cases, companies faced prosecution following the illegal removal of asbestos during renovations or demolition, and certain cases included charges for the illegal disposal of asbestos as well as violations of workplace standards. Prosecutors brought these cases under TSCA, CAA, or a combination of the criminal provisions in both statutes. The prosecutions of Leeds Industrial Park, Coast-to-Coast, Inc., and Jones Festus Development provide case examples.

EPA prosecuted Leeds Industrial Park for the improper storage of bags containing asbestos following the remediation process;[68] Coast-to-Coast for the illegal removal of some 10,000 linear feet of asbestos;[69] and Jones Festus Development for demolishing eight homes and three commercial buildings without properly remediating asbestos, despite receiving a warning.[70]

In six cases, or 23% of total cases analyzed, the prosecution focused on lead-based paint crimes. There is a financial incentive to ignore the permitting requirements and safety protocols called for under TSCA when removing lead-based paint,[71] leading to a series of cases in which companies renovated or sold properties without properly remediating or disclosing lead-based paint. We provide case examples with the prosecution of Bitner Brothers Construction, District Properties, LLC, and American Mortgage Company.

EPA prosecuted Bitner Brothers Construction for conducting power grinding in a facility containing lead-based paint without observing proper safety and workplace protocols;[72] District Properties, LLC for falsifying twenty-five building permit applications to obscure the hazards

---

in "Defendant"; then press "Search"; then scroll down and click on "Custom Food Machinery"). The company was fined $15,000 and placed on 36 months of probation.

[68] *Summary of Criminal Prosecutions: Leeds Industrial Park*, U.S. ENV'T PROT. AGENCY, https://perma.cc/35NH-RPEP (type "Leeds Industrial Park" in "Defendant"; then press "Search") (last updated Oct. 3, 2023) (summarizing the prosecution of Leeds Industrial Park, Inc., No. 01-0029-01/01CR-W-2 (W.D. Mo. 2003)). The company was sentenced to serve 12 months of probation, pay a $125 special assessment fee, and pay a $5,000 federal fine. *Id.*

[69] *Summary of Criminal Prosecutions: Coast-to-Coast Inc.*, U.S. ENV'T PROT. AGENCY, https://perma.cc/C3L4-NRLH (type "Coast-to-Coast" in "Defendant"; then press "Search") (last updated Oct. 3, 2023) (summarizing the prosecution of Coast-to-Coast, Inc., No. 3:03M330, (2004)). The company was sentenced to pay a $10,000 fine. *Id.*

[70] *Summary of Criminal Prosecutions: Jones Festus Development, LLC*, U.S. ENV'T PROT. AGENCY, https://perma.cc/6NEQ-RMGH (type "Jones Festus Development" in "Defendant"; then press "Search") (last updated Oct. 3, 2023) (summarizing the prosecution of Jones Festus Development LLC, No. 4:06CR261 (E.D. Mo. 2006)). The company was sentenced to pay a $400 special assessment fee and serve 24 months of probation. *Id.*

[71] 40 C.F.R. §§ 745.226(a), 745.227(a) (2022).

[72] *Summary of Criminal Prosecutions: Bitner Brothers Construction*, U.S. ENV'T PROT. AGENCY, https://perma.cc/QR4N-9JNM (type "Bitner Brothers Construction" in "Defendant"; then press "Search") (last updated Oct. 8, 2023) (summarizing the prosecution of Bitner Brothers Construction, No. 1:18-CR-00157, (M.D. Pa. 2018)). The company was sentenced to serve two years of probation and to pay a $10,000 fine. *Id.*

of lead-based paint and renovating a property without following required protocols;[73] and American Mortgage Company for knowingly selling a fourteen unit apartment complex without properly disclosing the presence of lead-based paint.[74] One prosecution was not classifiable by the logic in the table.[75]

VI. DISCUSSION

The results of our study show four important implications for the criminal prosecution of companies under TSCA. The first is that prosecutors secured a significant number of penalties against companies at sentencing. With over $33 million in penalties and fifty-six years of probation, companies faced a great deal of punishment for their violation of TSCA.[76] However, 89% of monetary penalties stemmed solely from the prosecutions of P&W Oil and AAR Contractor, and while those are substantial criminal penalties, removing these reveals that total penalties under TSCA are not terribly significant over time.[77]

Second, our analysis revealed only twenty-six adjudicated criminal prosecutions for companies that violated TSCA, which is less than one prosecution adjudicated annually. Such a finding raises the question of the deterrent value of TSCA prosecutions alone.[78]

---

[73] *Summary of Criminal Prosecutions: District Properties, LLC*, U.S. ENV'T PROT. AGENCY, https://perma.cc/G8VN-CPUA (type "District Properties, LLC" in "Defendant"; then press "Search") (last updated Oct. 9, 2023) (summarizing the prosecution of District Properties, LLC, 1:19-CR-00196, (D. D.C. 2020)). The company was sentenced to pay $150,000 in fines, serve two years of probation, and fund three lead-based paint awareness seminars. *Id.*

[74] *Summary of Criminal Prosecutions: American Mortgage Company*, U.S. ENV'T PROT. AGENCY, https://perma.cc/F8K8-MRBY (type "American Mortgage Company" in "Defendant"; then press "Search") (last updated Oct. 9, 2023) (summarizing the prosecution of American Mortgage Company, No. 4:05-CR-00613-RWS, (E.D. Mo. 2006)). The company was sentenced to serve 24 months of probation and pay a $125 special assessment fee and a $25,000 fine. *Id.*

[75] *Summary of Criminal Prosecutions: Americlean*, U.S. ENV'T PROT. AGENCY, https://perma.cc/3Q9G-XVMS (type "Americlean" in "Defendant"; then press "Search") (last updated Oct. 9, 2023) (summarizing the prosecution of Americlean, No. CRN-99-0163-HDM-RAM, (D. Nev. 2001)). The company was prosecuted for selling used oil to customers without determining if it met requirements, in an effort to engage in fraud and to falsify reports. *Id.* The company and its owner, Bryan Fabian, were indicted for wire fraud, false statements, and TSCA violations. *Id.* The company was sentenced to pay a $2,000 fine and $1,800 in restitution. *Id.*

[76] *See supra* Figures 3 & 4 and accompanying text (672 months is equivalent to 56 years).

[77] *See supra* note 59 and Table 2.

[78] Michael J. Lynch, *The Sentencing/Punishment of Federal Environmental/Green Offenders, 2000–2013*, 38 DEVIANT BEHAV. 991, 993 (2017). These prosecutions occur within the context of state, local, and civil enforcement tools and so their deterrent value is hard to assess in isolation.

Third, as suggested by previous research, aggravating factors appear to play a role in prosecutions.[79] One measure to look at this phenomenon is the number of cases involving aggravating factors, such as conspiracy, false statements, mail fraud, and other criminal offenses, in addition to environmental crimes. In thirteen prosecutions, or 50% of total cases analyzed, prosecutors charged defendants with one or more of these crimes, suggesting a fairly high level of criminal activity alongside violations of environmental law.

The final finding of note is that our analysis did not reveal a linear trend in TSCA prosecutions, beginning with early efforts to combat environmental crime in the 1980s through present day. Rather, prosecutions grew slowly through the 1990s, peaking in the first decade of the 2000s, and then declined. Although there is no golden era for criminal prosecution of companies under TSCA, prosecutions seem to be on the decline. Possible reasons for this may include increased use of other, broader statutes to charge companies for environmental crimes,[80] or the impact of the Trump administration or COVID-19 on more recent prosecutions.[81] At the same time, another explanation for the decline in criminal prosecutions may be the long-term divestment from criminal enforcement over the past two decades—a trend discussed in greater depth in Part VII.[82]

VII. CONCLUSION

Criminal enforcement grew up and became institutionalized during the Reagan administration, a time of partisan conflict over the environment, dimming morale, slashing enforcement efforts, and generally weakening EPA.[83] Despite this, Congress's support for enforcement and the U.S. Sentencing Commission's desire to enhance and standardize punishments for a variety of federal laws resulted in EPA and DOJ creating a system for policing and prosecuting environmental crimes.[84] The

---

[79] For studies showing the role of aggregating factors here, see Uhlmann, *Environmental Crime*, *supra* note 48; Uhlmann, *Environmental Crime Redux*, *supra* note 48.

[80] Prosecutors may have used TSCA in only more limited circumstances as allowed under the statute, which helps to explain why prosecutions focused primarily on PCBs that leaked from electrical transformers, asbestos crimes that could be prosecuted under TSCA, CAA, or both, and a limited number of lead-based paint crimes.

[81] Joshua Ozymy et al., *supra* note 46, at 49.

[82] For a discussion of the decline in prosecutions, see Joel A. Mintz, *Running on Fumes: The Development of New EPA Regulations in an Era of Scarcity*, 46 ENV'T L. REP. 10510, 10511 (2016).

[83] Cally Carswell, *How Reagan's EPA Chief Paved the Way for Trump's Assault on the Agency*, NEW REPUBLIC (Mar. 21, 2017), https://perma.cc/VH2N-K8PU. When Anne Gorsuch functionally disbanded the agency's Office of Enforcement, criminal enforcement functions became dispersed across EPA until she was removed from office and William Ruckelshaus was reinstated as Administrator. EPA 2003 REVIEW, *supra* note 35, at 5.

[84] *See* Mushal, *supra* note 25, at 1105 n.8 (discussing how Congress enacted statutes which resulted in criminal punishments for environmental offenders); *id.* at 1108–09 (discussing how the EPA and DOJ adopted systems for criminal enforcement and prosecu-

Trump administration certainly undermined environmental enforcement, but did so in a manner federal agencies are familiar with, as budget and personnel constraints often fluctuate with changes in administration.[85] Divestment from criminal enforcement, however, cannot be pinned solely on President Reagan and President Trump. As bipartisanship over the environment has waned since the close of the Clinton Era, so too has interest in reinvesting in the apparatus, leading to a stagnation in enforcement efforts.[86] Our analysis of criminal prosecutions under TSCA reveals this trend and the trend is seen in the context of other environmental statutes as well.[87] Both political parties had been disinvesting in the environment in a substantive way for decades before President Trump came on the scene.

To illustrate, an examination of agency budgets provides a starting point. Take EPA, whose high-water marker for budgetary appropriations, if adjusted for inflation, occurred in 1980 and nominal staffing peaked at 18,110 in 1999.[88] Examining ENRD's budget shows a persist-

---

tion); *id.* at 1112 (discussing the U.S. Sentencing Commission's efforts to standardize sentencing for federal offenses).

[85] *See* Carswell, *supra* note 83 (discussing how the Trump administration's approach to the EPA mirrors that of the Reagan administration). Some 700 EPA staff left the agency or retired during the Trump administration and those positions were not replaced, setting the stage for further stagnation in the agency's capacities. Jay Michaelson, *The Ten Worst Things Scott Pruitt's EPA Has Already Done*, DAILY BEAST (Dec. 29, 2017), https://perma.cc/939L-MAPB; *see also* Elgie Holstein, *The Severe, Real-World Casualties of Trump's EPA Budget Cuts*, ENV'T DEF. FUND (Mar. 3, 2017), https://perma.cc/G2WS-HG8B (describing the Trump administration's budget cuts to the EPA); Valerie Volcovici, *U.S. EPA Employees Protest Trump's Pick to Run Agency*, REUTERS (Feb. 6, 2017), (describing concerns that cutting staff will disable the EPA from enforcing environmental regulations); *Trump's War on the Environment*, ENV'T INTEGRITY PROJECT, https://perma.cc/P6T9-HVDC (last visited Oct. 7, 2023) (describing candidate Trump's desire to cut the EPA).

[86] *See generally* Judson W. Starr, *Turbulent Times at Justice and EPA: The Origins of Environmental Criminal Prosecutions and the Work that Remains*, 59 GEO. WASH. L. REV. 900, 900–05 (1991) (describing the bureaucratic hurdles and successes of earlier environmental criminal prosecution); Richard J. Lazarus, *Assimilating Environmental Protection into Legal Rules and the Problem with Environmental Crime*, 27 LOY. L.A. L. REV. 867–70 (1994) (describing the difficulty in assimilating environmental protection values into criminal law and the results of increased criminal prosecution in the 1980s and 90s); Richard Lazarus, *Environmental Law has Fallen 'In Arrears'*, HARV. L. TODAY (May 3, 2013), https://perma.cc/V6R2-5JKM (describing the stagnation of environmental law since 1990 and the outdated environmental statutes currently in effect).

[87] *See* David M. Uhlmann, *Strange Bedfellows*, 25 ENV'T L.F. 40, 40–44 (2008) (explaining that enforcement received support during the George W. Bush administration, but these resources became strained and redirected to the War on Terror); Mushal, *supra* note 25, at 1107; Joel A. Mintz, *Neither the Best of Times Nor the Worst of Times: EPA Enforcement During the Clinton Administration*, 35 ENV'T L. REP. 10390, 10390, 10408 (2005) (noting that EPA enforcement waned after the Clinton administration).

[88] *EPA's Budget and Spending*, U.S. ENV'T PROT. AGENCY, https://perma.cc/YFW8-ZJZU (last visited Oct. 3, 2023); U.S. INFLATION CALCULATOR, https://perma.cc/ZZH7-FBZU (last visited Oct. 3, 2023). *See also* Eco Watch, *700+ Employees have Left the EPA Under Trump: Loss of Scientists, Staffers Undermines Agency's Purpose*, PUB. EMPS. ENV'T RESP. (Dec. 28, 2017), https://perma.cc/4CFX-K3YA (explaining that under Trump, 700

ing decline in substantive support.[89] Offsetting this trend is important and the Biden administration has made progress that is worth mentioning through the commitment of additional funding for the environment. However, the enacted budgets for FY 2022 of $133 million and $9.5 billion for ENRD and EPA, respectively, do not come close to reversing the longer-term trend.[90]

Nonetheless, EPA and DOJ are finally beginning to prioritize environmental justice in their enforcement efforts due to the Biden administration's broader Justice40 Initiative.[91] While vulnerable communities certainly require increased efforts to enforce air, water, and hazardous waste programs, the administration should also consider criminal enforcement under TSCA alongside enhanced enforcement under the CAA, CWA, and RCRA against large industrial polluters. TSCA offers many other criminal enforcement avenues that may be less costly to litigate than other statutes and more feasible, given limited resources.[92] Our findings show crimes related to PCBs, asbestos, and lead-based paint are all germane to problems that continue to plague low-income and other marginalized communities throughout the United States.

The dumping of PCBs in low-income communities of color was one of the first major crimes that called attention to the systematic siting of hazardous waste disposal facilities in the backyards of marginalized

---

EPA employees left the agency, dropping the number to 14,172 until the most recent budgetary appropriation, but this just exacerbated a longer-term trend).

89 ENV'T & NAT. RES. DIV., U.S. DEP'T OF JUST., FY 2023 PERFORMANCE BUDGET CONGRESSIONAL BUDGET JUSTIFICATION 15 (2023), https://perma.cc/V9SX-GPKT.

90 *Statement by Administrator Regan on the President's FY 2022 Budget*, U.S. ENV'T PROT. AGENCY (June 2, 2022), https://perma.cc/SX47-FZJ2.

91 *Environmental Justice in Enforcement and Compliance Assurance*, U.S. ENV'T PROT. AGENCY, https://perma.cc/46FC-RQBQ (last updated Aug. 28, 2023). Justice40 allocates federal resources to areas of needed investments for disadvantaged communities, per Executive Order 14008. *Justice40: A Whole-Of-Government Initiative*, THE WHITE HOUSE, https://perma.cc/K3HZ-5ZYY (last visited Oct. 11, 2023). Areas of investment include climate change, water infrastructure, energy, and the remediation and reduction of legacy pollution. *Id.* Executive Order 14008 also created the White House Environmental Justice Interagency Council (IAC) to create collaborations between the White House and local environmental justice groups to address historical injustices. *White House Environmental Justice Interagency Council*, THE WHITE HOUSE, https://www.whitehouse.gov/environmentaljustice/white-house-environmental-justice-interagency-council/ (last visited Nov. 13, 2023) (explaining the scope of the Interagency Council's directive under Executive Order 14008); *New Enforcement Strategy Advances President Biden's Environmental Justice Agenda*, U.S. ENV'T PROT. AGENCY (May 5, 2022), https://perma.cc/N3LE-P46L (explaining the goals Executive Order 14008 set for the White House Environmental Justice Interagency Council); *Environment and Natural Resources Division Distributes Memorandum Summarizing Enforcement Policies and Priorities*, U.S. DEP'T OF JUST. (Jan. 19, 2021), https://perma.cc/TKT3-QND8 (detailing President Biden's new enforcement strategy under the Justice40 initiative).

92 For a recent enforcement example, see Julia Giarmoleo, *Companies to Pay for Cleanup of Groundwater at Montrose Superfund Site Following Settlement with EPA, Justice Department, California Department of Toxic Substances Control*, U.S. ENV'T PROT. AGENCY (Oct. 5, 2021), https://perma.cc/4V3C-D9LP.

communities.[93] As the analysis shows, expanded use of prosecutions for PCB violations presents a viable avenue to enhance protections for these communities.[94] EPA and DOJ are already showcasing recent enforcement under asbestos rules that could further apply under TSCA criminal provisions, as well as the CAA, based on the cases reviewed.[95] Lead-based paint remains a significant public health problem that plagues low-income communities and communities of color, as well.[96] And while EPA is showcasing enforcement efforts under lead-based paint rules,[97]

---

[93] The Group Warren County Citizens Concerned (WCCC) organized in 1978 to prevent a planned PCB landfill. The group began combining their efforts with established civil rights groups and centered the broader narrative of racially motivated environmental injustice of such sites. The same year, Dr. Robert Bullard was collecting data on disposal facilities in Houston, Texas as part of a lawsuit and began some of the earliest research on environmental justice, having found city officials intentionally placed these facilities in minority communities. The former might be properly credited as the first grassroots organization to mobilize on behalf of an environmental justice cause and bring attention to the broader problem, while the latter might be credited as the first researcher to find the study of environmental justice as an academic enterprise. Both the WCCC and Bullard are incredibly important for drawing national attention to the problem of toxic dump sites, emissions, and other industrial hazards located disproportionally in low-income, communities of color. While not an environmental justice issue, Lois Gibbs can be credited with bringing international attention to the problem of toxic waste dumps strewn throughout the country when, in 1978, she brought attention to the Love Canal crisis that ultimately lead to the creation of the Superfund. She went on to train numerous grassroots organizations to organize for political action and fight for change as Director of the Center for Health, Environment and Justice (CHEJ). *See Warren County Citizens Concerned (WCCC)*, WE BIRTHED THE MOVEMENT, UNC Library Exhibits, https://perma.cc/KC92-WW63 (last visited Oct. 11, 2023); *Robert Bullard*, THE HISTORYMAKERS (Apr. 12, 2011), https://perma.cc/25NU-H3LJ (giving an overview of Robert Bullard's biography); *Our History*, THE CENTER FOR HEALTH, ENVIRONMENT AND JUSTICE, https://perma.cc/7K6G-NTUA (last visited Nov. 13, 2023) (summarizing the history of the Center for Health, Environment and Justice).

[94] Given the ban on PCB manufacture and use in most applications, the use of TSCA in this manner to ramp up enforcement may run up against natural limits.

[95] *See, e.g.*, *Project Monitor and Abatement Company Owner Sentenced to Jail and Fined $399,000 for Conspiring to Violate Asbestos Regulations*, OFF. OF PUB. AFFS., U.S. DEP'T OF JUST. (Dec. 1, 2021), https://perma.cc/XR7X-QB23 (describing prosecution of conspiracy to violate CAA regulations regarding asbestos).

[96] Alix Winter & Robert Sampson, *Is Lead Exposure A Form of Housing Inequality?*, HARV. U. JOINT CTR. FOR HOUS. STUD. (Jan. 2, 2020), https://perma.cc/7JYE-K68U (discussing the prevalence of lead paint in low-income housing and how this may be a form of housing inequality); *Childhood Lead Poisoning Prevention: Populations at High Risk*, CTRS. FOR DISEASE CONTROL & PREVENTION (Oct. 29, 2021), https://perma.cc/7ZYC-MR2N (discussing how children living in low-income housing are at the greatest risk of lead paint exposure); Emily A. Benfer, *Contaminated Childhood: The Chronic Lead Poisoning of Low-Income Children and Communities of Color in the United States*, HEALTH AFFS. (Aug. 8, 2017), https://perma.cc/T3GT-NVYG (discussing how low-income children of color are the most susceptible to lead poisoning). Up to 10 million homes in the United States connect to water through lead pipes. *FACT SHEET: The Biden-Harris Lead Pipe and Paint Action Plan*, THE WHITE HOUSE (Dec. 16, 2021), https://perma.cc/5QFD-WUBX. The Biden Administration has committed millions to replace lead pipes throughout the country and to remediate lead-based paint hazards. *Id.*

[97] *EPA's Lead-based Paint Enforcement Helps Protect Children and Vulnerable Communities—2021*, U.S. ENV'T PROT. AGENCY (Oct. 27, 2021), https://perma.cc/CT5T-44F6.

stepping up criminal enforcement efforts under TSCA should also become part of the agency's overall strategy, along with greater funding for remediation of lead-based paint and the replacement of lead service delivery pipes. A concerted TSCA enforcement strategy to prioritize the policing and prosecution of environmental crimes in marginalized communities should thus include additional oversight of hazardous waste crimes, lead-based paint crimes, and asbestos crimes. This strategy will be more effective alongside greater efforts to provide federal financial support to remove aging lead pipes, lead-based paint, and asbestos hazards in these communities.