

## Hazardous Criminals: Prosecuting Individuals for Superfund Crimes

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### ABSTRACT

*Marginalized communities suffer disproportionate health burdens from living near toxic waste sites. The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), also known as Superfund, contains criminal provisions that allow prosecutors to seek stiff penalties for environmental crimes including significant harm or culpable conduct, yet we know little of how such crimes have been prosecuted under CERCLA historically, particularly the prosecution of individuals. Through content analysis of 2,728 prosecutions resulting from U.S. EPA criminal investigations, 1983-2021, we select all cases where individual defendants were prosecuted under CERCLA. Findings show that 36 prosecutions were adjudicated, resulting in over \$1.8 million in monetary penalties, 137 years of probation, and 99 years of incarceration. Prosecutions centered on hazardous waste crimes (61 percent of prosecutions), asbestos crimes (33 percent), and chemical crimes (three percent). We conclude with a discussion of the need for added resources for enhanced criminal enforcement of environmental laws.*

### ARTICLE CONTENTS

I. CERCLA OVERVIEW .....	106
II. ENFORCING CERCLA .....	108
III. CRIMINAL ENFORCEMENT REMEDIES .....	109
IV. DATA AND METHOD.....	113
V. RESULTS .....	114
VI. DISCUSSION .....	122
VII. CONCLUSION.....	123

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## INTRODUCTION

Albert Tumin abandoned three fifty-five-gallon barrels of ethyl ether in an empty lot in a neighborhood in Rockaway Queens.<sup>1</sup> In the commission of his crime, Tumin disposed of the hazardous waste in a manner that put other persons in imminent danger of serious bodily injury or death and was charged with knowing endangerment, illegal transportation and disposal of hazardous waste without a permit under the Resource Conservation and Recovery Act (RCRA), and failure to notify officials of the release of a hazardous substance under the Comprehensive, Environmental Response, Compensation, and Liability Act (CERCLA), also known as Superfund.<sup>2</sup> Tumin was convicted of all charges and sentenced to sixty months of incarceration.<sup>3</sup>

The typical approach that environmental agencies take when individuals transgress the law is to attempt to return them to compliance, but in cases involving criminal violations of law, such as those by Albert Tumin, which tend to be “knowing” violations of law that involve significant harm and/or culpable conduct, criminal prosecution may be employed to punish the offender and deter future environmental violations.<sup>4</sup> When Congress amended federal environmental statutes to

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<sup>1</sup> *United States v. Tumin*, No. 87-CR-488 (E.D.N.Y. Apr. 13, 1988). Criminal liability for CERCLA violations is discussed in the context of the Tumin prosecution and otherwise, here: Steven Zipperman, *The Park Doctrine—Application of Strict Criminal Liability to Corporate Individuals for Violation of Environmental Crimes*, 10 UCLA J. ENV'T L. & POL'Y 123, 161 (1991).

<sup>2</sup> Throughout the manuscript CERCLA will be referred to as Superfund; the latter designation being widely used and arguably better understood by legal scholars and the general public.

This was the first prosecution of an individual, or in this case specifically a corporate officer for knowing endangerment under RCRA's criminal provisions, meaning his actions regarding the illegal dumping of hazardous waste put others in immediate danger of bodily harm or death, typically charged in the worst environmental crimes. RCRA was amended with criminal provisions in 1984 to deal with such issues. See Robert G. Schwartz, Jr., *Criminalizing Occupational Safety Violations: The Use of “Knowing Endangerment” Statutes to Punish Employers Who Maintain Toxic Working Conditions*, 14 HARV. ENV'T L. REV. 487, 487; Resource Conservation and Recovery Act of 1976 (42 U.S.C. §6901); Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. §§ 9601–57. Individuals or company designees are required to report the release of oil, chemical, radiological, or other discharges to the National Response Center (NRC), staffed by the U.S. Coast Guard. See U.S. COAST GUARD NAT'L RESPONSE CTR., <https://nrc.uscg.mil/> (last visited Mar. 29, 2023). An owner of a company or corporate designee in charge of handling or managing hazardous wastes can be criminally punished under CERCLA, if they fail to report the release of a hazardous substance, provides false or misleading information to the NRC, fails to report a hazardous waste disposal site whether they currently or previously owned it, or fail to keep proper records of the site. See Roxanne R. Rapson & Scott R. Brown, *Mens Rea Requirements Under CERCLA: Implications for Corporate Directors, Officers and Employees*, 6 SANTA CLARA HIGH TECH. L. J. 377, 380–82 (1991).

<sup>3</sup> All but twenty-four months of incarceration were suspended. For a discussion of “knowing” violations in environmental criminal prosecutions. See Karen M. Hansen, “Knowing” Environmental Crimes, 16 WM. MITCHELL L. REV. 987 (1990); *Resource Conservation and Recovery Act (RCRA)*, U.S. ENV'T PROT. AGENCY, <https://www.epa.gov/fedfacts/resource-conservation-and-recovery-act-rcra> (Nov. 9, 2022).

<sup>4</sup> Memorandum from Earl E. Devaney, Director, Office of Criminal Enforcement to All EPA Employees Working in or in Support of the Criminal Enforcement Program (Jan. 12, 1994),

include criminal provisions, it meant to send a deterrent message to prospective criminals, as those provisions contained significant penalties including incarceration for serious environmental crimes, such as placing people in danger of imminent harm or bodily injury.<sup>5</sup> Yet, the empirical knowledge of how CERCLA criminal provisions have been used to prosecute individual offenders and the outcomes of those prosecutions historically is still limited.<sup>6</sup>

This article addresses this shortcoming in the literature, through content analysis of 2,728 criminal investigations undertaken by the U.S. Environmental Protection Agency (EPA) from 1983-2021, selecting all related prosecutions of environmental crimes under CERCLA, and then selecting all prosecutions of individual defendants for the analysis. This approach allows one to take a three-fold path, including: showing broader themes in prosecutions and sentencing patterns over time since the federal environmental crime apparatus institutionalized in the early 1980s; analyzing outliers in sentencing patterns to illustrate large

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<https://www.epa.gov/sites/production/files/documents/exercise.pdf>; *Types of and Approaches to RCRA Corrective Action Enforcement Actions*, U.S. ENV'T PROT. AGENCY (Jan. 5, 2023), <https://www.epa.gov/enforcement/types-and-approaches-rcra-corrective-action-enforcement-actions>.

<sup>5</sup> The general implications for civil and criminal liability under CERCLA likely apply to companies and corporate officers. Yet individuals may also be held liable for such actions, including the cost of cleanup. Owners of companies are clearly liable for contaminated facilities or other hazardous waste spills. Under an "authority to control" standard, the courts have found CERCLA liabilities extend to those individuals, shareholders, parent corporations, if there was active, substantial control, but CERCLA was not clear enough on this front, leading to numerous court interpretations. See David R. Rich, *Personal Liability for Hazardous Waste Cleanup: An Examination of CERCLA Section 107*, 13 B.C. ENV'T AFFS. L. REV. 643, 657-58, 663-64, 671 (1986); Mark R. McPhail, *Environmental Law: CERCLA Liability of Corporate Parents for Their Dissolved or Undercapitalized Subsidiaries*, 44 OKLA. L. REV. 345, 345-47, 363 (1991); Timothy Holly, *Potential Responsibility under CERCLA: Canadyne-Georgia Corp. v. Nationsbank, N.A. (South) — An Illustration of Why We Need a Common Federal Rule Defining Owned and Operated*, 12 VILL. ENV'T L. J. 119 (2001); Kathryn R. Heidt, *Liability of Shareholders Under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA)*, 52 OHIO STATE L. J. 133 (1990); *Indirect Owner/Operator Liability Under CERCLA*, FINDLAW (Jan. 11, 2018), <https://corporate.findlaw.com/law-library/indirect-owner-operator-liability-under-cercla.html>; *Superfund Landowner Liability Protections*, U.S. ENV'T PROT. AGENCY (Dec. 9, 2022), <https://www.epa.gov/enforcement/superfund-landowner-liability-protections>. Corporate officers possess a burden of knowledge and obligation to safeguard their employees and the public from harm from hazardous waste. See Rita Cain, *Shareholder Liability under Superfund: Corporate Veil or Vale of Tears*, 17 J. LEGIS. 1, 4 n.26, 8 (1991); Barbara DiTata, *Proof of Knowledge Under RCRA and Use of the Responsible Corporate Officer Doctrine*, 7 FORDHAM ENV'T L. REV. 795 (2011). When writing CERCLA, Congress also held liable responsible parties that "arranged for" the disposal of hazardous waste, leaving the courts to interpret such a standard for "arranger liability." See David W. Lannetti, *"Arranger Liability" Under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): Judicial Retreat from Legislative Intent*, 40 WM. & MARY L. REV. 279, 279 (1998).

<sup>6</sup> For empirical research on CERCLA and RCRA criminal enforcement, see Joshua Ozymy & Melissa L. Jarrell, *Failure to Notify: Exploring Charging and Sentencing Patterns in Superfund Criminal Prosecutions*, 50 ENV'T L. REP. 10723 (2020). Joshua Ozymy & Melissa L. Jarrell, *Does the Criminal Enforcement of Federal Environmental Law Deter Environmental Crime? The Case of the U.S. Resource Conservation and Recovery Act*, 11 ENV'T & EARTH L. J. 65 (2021).

penalty prosecutions and their influence on overall trends; and finally, drawing out the broader themes that emerge in prosecutions historically to understand the types and prevalence of crimes prosecuted under CERCLA and to bring order to this universe. This article follows the introduction with an overview of CERCLA, discussion of criminal enforcement, sanctioning, the data and analytical approach employed, and then discussion and conclusions.

### I. CERCLA OVERVIEW

Congress passed RCRA in the 1970s due to public concerns over hazardous waste, alongside a number of new or revised environmental statutes covering a wide variety of environmental media, including the Clean Water Act (CWA), Safe Drinking Water Act (SDWA), Toxic Substances Control Act (TSCA), Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), and the Clean Air Act (CAA).<sup>7</sup> Superfund was passed into law in 1980 as a complementary law for managing hazardous waste, as it empowered the EPA to investigate, designate, and remediate contaminated sites throughout the United States.<sup>8</sup> Superfund acted as a master fund that allowed the EPA to charge the industry to pay for the cleanup and remediation of contamination, which includes chemical and other hazardous waste spills, industrial and other accidents, and emergency discharges or releases of pollution.

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<sup>7</sup> Clean Water Act, 33 U.S.C. §§ 1251–1389; Toxic Substances Control Act, 15 U.S.C. §§ 2601–2629; Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. §§ 135–136; Clean Air Act, 42 U.S.C. §§ 7401–7671q. Under RCRA, EPA is authorized to oversee 6,600 facilities and 20,000 processing units across the United States and oversees three billion tons of solid, industrial, and hazardous waste. While RCRA authorizes EPA to oversee the lifecycle of waste, CERCLA empowers EPA to find responsible parties to remediate pollution or in the case such parties cannot be located or compelled to do so, to do so themselves or at least to prioritize doing so. See Thomas P. Eichler, *The Status of RCRA in the Mid-Atlantic States*, 26 ENV'T SCI. & POL'Y FOR SUSTAINABLE DEV. 2, 2–3 (1984). Russell Phifer, *RCRA — The First 30 Years of Hazardous Waste Regulation*, 17 J. CHEM. HEALTH & SAFETY 4 (2010). Classifying a substance as hazardous waste is important for coming under RCRA rules. See Jim Ninkovich, *EPA Broadens RCRA Definition of “Hazardous Waste” to Include Mixtures and Derivatives*, 31 ECOLOGY L. Q. 781, 781, 784 (2004); Lynn L. Bergeson, *Re- Re- Re-Defining RCRA Solid Wastes*, POLLUTION ENG'G 32, 32 (2004). RCRA centers on permitting, rather than reducing hazardous waste or cleanup, the latter being the most important complement CERCLA provides for managing hazardous waste spills and other pollution effectively. See Casey Roberts, *D.C. Circuit Affirms EPA Trend Towards Reducing RCRA Requirements for Recycling of Hazardous Secondary Materials*, 32 ECOLOGY L. Q. 749 (2005). When CERCLA was passed 1980, Congress also passed the Hazardous and Solid Waste Disposal Amendments, effectively exempting the extractive industry from regulation under RCRA and thus the ability to manage these as hazardous waste is limited. See Solid Waste Disposal Act Amendments of 1980, Pub. L. No. 96-482, § 7, 94 Stat. 2334, 3226 (codified as amended in 42 U.S.C. § 6921). These are also known as the Bentsen and Beville amendments for their sponsors, Senators Lloyd Bentsen and Thomas Beville. David L. Hippensteel, *The RCRA Exemption for Oil and Natural Gas Exploration and Production Wastes—What You May Not Know*, 6 ENV'T GEOSCIENCES 106, 106–09 (1999).

<sup>8</sup> *Summary of the Comprehensive Environmental Response, Compensation, and Liability Act (Superfund)*, U.S. ENV'T PROT. AGENCY (Sept. 12, 2022), <https://www.epa.gov/laws-regulations/summary-comprehensive-environmental-response-compensation-and-liability-act>.

Superfund grants the EPA the authority to find potentially responsible parties to remediate contaminated sites, as well as responsible parties for emergency releases of pollution. Sites that are prioritized for remediation are placed on the National Priorities List (NPL). The Office of Superfund Remediation and Technology (OSRTI) administers the NPL and the some 1,333 current sites that are current on the list.<sup>9</sup> While Superfund was originally funded with taxes on businesses that generated hazardous waste, Congress failed to renew it in 1995 and the EPA's ability to remediate orphan sites, where no responsible party can be acknowledged, has since been limited.<sup>10</sup> In 1986, Superfund was further amended with the Superfund Authorization and Reorganization Act (SARA) that reauthorized the legislation, created the Emergency Planning and Community Right-to-Know Act (EPCRA) that directs states to create State Emergency Response Commissions (SERC), and develops Local Emergency Planning Committees (LEPCs) to alert residents across the country for chemical spills and other hazardous emergencies.<sup>11</sup>

The EPA maintains a compliance monitoring strategy to focus enforcement efforts under CERCLA. Compliance monitoring focuses on finding companies or individuals responsible for contaminating a site and to either negotiate an agreement for a responsible party to remediate the problem, or to pay the EPA or a third party to remediate a hazardous waste contamination site.<sup>12</sup> The EPA monitors the progress of site remediation to ensure responsible parties are holding up their end of the agreement.<sup>13</sup> The tools the EPA may seek to use to enforce their authority under CERCLA may focus on administrative, civil, or criminal remedies.

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<sup>9</sup> Currently, there are 1,336 NPL sites, with forty proposed, and 453 since deleted. *See Superfund: National Priorities List (NPL)*, U.S. ENV'T PROT. AGENCY, <https://www.epa.gov/superfund/superfund-national-priorities-list-npl> (last visited Feb. 21, 2023).

<sup>10</sup> The Superfund Trust fund is currently funded when EPA collects funds from responsible parties through litigation, settlements or other legal action and currently has collected about \$8.5 billion in special accounts, with \$5 billion spent on remediation or cleanup actions and \$3.5 billion reserved for future issues. *See Superfund Special Accounts*, U.S. ENV'T PROT. AGENCY, <https://www.epa.gov/enforcement/superfund-special-accounts> (last updated Feb. 8, 2023).

<sup>11</sup> Emergency Planning and Community Right-to-Know Act of 1986, 42 U.S.C. §11001; *Summary of the Emergency Planning and Community Right-to-Know Act*, U.S. ENV'T PROT. AGENCY, <https://www.epa.gov/laws-regulations/summary-emergency-planning-community-right-know-act> (last updated Nov. 21, 2022).

<sup>12</sup> *Superfund (CERCLA) Compliance Monitoring*, U.S. ENV'T PROT. AGENCY, <https://www.epa.gov/compliance/superfund-cercla-compliance-monitoring> (last updated Sept. 13, 2022).

<sup>13</sup> Responsible parties may also be liable to maintain institutional controls, which "is a non-engineering measure intended to affect human activities in such a way as to prevent or reduce exposure to hazardous substances," thus being responsible for the lifecycle of the hazardous waste control method if the remediation requires persistent control. *See id.*

## II. ENFORCING CERCLA

When an individual violates laws governing chemical spills, hazardous waste, or other violations regulated under Superfund, the EPA typically attempts to have the individual come back into compliance with the law by using administrative or civil remedies.<sup>14</sup> Administrative tools to remedy non-compliance may include the EPA or a state agency issuing a warning or notice of violation, an order of correction, issuing fines for those individuals that do not comply with the agency's orders, or in cases where these are insufficient to regain compliance, the EPA may seek a civil judicial remedy for the violation.<sup>15</sup> Civil remedies are broad and may take the form of temporary or injunctive relief to compel an individual to cease polluting temporarily or permanently, issuing administrative orders on consent that require the individual to remediate pollution, clean up a chemical or hazardous waste spill, or perform some other series of related actions. Remedies may also include creating an environmental monitoring plan or mitigation plan, or typically for companies or organizations, negotiating a supplemental environmental project that allows the entity to regain and then go beyond compliance.<sup>16</sup>

RCRA regulates the use, handling, and disposal of hazardous wastes, whereas CERCLA provides a liability structure for the clean-up and remediation of hazardous waste disposal sites and a basis for emergency actions to clean up spills and other situations of more immediate harm. A response action by a responsible party that satisfies a RCRA corrective action should also in most circumstances satisfy a CERCLA corrective action. A responsible party should seek to ensure they settle all CERCLA and RCRA claims in any settlement agreement with EPA to avoid any future claims of unknown liability.<sup>17</sup> If none of these civil remedies prove successful to compel or negotiate compliance

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<sup>14</sup> *Types of and Approaches to RCRA Corrective Action Enforcement Actions*, *supra* note 4. *Basic Information on Enforcement*, U.S. ENV'T PROT. AGENCY,

<https://www.epa.gov/enforcement/basic-information-enforcement> (last updated Nov. 2, 2022).

<sup>15</sup> Memorandum from Lawrence E. Starfield, Acting Assistant Adm'r, to Reg'l Couns. & Deputies, Enf't & Compliance Assurance Div. Dir's & Deputies, OECA Off. Dir's & Deputies, <https://www.epa.gov/sites/default/files/2021-04/documents/usingallappropriateinjunctiverelieftoolsincivilenforcementsettlement0426.pdf>; Basic Information on Enforcement, *supra* note 14.

<sup>16</sup> Memorandum from Robert Van Heuvelen, Dir., Off. Regul. Enf't, to Reg'l Counsels, Regions I – X, Dir., Off. Env't. Stewardship, Region 1, Dir., Compliance Assurance & Enf't Div., Region VI, Dir., Off. Enf't, Compliance, & Env't Just., Region VIII, Reg'l Enf't Coordinators, Regions I–X, <https://www.epa.gov/sites/default/files/documents/gpoladminlitig-mem.pdf>; Memorandum from Susan Shinkman, Dir. Off. Civ. Enf't, to Reg'l Couns., Reg'l Enf't Div. Dirs., Reg'l Enf't Coordinators, Off. Civ. Enf't Div. Dirs., <https://www.epa.gov/sites/default/files/2016-08/documents/2ndeditionsecuringmitigationemo.pdf>; *Supplemental Environmental Projects (SEPs)*, U.S. ENV'T PROT. AGENCY, <https://www.epa.gov/enforcement/supplemental-environmental-projects-seps> (last updated Jan. 20, 2023).

<sup>17</sup> *RCRA Corrective Action versus Cercla Response*, CLIMATE POL'Y WATCHER, <https://www.climate-policy-watcher.org/hazardous-wastes/rcra-corrective-action-versus-cercla-response.html> (last updated Sept. 9, 2022).

with the law by themselves or in conjunction with other civil or administration remedies, a civil judicial remedy, including a civil lawsuit, may be pursued by the EPA, where an individual may be found guilty in court and liable for any damages or restitution incurred for pollution and/or costs involved by the EPA or a third party for cleaning up or remediating pollution.<sup>18</sup> An individual may also enter into a consent decree to avoid pleading guilty and to regain compliance.<sup>19</sup>

### III. CRIMINAL ENFORCEMENT REMEDIES

Where civil and administrative remedies center on regaining compliance if an individual transgresses hazardous waste laws governed under RCRA or CERCLA, criminal remedies center on punishment and deterrence.<sup>20</sup> A global movement began in many countries in the 1970s that acknowledged the need to develop a criminal process for punishing serious environmental crimes, which required the institutionalization of criminal statutes in environmental law, policing resources, and prosecutorial specialization to properly punish serious crimes and offenders.<sup>21</sup>

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Cleaning up hazardous waste is authorized under “imminent hazard” provisions of RCRA, so that a responsible party is subject to strict and severable liability for the costs incurred by cleanup, and EPA is authorized to clean up pollution in emergency situations via CERCLA as well. *See* Kenneth K. Kilbert, *Re-Exploring Contribution under RCRA’s Imminent Hazard Provisions*, 87 NEB. L. REV. 420, 427 (2008).

<sup>18</sup> EPA is authorized to issue orders that on consent (i.e. with agreement) or they may issue unilateral orders on demand that compel an entity to comply with their permit. If a responsible party fails to comply or ignores EPA’s order, EPA has authority to clean up and remediate pollution and seek reimbursement costs for their efforts, as well as civil penalties in federal court. Civil judicial actions tend to follow efforts to induce compliance via other civil or administrative channels and are reserved for serious cases of non-compliance with the law having significant effect or causing imminent endangerment. EPA also possesses the authority to have a federal court enforce their orders. Generally, EPA can choose to enforce the law and take correction actions for hazardous waste via RCRA or CERCLA and cleanup up actions may follow roughly the same course. *See* Types of and Approaches to RCRA Corrective Action Enforcement Actions, *supra* note 4; *See also* Timothy O. Schimpf, *Unleash RCRA! Letting Loose the Corrective Action Process of RCRA Can Change the World*, 29 WM. & MARY ENV’T L. & POL’Y REV. 481 (2005); Kundai Mufara, *RCRA Facts: An Overview of the Hazardous Waste Management Law*, ERA ENVIRONMENTAL (Feb. 3, 2021), <https://www.era-environmental.com/blog/rcra-facts-an-overview-of-the-hazardous-waste-management-law>; U.S. DEP’T ENERGY, OFF. ENV’T GUIDANCE, A COMPARISON OF THE RCRA CORRECTIVE ACTION AND CERCLA REMEDIAL ACTION PROCESSES (1994), [https://www7.nau.edu/itep/main/HazSubMap/docs/RCRA-CERCLA/DOE\\_RCRAvsCERCLA%20Comparison.pdf](https://www7.nau.edu/itep/main/HazSubMap/docs/RCRA-CERCLA/DOE_RCRAvsCERCLA%20Comparison.pdf).

<sup>19</sup> Starfield, *supra* note 15; Basic Information on Enforcement, *supra* note 14.

<sup>20</sup> *See* Devaney, *supra* note 4, at 3–4. Enforcement staff are more likely to pursue civil or administrative remedies for non-compliance with the law because the burden of proof is lower and the general approach at EPA prefers individuals regain compliance, seeking criminal prosecution only in the most serious of cases. Raymond W. Mushal, *Up from the Sewers: A Perspective on the Evolution of the Federal Environmental Crimes Program*, 2009 UTAH L. REV. 1103, 1105 n.8 (2009).

<sup>21</sup> Michael R. Pendleton, *Beyond the Threshold: The Criminalization of Logging*, 10 SOC’Y & NAT. RES. 181, 181 (1997). The trend was evident in some of the U.S. states at the time. *See* Anthony J.

In the United States, the Rivers and Harbors Act and the Lacey Act were the first statutes to criminalize environmental violations.<sup>22</sup> It was not until the early 1980s that Congress acted to enhance environmental statutes with criminal provisions, first with RCRA in 1984, followed by the CWA in 1987, and then the CAA in 1990, and other major statutes around this time.<sup>23</sup> While statutes were being upgraded, the EPA was given authority to institutionalize an environmental policing presence when the Office of Enforcement was organized in 1981, eventually becoming the modern Office of Compliance Assurance (OECA). The EPA initially hired two criminal investigative staff and then another twenty were hired after 1982.<sup>24</sup> With the passage of the Medical Waste Tracking Act of 1988, criminal investigators were granted full law enforcement authority, and in 1989 the U.S. Attorney General approved criminal investigators to carry firearms in their official capacity.<sup>25</sup> Further enhancements to policing abilities came in 1990, with the passage of the Pollution Prosecution Act, giving EPA authority to hire at least 200 criminal investigative staff, which were hired in the subsequent years and are now housed within the EPA's Criminal Investigation Division (EPA-CID).<sup>26</sup>

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Celebrezze, Jr. et al., *Criminal Enforcement of State Environmental Laws: The Ohio Solution*, 14 HARV. ENV'T L. REV. 217 (1990).

<sup>22</sup> The Refuse Act, 33 U.S.C. § 407, was the first federal statute to criminalize environmental violations. The Rivers and Harbors Appropriation Act, 33 U.S.C. § 403, prohibits the unpermitted obstruction, alteration, or other such actions that impede in the navigable waters of the United States. The Lacey Act, 16 U.S.C §§ 3371–3378, bans the unpermitted, interstate trade in wildlife. Mushal, *supra* note 20, at 1104.

<sup>23</sup> EPA issued its first extensive agency guidelines for proceeding in criminal cases in 1976, largely based on the need to do so under the CAA at the time. In 1978, EPA and DOJ formed a Hazardous Waste Taskforce initiating fifty-two civil actions under RCRA. By the end of the Carter Administration, the DOJ was laying the groundwork for criminal enforcement resources. The development of criminal enforcement at EPA began in earnest when DOJ attorney, Peter Beeson, was assigned to EPA, leading to the creation of the Office of Enforcement, with Beeson as director. See Robert I. McMurry & Stephen D. Ramsey, *Environmental Crime: The Use of Criminal Sanctions in Enforcing Environmental Laws*, 19 LOY. L.A. L. REV. 1133, 1137–40 (1986); *Historical Development of Environmental Criminal Law*, U.S. DEP'T JUST. ENV'T CRIMES SECTION, <https://www.justice.gov/enrd/about-division/historical-development-environmental-criminal-law> (last updated May 13, 2015).

<sup>24</sup> *About the Office of Enforcement and Compliance Assurance (OECA)*, U.S. ENV'T PROT. AGENCY, <https://www.epa.gov/aboutepa/about-office-enforcement-and-compliance-assurance-oea> (last updated Mar. 30, 2023); McMurry & Ramsey, *supra* note 23, at 1134.

<sup>25</sup> Mushal, *supra* note 20, at 1111; Medical Waste Tracking Act of 1988, Pub. L. 100-582, 102 Stat. 2950; Memorandum from John Peter Suarez, Assistant Adm'r to All-OCEFT, <https://www.epa.gov/sites/production/files/documents/oceft-review03.pdf>.

<sup>26</sup> Pollution Prosecution Act of 1990, Pub. L. 101-593, § 202(a), 104 Stat. 2962. Set a minimum of 200 investigative staff. The number of current criminal investigators varies from 145 to around 200 depending on source and whether one includes support staff. See U.S. ENV'T PROT. AGENCY CRIM. ENF'T PROGRAM, AMERICA'S ENVIRONMENTAL CRIME FIGHTERS, <https://www.epa.gov/sites/production/files/documents/oceftbrochure.pdf> (last visited Mar. 25, 2023); *EPA CID Agent Count*, PUB. EMPS. FOR ENV'T RESP., [https://www.peer.org/wp-content/uploads/2019/11/11\\_21\\_19-Federal\\_Pollution\\_EPA\\_CID\\_Agent\\_Count.pdf](https://www.peer.org/wp-content/uploads/2019/11/11_21_19-Federal_Pollution_EPA_CID_Agent_Count.pdf) (last visited Mar. 25, 2023).



Resources to prosecute federal environmental crimes were institutionalized in 1982, with the founding of the Environmental Crimes Section within the Department of Justice (DOJ-ECS), starting with a three attorney unit in the Environmental Enforcement Section and becoming its own organization unit by 1987, and housed within the Environmental and Natural Resources Division (ENRD) within DOJ.<sup>27</sup> The Environmental Crimes Section (DOJ-ECS), was founded in 1982, beginning as a three attorney unit within the Environmental Enforcement Section, and becoming an organizational unit in 1987 within ENRD, to specialize in the prosecution of environmental crimes.<sup>28</sup> Today, there are forty-three attorneys and a dozen support staff located within DOJ-ECS that focus on the prosecution of environmental crimes.<sup>29</sup>

The practical application of criminal enforcement tools for the environment is very collaborative in nature, as EPA criminal investigators tend to work with federal, state, and local law enforcement agents to build cases that may also include collaboration with prosecutions. Investigations may search for information from civil inspections and reports, regulatory filings, former employees, or whistleblowers, and once a case is developed, investigators may bring it to federal prosecutors to convene a grand jury or file a criminal information in federal court.<sup>30</sup> As state and federal environmental statutes may overlap and investigations tend to involve collaboration, cases built by investigators may also be forwarded to state or local authorities for prosecution.<sup>31</sup>

Criminal provisions in CERCLA focus on punishing offenders for failing to notify officials of the release of a hazardous substance and are often used in conjunction with other statutes, such as RCRA, to punish individuals for hazardous waste, chemical, and other crimes.<sup>32</sup> Since CERCLA violations may also involve charging individuals under RCRA for

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<sup>27</sup> The Public Lands Division was founded within DOJ in 1909, forming the early basis for organizing prosecutorial resources for the environment around the time of the Rivers and Harbors Act and other early statutes that penalized environmental crimes, with an important distinction here being those early acts provided for misdemeanor penalties for environmental crimes exclusively. *History*, U.S. DEP'T JUST. ENV'T & NAT. RES. DIV., <https://www.justice.gov/enrd/history> (last updated May 18, 2021); Historical Development of Environmental Criminal Law, *supra* note 23.

<sup>28</sup> Joseph G. Block, *Environmental Criminal Enforcement in the 1990's*, 3 VILL. ENV'T L. J. 33, 34 (1992); Historical Development of Environmental Criminal Law, *supra* note 23.

<sup>29</sup> *An Overview of Our Practice: EES*, U.S. DEP'T JUST. ENV'T & NAT. RES. DIV., <https://www.justice.gov/enrd/overview-our-practice> (last updated May 13, 2015).

<sup>30</sup> Joel A. Mintz, *Some Thoughts on the Interdisciplinary Aspects of Environmental Enforcement*, 36 ENV'T L. REP. NEWS & ANALYSIS 10495, 10495–97 (2006).

<sup>31</sup> Joel A. Mintz, "Treading Water": A Preliminary Assessment of EPA Enforcement during the Bush II Administration, 34 ENV'T L. REP. NEWS & ANALYSIS 10912, 10923–24 (2004); David St. John et al., *Environmental Crimes*, 57 AM. CRIM. L. REV. 657, 662 (2020).

<sup>32</sup> *Criminal Provisions of the Comprehensive Environmental Response, Compensation – and Liability Act (CERCLA)*, U.S. ENV'T PROT. AGENCY, <https://www.epa.gov/enforcement/criminal-provisions-comprehensive-environmental-response-compensation-and-liability-act> (last updated Mar. 27, 2023); Kilbert, *supra* note 17, at 422.

hazardous waste crimes, related violations may include the illegal export, storage, treatment, or disposal of hazardous waste, transporting hazardous waste without a manifest or to an unpermitted facility, making false statements or omission of material information, knowing endangerment, or knowing destruction, concealment, or alternation of records.<sup>33</sup> The most serious of these violations involves knowing endangerment, when an individual's actions place another person in imminent danger of serious bodily injury or death.<sup>34</sup> Criminal provisions were added to RCRA in 1984, making it easier for prosecutors to charge corporate officers for hazardous waste crimes.<sup>35</sup>

Whether CERCLA criminal provisions deter environmental crime is debatable in the empirical literature.<sup>36</sup> Certainly, Congress intended criminal provisions to have a deterrent value, as they include significant penalties,

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<sup>33</sup> *Criminal Provisions of the Resource Conservation and Recovery Act (RCRA)*, U.S. ENV'T PROT. AGENCY, <https://www.epa.gov/enforcement/criminal-provisions-resource-conservation-and-recovery-act-rcra> (last updated Mar. 27, 2023).

<sup>34</sup> For a discussion of knowing endangerment, particularly as it applies to hazardous waste, chemicals, and other issues related to CERCLA enforcement, see Robert G. Schwartz, Jr., *Criminalizing Occupational Safety Violations: The Use of "Knowing Endangerment" Statutes to Punish Employers Who Maintain Toxic Working Conditions*, 14 HARV. ENV'T L. REV. 487 (1990); Turner T. Smith, Jr. et al., *Hazardous Wastes: The Knowing Endangerment Offense*, 2 J. ENV'T L. 262 (1990). Karen M. Hansen, "Knowing" Environmental Crimes, 16 WM. MITCHELL L. REV. 987 (1990).

<sup>35</sup> Corporate officers are responsible for employee safety, particularly from hazardous waste and chemical wastes in this context, under the Responsible Corporate Officer Doctrine. See Robert T. McGovern, *United States v. Johnson & Towers, Inc.: Corporate Employee Criminal Liability under RCRA*, 2 PACE ENV'T L. REV. 316 (1985); David T. Barton, *Corporate Officer Liability Under RCRA: Stringent but Not Strict*, 1991 BYU L. REV. 1547, 1548–50 (1991); Ronald M. Broudy, *RCRA and the Responsible Corporate Officer Doctrine: Getting Tough on Corporate Offenders by Sidestepping the Mens Rea Requirement*, 80 KY. L.J. 1055 (1992); 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 (1993).

<sup>36</sup> For a general discussion of deterrence and the value environmental law enforcement, see Larry D. Wynne, *A Case for Criminal Enforcement of Federal Environmental Law*, 38 NAVAL L. REV. 105 (1989). For a discussion of deterrence and environmental/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, 183–88 (2014). Raymond Paternoster, *How Much Do We Really Know about Criminal Deterrence?*, 100 J. CRIM. L. & CRIMINOLOGY 765, 765–68 (2010).

For a discussion of deterrence theory, see *Five Things About Deterrence*, NAT'L INST. JUST. (June 5, 2016), <https://nij.ojp.gov/topics/articles/five-things-about-deterrence>. Criticisms levied against criminal enforcement focus on the lack of significant penalties, and resources to police and prosecute criminals effectively, the degree that these efforts provide for sufficient deterrence. See Gary S. Becker, *Crime and Punishment: An Economic Approach*, 76 J. POL. ECON. 169 (1968); Richard A. Posner, *An Economic Theory of the Criminal Law*, 85 COLUM. L. REV. 1193, 1193–1200 (1985); 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. 1096, 1096–99 (2016); Michael J. Lynch, *The Sentencing/Punishment of Federal Environmental/Green Criminal Offenders, 2000-2013*, 38 DEVIANT BEHAV. 991, 991–95 (2017); Joshua Ozymy & Melissa L. Jarrell Ozymy, *Sub-Optimal Deterrence and Criminal Sanctioning under The U.S. Clean Water Act*, 24 UNIV. DENVER WATER L. REV. 159 (2021). For companies, low fines and penalties can create incentives to see compliance as the cost of doing business, See Daniel P. Fernandez et al., *Monetary Consequences of Environmental Regulations: Costs of Doing Business or Non-Deductible Penalties or Fines?*, 9 AM. U. BUS. L. REV. 123 (2020).

including incarceration, for serious violations of environmental law.<sup>37</sup> Research shows prosecutors are motivated to seek significant penalties for environmental crimes.<sup>38</sup> Studies also show aggravating factors tend to be a central element in the decision to pursue criminal charges.<sup>39</sup> Other studies show prosecutions have increased over time from the 1980s to modern times and significant penalties have been secured at sentencing.<sup>40</sup> Our understanding of how CERCLA criminal provisions have been used to charge individuals for environmental crimes and the broader themes in those crimes over time is still very limited.<sup>41</sup> We address this shortcoming, with an analysis that focuses exclusively on CERCLA criminal prosecutions of individuals, building out charging and sentencing themes, focusing on large penalty cases that impact those trends, and deriving general themes in prosecutions historically to help gain empirical traction on the types of crimes prosecuted over time in the United States.

#### IV. DATA AND METHOD

The data for the analysis are derived from the EPA's Summary of Criminal Prosecutions Database that provides prosecution's case summaries for all EPA-CID prosecutions that resulted in criminal prosecution.<sup>42</sup> The database was searched by fiscal year (FY) to capture all of the cases in the database, experimenting with a variety of search strategies, recording all prosecutions adjudicated in the database from the first case in 1983 until April 30, 2022. We captured data on a total of 2,728 criminal prosecutions. Once we developed a database of all

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<sup>37</sup> Mushal, *supra* note 20, at 1105 n.8.

<sup>38</sup> David M. Uhlmann, *Prosecutorial Discretion and Environmental Crime*, 38 HARV. ENV'T L. REV. 159 (2014); 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 (2019).

<sup>39</sup> 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. RSCH. 71, 71-73 (2016).

<sup>40</sup> See 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 (2021). The following are examples of criminal enforcement at the local or state level, another area of related research in need of study: Matthew S. Crow et al., *Camouflage-Collar Crime: An Examination of Wildlife Crime and Characteristics of Offenders in Florida*, 34 DEVIANT BEHAV. 635 (2013); Joshua C. Cochran et al., *Court Sentencing Patterns for Environmental Crimes: Is there a "Green" Gap in Punishment?*, 34 J. QUANTITATIVE CRIMINOLOGY 37 (2018); 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 (2019).

<sup>41</sup> For research here, see Joshua Ozymy & Melissa L. Jarrell, *Failure to Notify: Exploring Charging and Sentencing Patterns in Superfund Criminal Prosecutions*, 50 ENV'T L. REP. 10723 (2020).

<sup>42</sup> *Summary of Criminal Prosecutions*, U.S. ENV'T PROT. AGENCY, <https://www.epa.gov/enforcement/summary-criminal-prosecutions> (last updated July 5, 2022).

prosecutions, we selected out all CERCLA prosecutions, and then further selected all prosecutions under CERCLA of individual defendants, excluding all companies for the analysis. Once we took this step a total of thirty-six prosecutions were left for the analysis herein. We then collected the following data from the prosecutions summaries: FY identifier, narrative summary of the case, primary defendant in the case, docket number, state identifier of the case, number of named defendants in the case that were individuals, charging statutes utilized in the case, whether a company was a named defendant, presence of other, non-environmental criminal violations, and all sentencing data parceled by individual and company defendants, including total probation in months, total incarceration in months, and total monetary penalties, such as fines, restitution, special fees and assessments, community payments, or other monetary fees assessed at sentencing.

Content analysis was the chosen analytical method for the article, and we used it to record, code, and interpret the data herein. Two coders were assigned to capture the data during a pilot phase for four weeks that gave us the opportunity to understand the data, derive the appropriate categories, and find issues in coding. Once we understood the data and were confident to move forward, we had both coders code independently of one another, with one author reviewing cases for disagreement, where we met to find consensus on values. Disagreements typically came with complex sentencing data and cases with multiple defendants or ambiguous text regarding sentencing or other issues in the case narratives. Our inter-coder reliability was very high for the analysis, at about ninety-five percent overall.<sup>43</sup>

## V. RESULTS

We break the analysis down into three parts. In the first section, we review broader sentencing trends for individuals prosecuted for CERCLA violations from 1983-2021. In the second section, we review large penalty cases that affect the overall patterns. In the final section, we derive general themes to categorize CERCLA prosecutions over time, in order to bring clarity and order to the types of crimes prosecuted under CERCLA since the institutionalization of the criminal enforcement apparatus in the early 1980s.

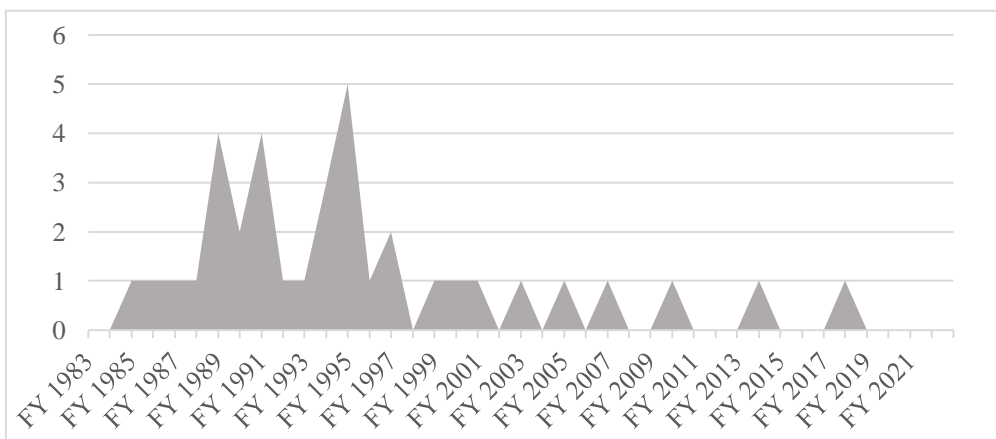
In Figure 1, we show annual CERCLA prosecutions of individual defendants, adjudicated by EPA fiscal year, from 1981-2021. Prosecutions emerge through the 1980s, with eight prosecutions adjudicated during the decade. By the 1990s, prosecutions increase

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<sup>43</sup> The agreed upon items were divided by non-agreed items, see: OLE R. HOLSTI, *CONTENT ANALYSIS FOR THE SOCIAL SCIENCES AND HUMANITIES* 140 (Addison-Wesley Publishing Company 1969).

significantly, with twenty prosecutions adjudicated during this time period. From 2000-2010, prosecutions decline dramatically to six during this period, and from 2011-2021, they decline further to two prosecutions. The pattern in the data here appears to show prosecutions rising through the 1980s and 1990s with the institutionalization of criminal enforcement and added resources and then dropping in the 2000s onward. A grand total of thirty-six prosecutions were adjudicated in our analysis.

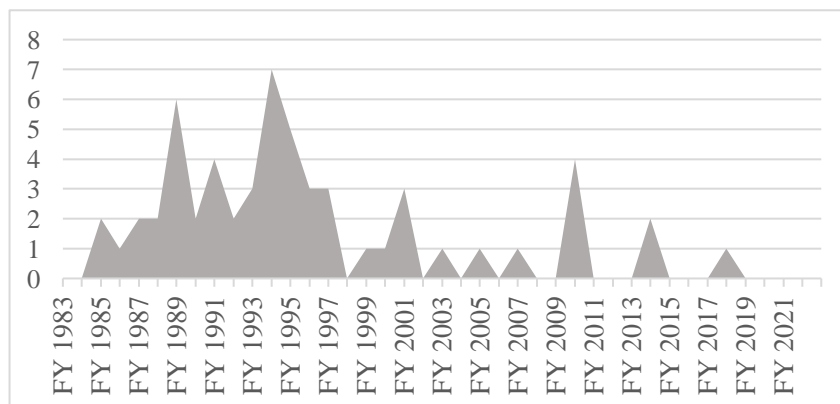
Figure 1. Total CERCLA Prosecutions of Individual Defendants, Adjudicated by Fiscal Year.



Source: *EPA Summary of Criminal Prosecutions Database*

In Figure 2, we explore total defendants prosecuted by fiscal year, from 1983-2021. As with prosecutions, total defendants rises over time in the 1980s, to close out the decade with thirteen defendants prosecuted. In the 1990s, this number increases significantly, with thirty defendants prosecuted during the decade. From 2000-2009, defendants prosecuted decreases significantly to seven prosecuted during the decade. From 2010-2021, a total of seven are prosecuted. As with prosecutions, the high point for defendants prosecuted seems to be in the late 1990s with a decline afterwards. We find a grand total of fifty-seven individuals prosecuted for CERCLA crimes in our analysis.

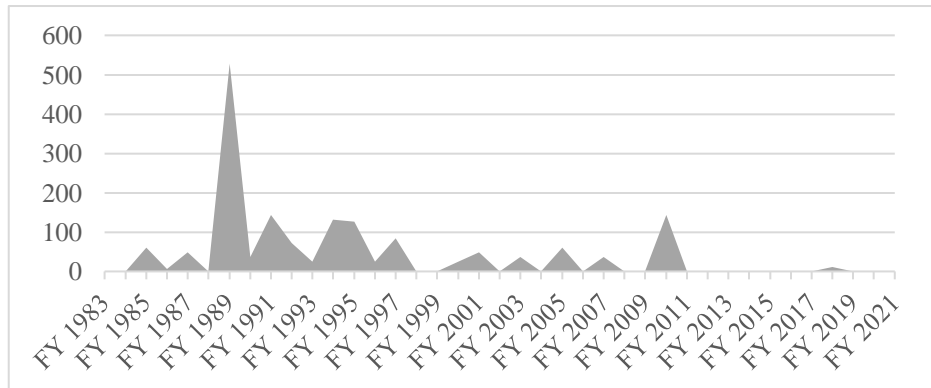
Figure 2. Number of Individual Defendants in CERCLA Prosecutions by Fiscal Year.



Source: *EPA Summary of Criminal Prosecutions Database*

In Figure 3, we explore sentencing patterns, beginning with total probation assessed to individual defendants annually in months, by EPA fiscal year, from 1983-2021. Total probation in the 1980s amounts to 642 months across all defendants. During the 1990s, total probation again by coincidence reached 642 months during the decade. From 2000-2009, total probation declines to 204 months, and from 2010-2021, declines again to 156 months during the decade.<sup>44</sup> A grand total of 1,644 months of probation were assessed to individual defendants at sentencing in our analysis.

Figure 3. Total Probation Time in Months Assessed to Individual Defendants in CERCLA Prosecutions by Fiscal Year.



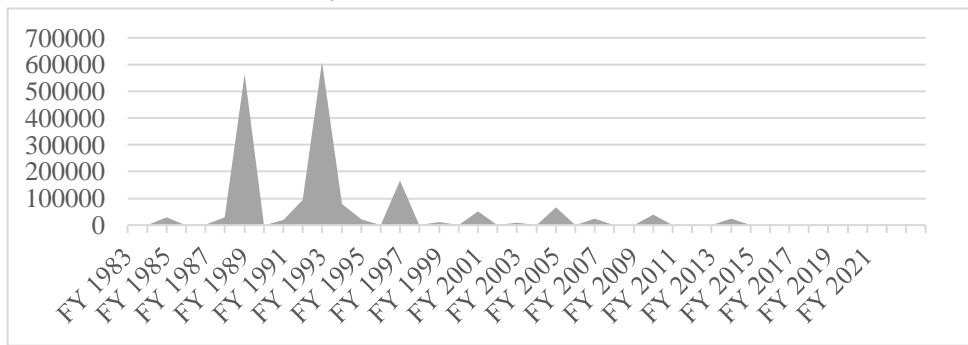
Source: *EPA Summary of Criminal Prosecutions Database*

In Figure 4, we explore total monetary penalties assessed to individual defendants at sentencing by EPA fiscal year, from 1983-

<sup>44</sup> The totals from the 1980s are affected by outliers. While this affects the overall trend, it also shows the presence of few large-penalty probation cases in CERCLA prosecutions. The main case of note was the prosecution of Charles Arcangelo (D. Connecticut N-88-43TFGD, 1989) and nine other co-defendants, who were arrested and charged in a fifteen court Racketeer Influenced and Corrupt Organizations (RIC) prosecution, involving mail fraud, harboring and transport of illegal aliens, interstate transportation of stolen property, disposal of hazardous waste without a permit in violation of RCRA, and failure to notify officials of the release of a hazardous substance (mercury) under CERCLA. The defendants were sentenced to collectively serve a grand total of 420 months' probation, or about twenty-six percent of total probation assessed to defendants at sentencing in our analysis.

2021. During the 1980s, penalties totaled over \$628,000. By the 1990s, over \$999,000 in penalties were assessed to individual defendants at sentencing. From 2000-2009, over \$152,000 in penalties were assessed to defendants at sentencing and from 2011-2021, almost \$63,000 in penalties were assessed to individual defendants at sentencing. A grand total exceeding \$1.8 million in monetary penalties were assessed to individual defendants at sentencing in our data.

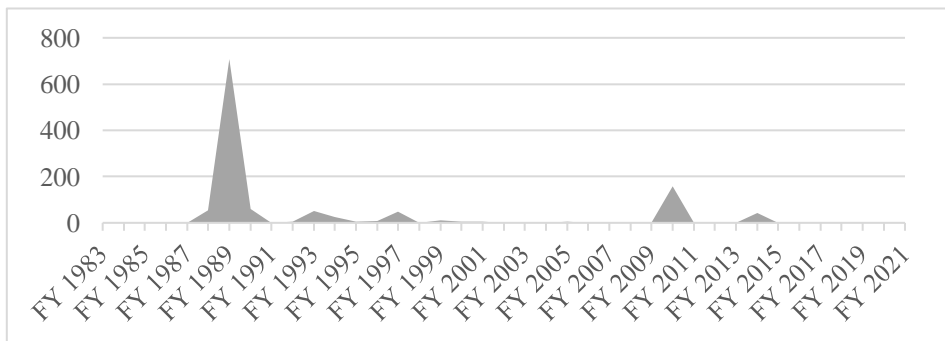
Figure 4. Total Monetary Penalties Assessed to Individual Defendants in CERCLA Prosecutions by Fiscal Year.



Source: *EPA Summary of Criminal Prosecutions Database*

In Figure 5, we show total prison time assessed to individual defendants (in months) in CERCLA prosecutions by EPA fiscal year, from 1983-2021. Prison time assessed at sentencing does not occur until 1988, when fifty-four months were assessed to defendants and 708 months in 1989, marking a cumulative total of 762 months during the decade. During the 1990s, a total of 213 months of incarceration were assessed at sentencing. From 2000-2009, a total of sixteen months of incarceration were assessed at sentencing and from 2010-2021, a total of 200 months of incarceration were assessed at sentencing. We find a grand total of 1,191 months of incarceration assessed at sentencing in our analysis.

Figure 5. Total Prison Time Assessed to Individual Defendants in CERCLA Prosecutions by Fiscal Year.



Source: *EPA Summary of Criminal Prosecutions Database*

In the second section of our analysis, we explore large penalty cases that affect broader trends from Section One, beginning with large incarceration cases in Table 1. By far the most severe prosecution of CERCLA crimes involved the previously cited prosecution of Charles Arcangelo, who along with nine co-defendants were collectively sentenced to 564 months of incarceration in our analysis.<sup>45</sup> With 1,191 total months of incarceration assessed at sentencing for individuals prosecuted for CERCLA crimes in our analysis, the Arcangelo prosecution makes up forty-seven percent of that total. Lester Mancuso was prosecuted, along with four family members as co-defendants, for a series of asbestos-related crimes in New York.<sup>46</sup> The prosecution of Albert Tumin for knowing endangerment resulted in sixty months of incarceration.<sup>47</sup> Given the first two prosecutions in the table make up sixty percent of overall incarceration time in our analysis, this shows that few cases involve large-penalty incarceration sentences in our data, but only two have a large impact on overall totals.

Table 1. Large Incarceration Sentences Assessed to Individual Defendants in CERCLA Prosecutions.

<i>Defendant</i>	<i>Fiscal Year</i>	<i>Crime</i>	<i>Total Incarceration (Months)</i>
Charles Arcangelo	1989	Hazardous Waste	564

<sup>45</sup> U.S. ENV'T PROT. AGENCY, NAT'L ENF'T INVESTIGATIONS CTR., SUMMARY OF CRIMINAL PROSECUTIONS RESULTING FROM ENVIRONMENTAL INVESTIGATIONS 85–87 (1989), <https://nepis.epa.gov/Exe/ZyPDF.cgi/9101Y2G2.PDF?Dockey=9101Y2G2.PDF>. Brothers Charles and James Arcangelo owned five junkyards in the State of Connecticut, a restaurant destroyed in an arson fire, and four scrap metal dealerships.

<sup>46</sup> *Summary of Criminal Prosecutions: Lester Mancuso*, U.S. ENV'T PROT. AGENCY, [https://cfpub.epa.gov/compliance/criminal\\_prosecution/index.cfm?action=3&prosecution\\_summary\\_id=2028](https://cfpub.epa.gov/compliance/criminal_prosecution/index.cfm?action=3&prosecution_summary_id=2028) (last accessed Apr. 6, 2023). The defendants, Lester Mancuso and his sons were charged with conspiring to defraud the United States, illegally dumping asbestos, mail fraud, submitting false documents, and failure to notify officials of the release of a hazardous substance under CERCLA and were sentenced to a cumulative total of 158 months of incarceration. *Father, Sons Sentenced to Prison for Asbestos-Related Crimes in NY*, OCCUPATIONAL HEALTH & SAFETY (June 15, 2010), <https://ohsonline.com/articles/2010/06/15/ny-father-and-sons-busted-on-asbestos-charges.aspx>.

<sup>47</sup> *Summary of Criminal Prosecutions: Albert S. Tumin*, U.S. ENV'T PROT. AGENCY, [https://cfpub.epa.gov/compliance/criminal\\_prosecution/index.cfm?action=3&prosecution\\_summary\\_id=345](https://cfpub.epa.gov/compliance/criminal_prosecution/index.cfm?action=3&prosecution_summary_id=345) (last accessed Apr. 8, 2023).



Lester Mancuso	2010	Asbestos	158
Albert S. Tumin	1989	Hazardous Waste	60

Source: *EPA Summary of Criminal Prosecutions Database*

In Table 2, we explore large monetary penalties assessed at sentencing in our data. The prosecution of John Donnelly and two co-defendants resulted in over \$609,000 in penalties — the largest penalty in our analysis.<sup>48</sup> The prosecution of Charles Arcangelo mentioned previously resulted in over \$542,000 in monetary penalties.<sup>49</sup> Raymond Feldman and a co-defendant were prosecuted for dumping hazardous waste into the Mississippi River, and were charged for unlawful transport, failure to notify, and conspiracy, resulting in \$165,200 in fines and special assessments.<sup>50</sup> Marvin Mueller was prosecuted for unlawful storage and disposal of hazardous waste and failure to notify, and along with his co-defendant, John M. Hall, was sentenced to pay over \$94,000 in penalties.<sup>51</sup> The Arcangelo and Mancuso prosecutions alone resulted in over \$1.1 million in monetary penalties assessed at sentencing, and to put this in the greater context of penalties over time, these two cases make up about sixty-three percent of total monetary penalties in our data. The four cases discussed in Table 2, consisting of about \$1.4 million in penalties, make up seventy-seven percent of the monetary penalties in our analysis. Placing monetary penalties in this context shows that prosecutors failed to obtain significant penalties overall historically, outside of these few cases.

<sup>48</sup> John Donnelly (N.D. New York 91-CR-59, 1993). The exact crime is unclear in the prosecution summary. It appears the crime centered on illegally releasing hazardous waste and an eighteen-count indictment for failure to notify under CERCLA and other charges. The defendants were collectively sentenced to fifty-two months of incarceration and other penalties.

<sup>49</sup> U.S. ENV'T PROT. AGENCY, NAT'L ENF'T INVESTIGATIONS CTR., *supra* note 45, at 86–87.

<sup>50</sup> *PA St. Louis Automotive Shop Owner Sentenced to 37 Months in Jail*, U.S. ENV'T PROT. AGENCY (May 5, 1997),

[https://www.epa.gov/archive/epapages/newsroom\\_archive/newsreleases/5624b90b4b7af9118525648e0052fb80.html](https://www.epa.gov/archive/epapages/newsroom_archive/newsreleases/5624b90b4b7af9118525648e0052fb80.html); *United States v. Feldman*, Docket No. 4:96-cr-00311 (E.D. Mo. Oct 24, 1996). Feldman was sentenced to thirty-seven months of incarceration and three years' probation, as well as the monetary penalties.

<sup>51</sup> U.S. ENV'T PROT. AGENCY, ENF'T & COMPLIANCE ASSURANCE, SUMMARY OF CRIMINAL PROSECUTIONS RESULTING FROM ENVIRONMENTAL INVESTIGATIONS: FISCAL YEARS 1983 THROUGH 1992 170, <https://nepis.epa.gov/Exe/ZyPDF.cgi/9101N6FX.PDF?Dockey=9101N6FX.PDF>. Mueller was sentenced to four months incarceration and four months of home confinement to run concurrently and twenty-four months of supervised release. Hall was also sentenced to forty-eight months of probation and required to participate in a drug and alcohol rehabilitation program.

Table 2. Large Monetary Penalties Assessed to Individual Defendants in CERCLA Prosecutions.

<i>Defendant</i>	<i>Fiscal Year</i>	<i>Crime</i>	<i>Total Monetary Penalties</i>
John Donnelly	1993	Unknown	609,368
Charles Arcangelo	1989	Hazardous Waste	542,750
Raymond Feldman	1997	Hazardous Waste	165,200
Marvin Mueller	1992	Hazardous Waste	94,554

Source: *EPA Summary of Criminal Prosecutions Database*; \* Numbers are rounded

In the final section of our analysis, we explore the primary themes that emerged when individuals were prosecuted for CERCLA crimes. CERCLA charges tended to come in conjunction with another charging statute, such as hazardous waste or chemical spills, so we attempted to use our best judgment to order each prosecution by what we felt was the primary crime that drove the prosecution in the case. We admit that in all cases this was difficult to know, based on the data in the case summaries, but we used the best judgment we could. Additionally, CERCLA prosecutions tended to revolve around a few basic crimes, making the categorization mostly straightforward. We found three primary themes that emerged, including hazardous waste crimes, asbestos crimes, and chemical crimes. In one prosecution, it was not possible to discern a primary theme in the case.<sup>52</sup>

By far the most common theme in the analysis we uncovered was the prevalence of hazardous waste crimes. In twenty-two prosecutions or sixty-one percent of total prosecutions in our analysis, the central crime centered around hazardous waste violations. This general finding also tends to show the prevalence of prosecutors charging under RCRA, given it governs the generation, storage, transport, and disposal of

<sup>52</sup> The unknown case was the previously discussed prosecution of John Donnelly. U.S. ENV'T PROT. AGENCY, ENF'T & COMPLIANCE ASSURANCE, *supra* note 51.

hazardous waste, used alongside failure to notify provisions in CERCLA as a central prosecutorial strategy over time.<sup>53</sup>

While hazardous waste crimes made up the bulk of CERCLA prosecutions in our data, we also found asbestos crimes to be the second most common crime in our analysis.<sup>54</sup> In twelve prosecutions, or thirty-three percent of cases, the primary crime in our judgement revolved around asbestos. These crimes typically centered on illegally removing asbestos without a permit, releasing asbestos into the ambient air without a permit, or improper disposal of asbestos.<sup>55</sup> While most crimes involved

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<sup>53</sup> Case examples in this category include the prosecution of Larry West. The defendant abandoned ninety-nine barrels of hazardous waste and was prosecuted for storing and disposing of hazardous waste without a permit under RCRA and failure to notify under CERCLA. West was sentenced to serve four months of home confinement, twenty-four months of supervised release, paid a \$10,000 fine, and \$40,000 in restitution to EPA. *Summary of Criminal Prosecutions: Larry West*, U.S. ENV'T PROT. AGENCY, [https://cfpub.epa.gov/compliance/criminal\\_prosecution/index.cfm?action=3&prosecution\\_summary\\_id=538](https://cfpub.epa.gov/compliance/criminal_prosecution/index.cfm?action=3&prosecution_summary_id=538) (last visited Apr. 14, 2023). William Kirkpatrick was prosecuted for ordering employees (he was the superintendent of the City of Stafford, Kansas's power company) to illegally bury nine electrical capacitors containing polychlorinated biphenyls (PCBs) in the City's landfill. He was prosecuted under TSCA for improperly disposing of PCBs and under CERCLA for failure to notify and was sentenced to serve eighteen months of supervised probation, with six months on home confinement, fined \$3,000, charged a \$50 special assessment fee, and ordered to attend mandatory substance abuse counseling. *Summary of Criminal Prosecutions: William Kirkpatrick*, U.S. ENV'T PROT. AGENCY, [https://cfpub.epa.gov/compliance/criminal\\_prosecution/index.cfm?action=3&prosecution\\_summary\\_id=601](https://cfpub.epa.gov/compliance/criminal_prosecution/index.cfm?action=3&prosecution_summary_id=601) (last visited Apr. 8, 2023); *United States v. Kirkpatrick*, Docket No. 6:94-cr-10094 (D. Kan. Aug. 24, 1994). Richard Fletcher was prosecuted for abandoning 200 pounds of chlorine gas in a parking lot. He was charged for failure to notify under CERCLA and was sentenced to six months of incarceration, twenty-four months of probation, and ordered to perform 100 hours of community service. *Maryland Businessman Pleads Guilty in Chlorine Case*, U.S. ENV'T PROT. AGENCY (Apr. 20, 2000), [https://www.epa.gov/archive/epapages/newsroom\\_archive/newsreleases/e758e8d7b83885d7852568c70061e2e9.html](https://www.epa.gov/archive/epapages/newsroom_archive/newsreleases/e758e8d7b83885d7852568c70061e2e9.html); *United States v. Fletcher*, Docket No. 8:00-cr-00158 (D. Md. Mar. 24, 2000). PCBs are regulated under TSCA, and criminal provisions exist for knowingly or willfully failing to comply with PCB regulations. See *Criminal Provisions of the Toxic Substances Control Act (TSCA)*, U.S. ENV'T PROT. AGENCY, <https://www.epa.gov/enforcement/criminal-provisions-toxic-substances-control-act-tsca> (Jul. 1, 2022).

<sup>54</sup> The release of asbestos into the ambient air is a crime covered under the CAA. Prosecutors could typically charge individuals for removal or disposal of asbestos without a permit and/or charge them under CERCLA for failure to notify officials of the release of a hazardous substance—we see both instances in the data. These were generally cases of a criminal violations of asbestos NESHAP (National Emissions Standards for Hazardous Air Pollutants) during demolition/renovation. See *Criminal Provisions of the Clean Air Act*, U.S. ENV'T PROT. AGENCY (Jan. 20, 2023), <https://www.epa.gov/enforcement/criminal-provisions-clean-air-act>.

<sup>55</sup> Case examples in this category include the prosecution of Sam L. Story. U.S. ENV'T PROT. AGENCY, NAT'L ENV'T INVESTIGATIONS CTR, SUMMARY OF CRIMINAL PROSECUTIONS RESULTING FROM ENVIRONMENTAL INVESTIGATIONS 152 (1991), <https://nepis.epa.gov/Exe/ZyPDF.cgi/900B0P00.PDF?Dockey=900B0P00.PDF>. The defendant directed employees to dispose of 524 bags of asbestos-containing materials at various points in Jefferson County, Alabama. The defendant was charged with failure to notify under CERCLA and was sentenced to three months of home detention and thirty-six months of supervised release. Dennis Marchuk was prosecuted for the unpermitted removal of asbestos and failure to notify officials of the removal under CERCLA. The defendants were charged with conspiracy, failure to notify, and violations of the CAA. Marchuk was sentenced to serve twenty-four months of incarceration, thirty-six months of probation, and pay a \$25,000

hazardous waste or asbestos crimes and were prosecuted under one or more statutes such as CERCLA, RCRA, or TSCA, and these crimes tended to involve illegal removal, transport, or disposal of hazardous wastes or asbestos, in one prosecution, the defendant failed to report a PCB spill at a warehouse, what we will label a chemical crime, and another is unclassifiable by the logic in the table.<sup>56</sup>

Table 3. Primary Themes that Emerge when Individuals are Prosecuted for CERCLA Crimes.

<i>Theme</i>	<i>Number of Prosecutions</i>	<i>Percentage of Total</i>
Hazardous Waste Crimes	22	61
Asbestos Crimes	12	33
Chemical Crimes	1	3
Unknown Crime	1	3
Total Prosecutions	36	

\*Percentages are rounded

## VI. DISCUSSION

The results of our analysis provide a few important insights into the prosecution of CERCLA crimes in the United States. Our first finding is that prosecutors were able to obtain significant penalties against criminals at sentencing. With 1,644 months of probation, 1,191 months of incarceration, and over \$1.8 million in monetary penalties spread across thirty-six prosecutions, it appears they achieved significant results. When we place these findings in context of outliers, the results seem less robust. One case

fine. U.S. ENV'T PROT. AGENCY, ENF'T & COMPLIANCE ASSURANCE, SUMMARY OF CRIMINAL PROSECUTIONS RESULTING FROM ENVIRONMENTAL INVESTIGATIONS: FISCAL YEARS 1983 THROUGH 1992 174, <https://nepis.epa.gov/Exe/ZyPDF.cgi/9101N6FX.PDF?Dockey=9101N6FX.PDF>. Arthur Hilton, the owner of Hilton Industrial Park in Rensselaer, New York, was prosecuted for illegally hiring workers to remove and dispose of asbestos in various buildings he owned. He was charged with conspiracy, failure to notify under CERCA, and violations of the CAA and was sentenced to serve six months of incarceration, sixty months of probation, perform 200 hours of community service, pay a \$30,000 fine, and pay \$36,000 in restitution to EPA. United States v. Hilton, Docket No. 5:02-cr-00295 (N.D.N.Y. Aug. 8, 2002); *Summary of Criminal Prosecutions: Arthur Hilton*, U.S. ENV'T PROT. AGENCY, [https://cfpub.epa.gov/compliance/criminal\\_prosecution/index.cfm?action=3&prosecution\\_summary\\_id=929](https://cfpub.epa.gov/compliance/criminal_prosecution/index.cfm?action=3&prosecution_summary_id=929) (last visited Apr. 8, 2023).

<sup>56</sup> Quin Million was prosecuted for failure to report a chemical spill of PCBs at a warehouse. He was charged with failure to notify under CERCLA and was sentenced to twelve months of incarceration and twelve months of probation. *Summary of Criminal Prosecutions: Quin Million*, U.S. ENV'T PROT. AGENCY, [https://cfpub.epa.gov/compliance/criminal\\_prosecution/index.cfm?action=3&prosecution\\_summary\\_id=686](https://cfpub.epa.gov/compliance/criminal_prosecution/index.cfm?action=3&prosecution_summary_id=686) (last visited Apr. 8, 2023). U.S. ENV'T PROT. AGENCY, ENF'T & COMPLIANCE ASSURANCE, *supra* note 51.

makes up twenty-six percent of overall probation totals, two cases make up sixty percent of total incarceration, and seventy-seven percent of monetary penalties come down to four cases. The RICO prosecution of Charles Arcangelo alone contributed to a great deal of the penalties in the overall patterns in the sentencing data. It is important that prosecutors pursued complex cases against environmental offenders for CERCLA crimes, it just does not appear this was extremely frequent in a historical context, based on the results of our analysis.<sup>57</sup>

A second notable trend in our data is that it appears prosecutors pursued crimes involving aggregating factors and significant harm or culpable conduct. While difficult to capture empirically, we can examine the number of cases with non-environmental criminal charges, such as false statements, fraud, and conspiracy to denote criminal activity above and beyond environmental crimes. We find that in thirteen prosecutions, or thirty-six percent of the cases in our analysis, defendants committed one or more of these offenses, suggesting many involve culpable conduct and criminal behavior, as well as environmental crimes.<sup>58</sup>

A final finding of note is that we do not see a linear pattern with prosecutions over time. As expected, prosecutions rise through the 1980s as the criminal enforcement system institutionalizes and continues to rise through the 1990s. By the mid 2000s CERCLA prosecutions of individuals declines fairly significantly, and this trend persists to current times. This finding may be the result of prosecutors choosing to use resources in other areas to focus on different crimes or the lack of cases built by investigators but may speak to a broader trend in institutional disinvestment as well that could exacerbate such trends. We speak to this issue in more depth below.<sup>59</sup>

## VII. CONCLUSION

Criminal enforcement was born in a hostile political environment under the Reagan Administration, but criminal provisions still made their way into environmental law. Policing resources were created, and prosecutorial resources were institutionalized to help develop a program for policing and prosecuting criminal violations of environmental law. The bipartisanship

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<sup>57</sup> It may be the case that a greater number of prosecutions under CERCLA involved companies, rather than individuals, which is likely, given how CERCLA is often used as a co-charging statute to RCRA and focused on companies and organizations, but showing this empirically is outside of the scope of our investigation herein and irrelevant to our conclusions regarding individuals.

<sup>58</sup> For studies showing the role of aggregating factors in prosecutions, see David M. Uhlmann, *Prosecutorial Discretion and Environmental Crime*, 38 HARV. ENV'T L. REV. 159 (2014). 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 (2019).

<sup>59</sup> For a solid discussion on this topic, see Joel A. Mintz, *Running on Fumes: The Development of New EPA Regulations in an Era of Scarcity*, 46 ENV'T L. REP. 10510 (2016).

that did exist drew from a deep well of support for further criminalizing a range of behaviors at the federal level, for standardizing punishments, and criminal enforcement benefitted from the United States Sentencing Guidelines in this respect.<sup>60</sup> The EPA in particular is used to operating under inconsistent political support and thus, while the Trump Administration was a serious obstacle to strong enforcement, it did not stop criminal enforcement for an agency born under such attacks.<sup>61</sup> As the movement to enhance sentencing waned through the 1990s, as did the political energy on both sides of the political isle for enhancing resources for criminal enforcement. Resources became stagnant in a real, nominal sense, attention to the enterprise diminished, and even concern and opposition that criminal prosecution had gone too far became a problem for these agencies.<sup>62</sup>

One might expect that as resources dwindled in a real sense and political support became increasingly erratic, prosecutions would likely decline over time, and we see this in our results herein. As support and resources begin to decline by the end of the 1990s, we find prosecutions declining by the mid 2000s and failing to recover, at least in the context of prosecuting individuals for CERCLA crimes.<sup>63</sup> The era of scarce resources for environmental law enforcement has been ongoing for years under structural disinvestment from both political parties.<sup>64</sup>

Examining this disinvestment for environmental law enforcement can be shown with staffing and funding at EPA and ENRD over time. If one examines EPA's long-term budget and considers inflation in the calculation, the high water mark was 1980, when it was appropriated \$16 billion dollars and staffing peaked in 1999 at 18,110 total staff.<sup>65</sup> The budget for ENRD has failed to increase over time as well in a substantive sense.<sup>66</sup> The Biden Administration has pledged significant

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<sup>60</sup> See Mushal, *supra* note 20, at 1112.

<sup>61</sup> Cally Carswell, *How Reagan's EPA Chief Paved the Way for Trump's Assault on the Agency*, THE NEW REPUBLIC (Mar. 21, 2017), <https://newrepublic.com/article/141471/reagans-epa-chief-paved-way-trumps-assault-agency>.

<sup>62</sup> Timothy E. Shanley, *Applying a Strict Limitations Period to RCRA Enforcement: A Toxic Concept with Hazardous Results?*, 10 PACE ENV'T L. REV. 275, 289, 310 (1992). Richard J. Lazarus, *Assimilating Environmental Protection into Legal Rules and the Problem with Environmental Crime*, 27 LOY. L.A. L. REV. 867, 869–71, 877 (1994).

<sup>63</sup> Enforcement received support during the George W. Bush Administration, but these resources became strained and redirected to the War on Terror. See David M. Uhlmann, *Strange Bedfellows*, ENV'T F., May–June 2008, at 40, 41, 43. Mushal, *supra* note 20, at 1117–18. 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, 10398–99 (2005).

<sup>64</sup> Mintz, *supra* note 59, at 10511. A major drop occurred under President Trump, when 700 EPA employees left the agency and were not replaced. See *700+ Employees Have Left the EPA Under Trump: Loss of Scientists, Staffers Undermines Agency's Purpose*, ECOWATCH (Dec. 22, 2017), <https://www.ecowatch.com/epa-employees-leaving-2519323571.html>.

<sup>65</sup> *EPA's Budget and Spending*, U.S. ENV'T PROT. AGENCY, <https://www.epa.gov/planandbudget/budget> (Feb. 28, 2023). U.S. Inflation Calculator, *Inflation Calculator*, <https://www.usinflationcalculator.com/> (last visited Apr. 8, 2023).

<sup>66</sup> See generally, *Budget and Performance*, U.S. DEP'T JUST., <https://www.justice.gov/doj/budget-and-performance> (Mar. 13, 2023).

funding for the environment, but on closer observation, falls short of the mark. The enacted budget for FY 2022 for EPA is \$9.5 billion and funding for 14,581 staff and \$133 million for ENRD, which is not a significant increase for either agency, particularly for EPA to reach staffing levels found decades ago.<sup>67</sup> While the Biden Administration has added funding for environmental justice enforcement, a long overdue mandate, this and forthcoming mandates likely to require these agencies to manage carbon emissions are important, but must be funded alongside the original mission to enforce a variety of environmental statutes via a criminal process, which becomes more difficult with new mandates and stagnant or declining resources.<sup>68</sup>

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<sup>67</sup> *EPA's Budget and Spending*, *supra* note 65; U.S. DEP'T JUST., ENV'T & NAT. RES. DIV., GENERAL LEGAL ACTIVITIES 61 (2021), <https://www.justice.gov/jmd/page/file/1399021/download>.

<sup>68</sup> *Environmental Justice in Enforcement and Compliance Assurance*, U.S. ENV'T PROT. AGENCY, <https://www.epa.gov/enforcement/environmental-justice-enforcement-and-compliance-assurance> (Nov. 28, 2022); *New Enforcement Strategy Advances President Biden's Environmental Justice Agenda*, U.S. ENV'T PROT. AGENCY, <https://www.epa.gov/newsreleases/new-enforcement-strategy-advances-president-bidens-environmental-justice-agenda> (May 5, 2022). Focusing on environmental justice enforcement has resulted in increased discussion of CERCLA enforcement strategies here, *see* Alexander Bullock et al., *CERCLA – EPA Sharpens CERCLA Enforcement Tools to Focus on Environmental Justice Communities*, JD SUPRA (last updated Sept. 15, 2021), <https://www.jdsupra.com/legalnews/cercla-epa-sharpens-cercla-enforcement-5859476/>. *Environment and Natural Resources Division Distributes Memorandum Summarizing Enforcement Policies and Priorities*, U.S. DEP'T JUST. (Jan. 19, 2021), <https://www.justice.gov/opa/pr/environment-and-natural-resources-division-distributes-memorandum-summarizing-enforcement>. Funding could also include greater support for state enforcement and environmental enforcement associations. *See* Mushal, *supra* note 20, at 1125.