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From Austin to Santa Fe: Exploring the Prosecution of Environmental Crimes Within EPA Region 6

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ABSTRACT

Criminal violations of environmental law are prosecuted by EPA and DOJ. Despite decades of such prosecutions, there has been relatively little analysis done on existing patterns in criminal prosecution of environmental crimes, especially on a regional basis. This article analyzes the 287 prosecutions which occurred in EPA Region 6 between 1983–2022, out of the 2,807 total environmental crimes prosecuted by all of EPA during that period. In the selected cases, defendants were cumulatively assessed with over $908 million in monetary penalties, 225 years of incarceration, and 1,032 years of probation. At 43% of the selected prosecutions, water pollution crimes dominated the analysis, followed by hazardous substances (24%), air pollution (17%), and state-level crimes (14%). A majority of prosecutions took place in Louisiana and Texas. Based on our findings, we offer recommendations to enhance criminal enforcement through increased federal funding for core operations, supporting state criminal enforcement efforts, and building up criminal enforcement associations.

INTRODUCTION

On August 14, 2016, Harris County Pollution Control Services responded to a fire at SK Scrap Metal in Tomball, Texas, where between ten to fifteen 55-gallon drums had caught fire.[1] Subsequent investigations found that the owner of the drums, Advanced Powder Solutions, was illegally storing hazardous waste. The company was sentenced to pay $295,387 towards the cost of disposing of hazardous waste at their facility, serve 36 months of probation under EPA supervision, and pay a $50,000 fine.[2]

When companies violate federal environmental law the most common approach taken by regulators is to return them to compliance through the use of

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1. United States v. Advanced Powder Solutions, Inc., No. 4:21-CR-138 (S.D. Tex. Feb. 3, 2022).
2. *Id.*

administrative or civil remedies.[3] However, in cases where violations involve significant harm or culpable conduct—as in the case of Advanced Powder Solutions—the U.S. Environmental Protection Agency (EPA) pursues criminal investigations, working with the U.S. Department of Justice (DOJ) to seek criminal prosecution of the offending company.[4] Criminal enforcement of environmental law in the United States developed significantly in the 1980s, when Congress provided additional resources to EPA to police environmental crimes, resources for DOJ to prosecute them, and added felony provisions to many federal environmental statutes to provide a deterrent effect for serious violations of law.[5] While criminal enforcement is central to ensuring companies and other regulated entities comply with the law, very little is known about how criminal prosecution has evolved within EPA Region 6.[6]

We address this lack of understanding of criminal prosecution within EPA Region 6 through content analysis of all EPA criminal investigations from 1983 to 2022 that have led to criminal prosecution. We analyze 287 prosecutions within Arkansas, Louisiana, New Mexico, Oklahoma, and Texas and describe patterns in prosecutions, significant prosecutions, and develop a thematic analysis of prosecutions over time. We start with a discussion of EPA's founding and how Region 6 fits within EPA's organizational structure, then describe remedies for noncompliance with environmental law, our data and method, results and findings, and conclusions and recommendations that focus on added funding for criminal

3. *See Basic Information on Enforcement*, EPA, https://perma.cc/V3MA-4YE9 (Nov. 2, 2022).

4. 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) (on file with author). Prosecutors may pursue criminal prosecution "for cases with one or more of the following aggravating factors: (1) significant environmental harm or public health effects; (2) deceptive or misleading conduct; (3) operating outside the regulatory system; or (4) repetitive violations." *See also* David M. Uhlmann, *Prosecutorial Discretion and Environmental Crime*, 38 HARV. ENV'T. L. REV. 159, 164 (2014). *See also Criminal Enforcement Overview*, EPA, https://perma.cc/P89V-UFJE (July 7, 2022) (explaining how the EPA's criminal enforcement program pursues individual and corporate defendants).

5. Deterrence theory, which, broadly stated, is the idea that individuals and companies will "comply with environmental laws where they perceive it is in their economic self-interest to do so" has remained the original and consistent basis for the EPA's criminal enforcement philosophy. Joel A. Mintz, *Thinking Beyond Gridlock: Towards a Consistent Statutory Approach to Federal Environmental Enforcement*, 46 ENV'T. L. 241, 243 (2016). *See, e.g.*, Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) 7 U.S.C. § 136l(b) (providing criminal penalties for violations, although the only felony provision is for disclosure of confidential information, a non-environmental crime). *See also* Michael J. McClary & Jessica B. Goldstein, *FIFRA at 40: The Need for Felonies for Pesticide Crimes*, 47 ENV'T. L. REP. NEWS & ANALYSIS, 10767, 10769–10771 (discussing criminal penalties under FIFRA and describing historical efforts to strengthen FIFRA); *Criminal Provisions of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)*, EPA, https://perma.cc/H478-QJJY (Mar. 27, 2023) (providing general descriptions of the criminal provisions under FIFRA).

6. EPA Region 6 includes Arkansas, Louisiana, New Mexico, Oklahoma, Texas, and 66 Tribal Nations. *EPA Region 6 (South Central)*, EPA, https://perma.cc/SNE6-5XXP (Mar. 6, 2023); *see also* 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, 50 (2020) (exploring the effect of changing presidential administrations on EPA criminal enforcement outcomes); Michael J. Lynch, *The Sentencing/Punishment of Federal Environmental/Green Offenders, 2000–2013*, 38 DEVIANT BEHAV. 991, 1001–1002 (examining potential variation in sentencing for environmental crimes across U.S. EPA regions).

enforcement, developing stronger collaboration and funding for state-level enforcement efforts, and professionalizing criminal justice associations.

I. BACKGROUND

A. EPA Organization and Region 6

The EPA was born during the Nixon Administration, when the President's Advisory Council on Executive Organization issued the Ash Council Memo suggesting the creation of a singular entity to lead in environmental regulation.[7] EPA has a number of regulatory responsibilities over hazardous and solid waste management, pesticides, chemical substances, air pollution, and water pollution.[8] A series of environmental disasters—such as the Santa Barbara Oil Spill,[9] Los Angeles Smog,[10] and Cuyahoga River Fire[11]—brought national attention to environmental issues. President Nixon created an agency to manage these problems by ushering in an executive reorganization to establish EPA.[12]

Nixon's Executive Order 1110.2 instituted the initial structure of EPA, creating an organization consisting of multiple, intertwined administrative offices with a broad, but singular mission to protect the environment.[13] These offices were formed by folding existing agencies or responsibilities from the Department of Agriculture, Council on Environmental Quality, Federal Radiation Council, Atomic Energy Commission, and others into the new EPA.[14] In addition to offices focused on specific enforcement areas—such as the Air Pollution Control Office—the Order also included the creation of EPA's Regional Offices.[15] The implementation of EPA policing and coordination with state agencies, as well as enforcement, was diffused across the ten regional offices.[16] EPA Region 6 consists of five states: Arkansas, Louisiana, New Mexico, Oklahoma, and Texas.[17] The region's main office is in

7. Memorandum from President's Advisory Council on Exec. Org. to Exec. Off. of the President (Ash Council Memo) (Apr. 29, 1970).

8. *Our Mission and What We Do*, EPA, https://perma.cc/J9K3-FB43 (June 13, 2022).

9. *45 Years after the Santa Barbara Oil Spill, Looking at a Historic Disaster Through Technology*, NOAA OFF. OF RESPONSE & RESTORATION (Jan. 28, 2014), https://perma.cc/A7MT-94A7.

10. Cody Rosenfield, *The Los Angeles Summer of Smog*, COAL. FOR CLEAN AIR (Oct. 3, 2018), https://perma.cc/KJ2L-6HRB.

11. *The 1969 Cuyahoga River Fire*, NAT'L PARK SERV., https://perma.cc/7K6G-68CS (May 3, 2022).

12. Special Message from the President to the Congress About Reorganization Plans to Establish the Envt'l Prot. Agency and the Nat'l Oceanic and Atmospheric Admin. (July 9, 1970), https://perma.cc/LD65-EZJ5.

13. Dennis C. Williams, *Why Are Our Regional Offices and Labs Located Where They Are? A Historical Perspective on Siting*, EPA (Mar. 1993), https://perma.cc/ZPF2-M3MV (Aug. 15, 2022).

14. Nixon provided reorganization plans to Congress to create EPA and the National Oceanic and Atmospheric Administration (NOAA). *EPA's Origins: Duties Transferred to EPA from Other Federal Agencies*, EPA, https://perma.cc/7P6A-7G6T (Sept. 6, 2016).

15. Williams, *supra* note 13.

16. *Regional and Geographic Offices*, EPA, https://perma.cc/72EJ-RMN4 (Jan. 17, 2023).

17. Region 6 also serves 66 Tribal Nations. *EPA Region 6 (South Central)*, EPA, https://perma.cc/94V3-TTYB (Mar. 6, 2023).

Dallas, Texas, and contains several subdivisions dedicated to specific administrative, enforcement, and compliance areas.[18]

B. Developing Environmental Criminal Law

The first misdemeanor penalties for environmental violations came into federal environmental statutes through the Rivers and Harbors Act at the turn of the 20th century.[19] Continuing until the 1980s, the federal government's approach to managing environmental violations focused on applying civil sanctions or injunctive relief.[20]

EPA was formed with the sole organizational obligation to protect the environment.[21] Following its creation, Congress passed the most extensive set of new environmental laws to authorize the Agency to act in a variety of areas. These areas included the Clean Water Act (CWA),[22] Clean Air Act (CAA),[23] Resource Conservation and Recovery Act (RCRA),[24] Toxic Substances Control Act (TSCA),[25] and the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).[26]

By the mid-1970s, it became apparent that passage of these new environmental laws would mean environmental law enforcement agencies would need to be developed, they would need to be given resources to enforce the law, and laws would need to change accordingly to have enhanced penalties for purposes of punishment and deterrence.[27] This need became evident outside the United States as other countries moved to criminalize environmental violations in the 1980s,[28] with

18. *Organization of EPA's Region 6 Office in Dallas*, EPA, https://perma.cc/AZW3-SYEX (Feb. 14, 2023).

19. *Historical Development of Environmental Criminal Law*, U.S. DEP'T OF JUST.: ENV'T & NAT. RES. DIV., https://perma.cc/AU26-QA57 (May 13, 2015).

20. Robert I. McMurry & Stephen D. Ramsey, *Environmental Crime: The Use of Criminal Sanctions in Enforcing Environmental Laws*, 19 LOY. L.A. L. REV. 1133, 1134 (1986).

21. *See* Press Release, EPA, EPA's First Administrator on the Establishment of the EPA (Dec. 16, 1970) (https://perma.cc/N8PP-62NV).

22. Federal Water Pollution Control Act of 1972, Pub. L. No. 92-500, § 101, 86 Stat. 816 (1972). The Federal Water Pollution Control Act (commonly referred to as the "Clean Water Act") provided EPA authority to create a system of managing discharges from the navigable waters of the United States. *Summary of the Clean Water Act*, EPA, https://perma.cc/MDP7-ZVGS (July 6, 2022).

23. Clean Air Act Amendments of 1990, 42 U.S.C. §§ 7401–7431 (1990).

24. Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901–6908 (1984). RCRA authorizes EPA to regulate solid waste and develop a permitting system to regulate hazardous waste from cradle to grave. *Resource Conservation and Recovery Act (RCRA) Overview*, EPA, https://perma.cc/W77B-T7LX (Nov. 15, 2016).

25. Toxic Substances Control Act, 53 U.S.C. §§ 2601–2629 (2016). TSCA authorizes EPA to regulate chemical substances, from manufacturing, use in commerce, and importation. *Learn About the Toxic Substances Control Act*, EPA, https://perma.cc/Q2MC-ZST2 (July 5, 2022).

26. Federal Insecticide, Fungicide, and Rodenticide Act ("FIFRA"), 7 U.S.C. §§ 136–136y (1996); authorizes EPA to manage health risks from pesticides and to regulate commercial applicators, importation of pesticides and other issues related to pesticides. *Summary of the Federal Insecticide, Fungicide, and Rodenticide*, EPA, https://perma.cc/W69T-XQJ3 (Sept. 12, 2022).

27. Richard J. Lazarus, *Assimilating Environmental Protection into Legal Rules and the Problem with Environmental Crime*, 27 LOY. L.A. L. REV. 867, 869–870 (1994).

28. Michael R. Pendleton, *Beyond the Threshold: The Criminalization of Logging*, 10 SOC'Y & NAT. RES. 181, 181 (1997).

the U.S. Congress eventually following suit later in the 1980s by adding felony provisions to federal environmental statutes.[29]

C. Types of Enforcement

Violations of environment law are generally handled by returning them to compliance with the law.[30] EPA can apply administrative sanctions or other remedies that can include notice that a violation has occurred, issuing an order of correction, or imposing a fine.[31] EPA can also apply civil remedies.[32] Compliance tools in civil enforcement can include temporary or permanent injunctive relief,[33] administrative orders on consent or agreement, environmental mitigation plans,[34] monitoring plans,[35] supplemental environmental projects (SEP), or having a court issue a temporary or permanent injunction.[36] EPA can also pursue civil lawsuits, or they may negotiate a consent decree (settlement) allowing the noncompliant organization to regain compliance and avoid admitting guilt.[37]

EPA defines an environmental crime as a "knowing or negligent violation of an environmental law."[38] However, when violations involve culpable conduct or serious harm, EPA may initiate a criminal investigation and seek criminal sanctions, where the goal moves beyond compliance to punishment and deterrence, both for the offender and to set examples for the regulated community.[39] These situations warrant

29. The Rivers and Harbors Act of 1899 was the first federal law to criminalize environmental violations. *See* Rivers and Harbors Act, 33 U.S.C. §§ 401–467*o* (2016); Lacey Act, 16 U.S.C §§ 3371–3378 (2022); *Historical Development of Environmental Criminal Law*, *supra* note 19. *See also* Theodora Galactos, *The United States Department of Justice Environmental Crimes Section: A Case Study of Inter- and Intrabranch Conflict over Congressional Oversight and the Exercise of Prosecutorial Discretion*, 64 FORDHAM L. REV. 587, 591 (1995).

30. *Basic Information on Enforcement*, EPA, https://perma.cc/VBK2-YRD3 (Nov. 2, 2022); *Types of Approaches to RCRA Corrective Action Enforcement Actions*, EPA, https://perma.cc/5JG6-XCEQ (Jan. 5, 2023) (examples of corrective action under RCRA). Some authors have argued that EPA also applies a restorative justice approach in its enforcement actions. Civil enforcement efforts result in penalties, but there is often a restorative approach to having the polluter remediate harms and restore a community to a state prior to the environmental injury caused by the polluter. *See* Michael L. Rustad et al., *Restorative Justice to Supplement Deterrence-Based Punishment: An Empirical Study and Theoretical Reconceptualization of the EPA's Power Plant Enforcement Initiative, 2000-2011*, 65 OKLA. L. REV. 427, 467–469 (2013).

31. *Basic Information on Enforcement*, *supra* note 3.

32. *See generally* LAWRENCE E. STARFIELD, EPA, USING ALL APPROPRIATE INJUNCTIVE RELIEF TOOLS IN CIVIL ENFORCEMENT SETTLEMENTS (2001).

33. *See* SUSAN SHINKMAN, EPA, SECURING MITIGATION AS INJUNCTIVE RELIEF IN CERTAIN CIVIL ENFORCEMENT SETTLEMENTS 1–3 (2d ed. 2012).

34. *See generally* ROBERT VAN HUEVELEN, EPA, GUIDANCE ON USE OF PENALTY POLICIES IN ADMINISTRATIVE LITIGATION (1995).

35. For a general discussion of injunctive relief options in civil enforcement settlements, see STARFIELD, *supra* note 32, at 4–5.

36. *Supplemental Environmental Projects (SEPs)*, EPA, https://perma.cc/FG5T-BBUK (Jan. 20, 2023). Examples of EPA civil enforcement actions are found by searching the Enforcement and Compliance History Online (ECHO) database. *Enforcement and Compliance History Online*, EPA, https://perma.cc/G3WL-3YXJ (last visited Mar. 26, 2023).

37. STARFIELD, *supra* note 32.

38. EPA, OCEFT AT A GLANCE 1 (2017).

39. Lynch, *supra* note 6, at 991–995.

a more criminal enforcement approach where EPA may work with prosecutors within DOJ to pursue criminal prosecution.[40] A state agency may also choose to pursue criminal prosecution.[41]

D. Institutionalizing EPA's Policing Resources

Soon after EPA's founding it became apparent to administrators that the agency would need to institutionalize policing resources for monitoring environmental violations. One such moment occurred when the agency implemented its Major Source Enforcement Efforts (MSEE) to bring facilities into compliance with looming CAA and CWA guidelines set by Congress, and the agency encountered a significant level of noncompliance.[42] The Office of Enforcement was organized in 1981, hired 22 criminal investigators the following year, and cemented ties with DOJ by hiring DOJ attorney Peter Beeson as Director of the Office.[43] Congress passed the Medical Waste Tracking Act in 1988, giving criminal investigators full law enforcement authority with the U.S. Attorney General approving them to carry firearms in their official capacities the following year.[44] Congress passed the Pollution Prosecution Act in 1990, authorizing the hiring of between 145 and 200 criminal investigators, which significantly bolstered resources for policing environmental crimes and those staff are now housed within the Criminal Investigation Division (EPA-CID).[45]

E. Institutionalizing DOJ's Resources for Prosecution

Organizing federal resources to enforce environmental law may be traced back to the founding of the Public Lands Division in 1909, where DOJ was tasked with overseeing emerging natural resources law.[46] DOJ engaged in the selective prosecution of environmental crimes in the decades leading up to the 1970s, but it was not until it formed the Environmental Crimes Unit that the agency worked to more formally institutionalize this process.[47] Following EPA's organization of the

40. Devaney, *supra* note 4, at 3–4.

41. Lucia Ann Silecchia, *Ounces of Prevention and Pounds of Cure: Developing Sound Policies for Environmental Compliance Programs*, 7 FORDHAM ENV'T L. REV. 583, 595 (2011).

42. Congress was also exerting pressure on EPA at the time to generate real enforcement outcomes. *See* McMurry & Ramsey, *supra* note 20, at 1134–1142.

43. *Id.* at 113. The EPA employed 23 criminal investigators by 1983 and by 1990, the criminal enforcement program employed 110 people, including 43 investigators (also known as Special Agents). *See* Lazarus, *supra* note 27, at 870–871.

44. Raymond W. Mushal, *Up From the Sewers: A Perspective on the Evolution of the Federal Environmental Crimes Program*, 2009 UTAH L. REV. 1103, 1103–1107; Medical Waste Tracking Act of 1988, Pub. L. No. 100-582, § 1, 102 Stat. 2950, 2950 (1988); JOHN PETER SUAREZ, EPA, MANAGEMENT REVIEW OF THE OFFICE OF CRIMINAL ENFORCEMENT, FORENSICS & TRAINING 7 (2003).

45. Pollution Prosecution Act of 1990, Pub. L. No. 101-593, § 201, 104 Stat. 2954, 2962 (1990). The number of criminal investigators varies by source. Estimates range from 145 to around 200, depending on whether one includes support staff. *See* U.S. ENVIRONMENTAL PROTECTION AGENCY CRIMINAL ENFORCEMENT PROGRAM, AMERICA'S ENVIRONMENTAL CRIME FIGHTERS 11; *EPA CID Agent Count*, PUB. EMPS. ENV'T RESP. (PEER), https://perma.cc/68E2-KPTV (last visited Apr. 23, 2023).

46. Dep't of Just. Env't & Nat. Res. Div., *History*, https://perma.cc/UWQ4-LXWA (May 18, 2021).

47. Lazarus, *supra* note 27, at 868–870.

Office of Enforcement, by 1982 DOJ had created the Environmental Crimes Section (DOJ-ECS). Here it began institutionalizing resources for the prosecution of environmental crimes, with DOJ-ECS—housed within the Environment and Natural Resources Division (ENRD)—becoming its own unit in 1987.[48] Today, 43 attorneys and a dozen staff work within DOJ-ECS specializing in the prosecution of environmental crimes.[49]

EPA states there are seven signs of an environmental crime including, "[s]trong, offensive, or unusual chemical odors; [l]arge numbers of dead birds, fish or other animals; [p]ipes or valves that bypass waste treatment systems; [t]ank trucks discharging into drains, manholes or surface waters; [o]ily slicks on bodies of water; [c]orroded, leaking waste containers; and [d]rums or containers dumped at odd hours in out-of-the-way places."[50] EPA, DOJ, and state and local law enforcement and environmental agencies often collaborate when investigating such environmental crimes.[51] EPA is responsible for monitoring and policing violations, while DOJ prosecutors work with investigators to prosecute offending parties. One might trace the origins of this relationship to 1976, when 52 RCRA civil actions were initiated via an EPA and DOJ hazardous waste taskforce.[52] Criminal investigators have a large amount of professional discretion to pursue investigations.[53] Criminal investigations are built from information provided by whistleblowers, civil inspections, or other regulatory filings, and when EPA criminal investigators feel they have sufficient evidence of a crime to move forward, they approach DOJ prosecutors to file a criminal complaint in federal court or convene a grand jury.[54]

Congress attached significant criminal penalties when adding felony provisions to environmental law—intending for those penalties to have a deterrent effect—which is why felony violations of law can include incarceration or stiff fines.[55] Convictions of knowing endangerment, for example, where one places another person in imminent danger of death or serious bodily injury, can result in 15 years of incarceration per offense and/or fines up to $250,000 for individuals or up

48. U.S. DEP'T OF JUST.: ENV'T & NAT. RES. DIV., *supra* note 19.

49. *Environmental Enforcement Section (EES): An Overview of Our Practice*, U.S. DEP'T OF JUST. ENV'T & NAT. RES. DIV., https://perma.cc/E2JD-CK88 (May 14, 2015); *Environmental Crimes Section*, U.S. DEP'T OF JUST. ENV'T & NAT. RES. DIV., https://perma.cc/93JB-RSSM (July 2, 2021).

50. EPA, *supra* note 38.

51. Joel A. Mintz, *Some Thoughts on the Interdisciplinary Aspects of Environmental Enforcement*, 36 ENV'T L. REP. 10495, 10495–96 (2006).

52. McMurry & Ramsey, *supra* note 20, at 1138.

53. *Id.* at 1161. Congress was not strict in deciding which environmental violations result in civil, administrative, or criminal enforcement, opening up prosecutorial discretion on how to proceed in particular cases. *See* Uhlmann, *supra* note 4, at 159–60.

54. Mintz, *supra* note 51, at 10496–97. According to EPA: "federal law enforcement agents – with full Federal authority to conduct investigations, carry firearms, make arrests, and execute search and arrest warrants," "investigate serious environmental crimes," as do "[s]pecially trained investigators, chemists, engineers, technicians . . . and [a]ttorneys with environmental crimes expertise . . . EPA special agents talk and listen to suspects and witnesses, conduct surveillance, seize and analyze records, find people and information, work with forensics experts, prosecutors and other police involved, analyze evidence and data and testify in court*." See* EPA, *supra* note 38.

55. Mushal, *supra* note 44, at 1119–22.

to $1 million in fines per offense for organizations.[56] Another factor that enhances the deterrent effect of felony provisions is that criminal prosecution may focus on malfeasance committed by company officials or corporate officers in an individual capacity whereas civil actions tend to focus on crimes committed by a corporation or other organization.[57] The combination of stiff penalties for committing felony violations and the ability of prosecutors to seek criminal punishments for officials within an organization helps demonstrate the deterrent effect intended by Congress, while also signaling to federal law enforcement agencies to take environmental crime seriously.[58]

However, there is still a lack of complete understanding of the deterrent effect of criminal prosecution for reducing environmental crimes.[59] Studies show prosecutors have been motivated historically to seek significant penalties and pursue complex investigations.[60] Research has also shown that prosecutors are able to secure significant penalties for environmental crimes at sentencing in a variety of contexts.[61] Yet there is still very little known about the overall patterns of prosecutions and sentencing with environmental criminal prosecutions within EPA Region 6.

We attempt to remedy this absence through content analysis of 287 criminal prosecutions occurring within Region 6 between1983–2022. In our analysis we describe broader patterns in prosecutions over time, within and across states, and charging statutes. We then show significant prosecutions and penalties secured by prosecutors over time in the region. Finally, we explore themes in prosecutions over time to develop a better thematic understanding of what types of crimes have been prosecuted in the region.

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56. *Criminal Provisions of the Resource Conservation and Recovery Act*, EPA, https://perma.cc/VU82-YU73 (Mar. 27, 2023).

57. McMurry & Ramsey, *supra* note 20, at 1157–60; Robert T. McGovern, *United States v. Johnson & Towers, Inc.: Corporate Employee Criminal Liability under RCRA*, 2 PACE ENV'T L. REV. 316, 328–29 (1985); 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, 1072–73 (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, 1–2 (1993). EPA and DOJ may pursue both civil and criminal measures and they often apply criminal tools for particularly egregious offenses on top of pursuing civil damages. *See* McMurry & Ramsey, *supra* note 20, at 1163–64.

58. Lazarus, *supra* note 27, at 868–71 (conveying that this message is still clear and spawned an entire field of criminal defense for companies and their officers in a number of industries).

59. Carole M. Billiet & Sandra Rousseau, *How Real is the Threat of Imprisonment for Environmental Crime?* 37 EUR. J. L. & ECON. 183, 183–86 (2014); Raymond Paternoster, *How Much Do We Really Know about Criminal Deterrence?* 100 J. CRIM. L. & CRIMINOLOGY 765, 765–68 (2010); 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, 1096–99 (2016).

60. Uhlmann, *supra* note 4, at 159–60; 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 & ENERGY L. 312, 351–62 (2019).

61. For empirical studies on state and local environmental crime enforcement, see generally Matthew S. Crow et al., *Camouflage-Collar Crime: An Examination of Wildlife Crime and Characteristics 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).

II. DATA AND METHOD

To capture data on criminal prosecutions that resulted from EPA-CID criminal investigations we accessed EPA's Summary of Criminal Prosecutions Database.[62] We found a total of 2,807 cases from the database since the first case was adjudicated in 1983 to the end of our data collection on November 20, 2022. We then selected all prosecutions adjudicated within EPA Region 6, which includes cases from Arkansas, Louisiana, New Mexico, Oklahoma, and Texas. We captured data on all 287 prosecutions adjudicated in these states.[63] We analyzed each case summary and collected the following data from each case: a narrative description of the case, an identifier for the fiscal year, the name of the primary defendant in the case, docket number identified in the case summary, an identifier for the state of prosecution, the major environmental laws violated in the case including the CWA, RCRA, CAA, TSCA, FIFRA, and CERCLA, as well as any other major federal environmental laws, if state environmental laws were violated, criminal charges including obstruction, conspiracy, false statements, fraud, and other Title 18 offenses, the number of named defendants in the prosecution, whether at least one company is a named defendant in the case, and sentencing data aggregate across all companies and individuals in the case including total probation and incarceration in months and total monetary penalties including fines, fees, restitution, special assessments, and any other monetary assessments levied at sentencing.

We used content analysis to explore and understand the data present in the case summaries that we analyzed in EPA's database.[64] Our analytical method featured two individuals coding data independently of one another during a pilot phase that lasted about four weeks. When we were familiar with the data and had determined what we sought to extract from the summaries, we moved forward with the full analysis. Each coder analyzed the data and coded it into a spreadsheet and one of the authors reviewed the data for any discrepancies. When differences occurred, we met and discussed the differences and found consensus. Lack of inter-coder agreement typically came from ambiguous data or complex sentencing data. The overall intercoder reliability for the project was approximately 95%.[65]

III. RESULTS

A. Patterns in Prosecutions

The analysis begins with a description of patterns in prosecutions. Figure 1 shows the total prosecutions adjudicated by EPA during fiscal year 1983–2022. In 1983, a total of two prosecutions were adjudicated, with three adjudicated in 1987, and a total of nine adjudicated during the decade.[66] In the 1990s, prosecutions

62. *Summary of Criminal Prosecutions Database*, EPA, https://perma.cc/47BD-R7WH (July 5, 2022).

63. *EPA Region 6 (South Central)*, EPA, https://perma.cc/NAE2-PDGQ (Mar. 6, 2023).

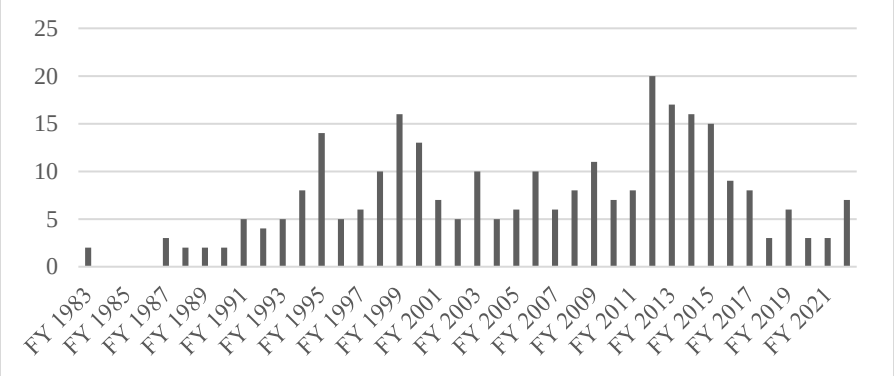
64. *Content Analysis*, COLUM. SCH. OF PUBL. HEALTH**,** https://perma.cc/GP5S-QYZP (last visited Apr. 23, 2023).

65. *See* Cliodhna O'Connor & Helene Joffe, *Intercoder Reliability in Qualitative Research.: Debates and Practical Guidelines*, 19 INT'L J. QUALITATIVE METHODS 1, 9 (2020).

66. *See infra* Figure 1.

increase significantly, with 75 adjudicated during the decade. From 2000–09, prosecutions rose to 81 and by the end of the decade, from 2010–22, prosecutions rise again to 122.[67] A grand total of 287 prosecutions were adjudicated within EPA Region 6 from 1983 to 2022, averaging about 7.2 prosecutions per year.[68]

Figure 1. Annual Environmental Crime Prosecutions Adjudicated in Region 6 by EPA Fiscal Year, 1983-2022.

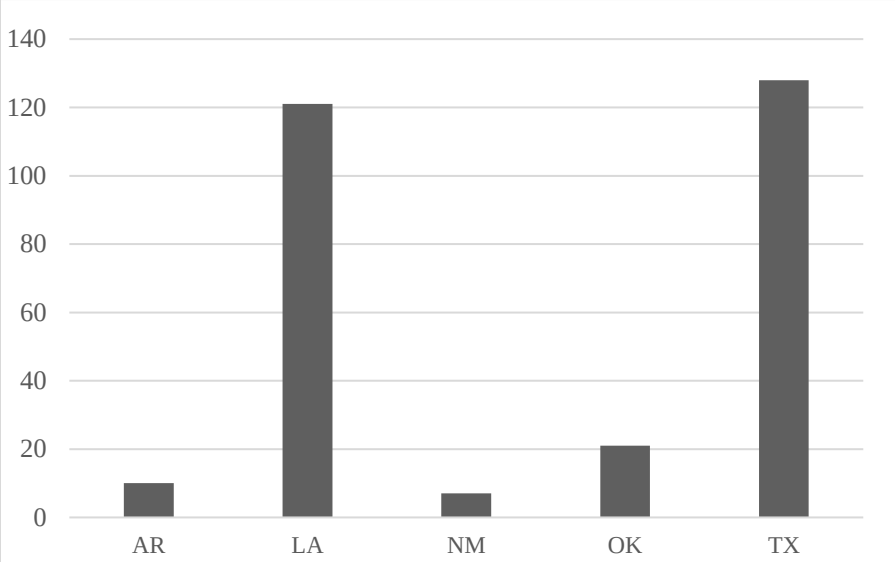


Source: Summary of Criminal Prosecutions Database, EPA, https://cfpub.epa.gov/compliance/criminal_prosecution/ (Mar. 21, 2023).

In Figure 2, we describe the total environmental crime prosecutions occurring in each state within Region 6. With seven prosecutions adjudicated, New Mexico has the lowest level of prosecution in the analysis. Our analysis shows ten prosecutions were adjudicated in Arkansas and 21 in Oklahoma.[69] 121 prosecutions were adjudicated in Louisiana and 128 in Texas, meaning that about 87% of prosecutions were adjudicated in these two states alone.[70]

67. *See infra* Figure 1.
68. *See infra* Figure 1.
69. *See infra* Figure 2.
70. *See infra* Figure 2.

Figure 2. Total Environmental Crime Prosecutions in EPA Region 6 by U.S. State, 1983-2022.

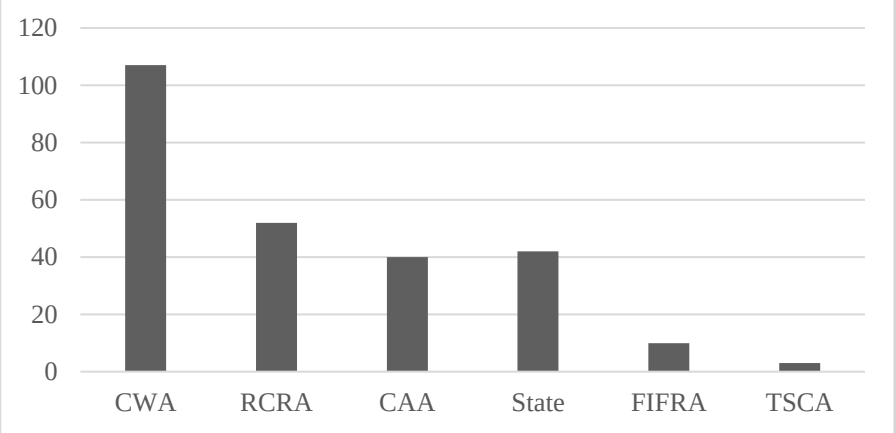


Source: Summary of Criminal Prosecutions Database, EPA, https://cfpub.epa.gov/compliance/criminal_prosecution/ (Mar. 21, 2023).

Our analysis shows charging patterns for environmental crime prosecutions occurring within EPA Region 6 in Figure 3. Water pollution crimes dominate the data. About 37% of prosecutions or 107 cases involve violations of the CWA in our analysis.[71] In 52 prosecutions or 18% of prosecutions in our analysis, at least one defendant was charged under RCRA for a hazardous waste crime.[72] In 40 prosecutions or about 14% of cases, at least one defendant was charged with an air pollution crime under the CAA.[73] In 15% of prosecutions or 42 cases, at least one defendant was charged with violations of a state-level environmental law.[74] In ten prosecutions at least one defendant was charged with a pesticide crime under FIFRA and in three prosecutions, at least one defendant was charged with a chemical substances crime under TSCA.[75]

71. *See infra* Figure 3.
72. *See infra* Figure 3.
73. *See infra* Figure 3.
74. *See infra* Figure 3.
75. *See infra* Figure 3.

Figure 3. Patterns in Environmental Crime Prosecutions in EPA Region 6, 1983–2022.

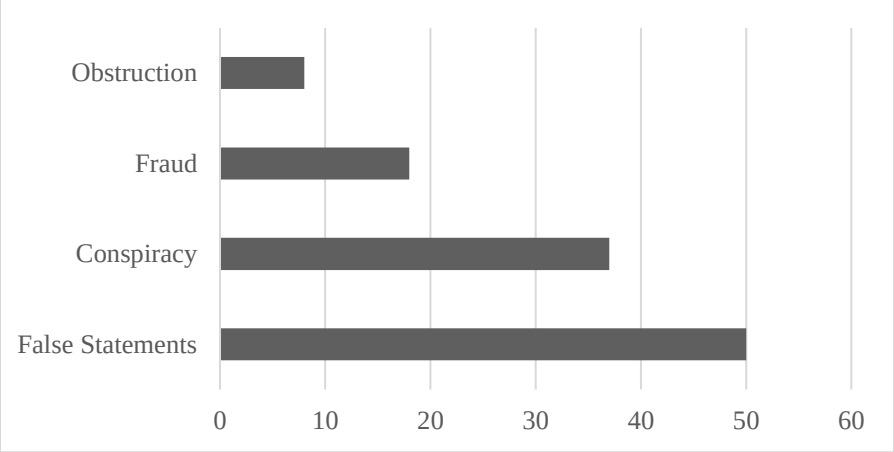


Source: Summary of Criminal Prosecutions Database, EPA, https://cfpub.epa.gov/compliance/criminal_prosecution/ (Mar. 21, 2023).

In Figure 4, we describe patterns in criminal charges in environmental crime prosecutions occurring within EPA Region 6. The analysis shows a large percentage of cases involve one or more criminal charges and other Title 18 violations, such as fraud, false statements, and obstruction. In 106 cases or 37% of prosecutions, at least one defendant was charged with one or more of these crimes.[76] The most common criminal offense involved giving false statements to officials or making false statements on official documents. At least one defendant was charged with making false statements in 50 prosecutions or 17% of cases.[77] In 37 cases or about 13% of prosecutions defendants were charged with conspiracy.[78] In 18 prosecutions or 2% of cases, at least one defendant was charged with fraud and in 8 prosecutions at least one defendant was charged with obstruction.[79] These high levels of criminal activity align with previous studies suggesting aggregating factors such as these play a significant role in the decision to pursue criminal prosecution.

76. *See infra* Figure 4.
77. *See infra* Figure 4.
78. *See infra* Figure 4.
79. *See infra* Figure 4.

Figure 4. Patterns in Criminal Charges in Environmental Crime Prosecutions in EPA Region 6, 1983–2022.



Source: Summary of Criminal Prosecutions Database, EPA, https://cfpub.epa.gov/compliance/criminal_prosecution/ (Mar. 21, 2023).

In Table 1, we describe the total penalties assessed to all individual defendants and companies in environmental crime prosecutions occurring within EPA Region 6. In the upper-left quadrant, the table shows the total monetary penalties assessed to all individual and company defendants at sentencing.[80] Of the monetary penalties assessed, individuals were cumulatively sentenced to pay over $255 million and companies were cumulatively sentenced to pay over $653 million at sentencing.[81] In the upper-right quadrant, the table shows the total probation time in months assessed at sentencing to all individual defendants and companies in our analysis.[82] Of the probation time assessed, individual defendants were collectively sentenced to serve 9,146 months and companies were collectively sentenced to serve 3,234 months' probation at sentencing.[83] In the lower-left quadrant the table shows defendants were given 2,696 months of incarceration at sentencing.[84] In the lower-right quadrant, 13,993 months of community service were collectively assessed to defendants at sentencing.[85]

80. *See infra* Table 1.
81. *See infra* Table 1.
82. *See infra* Table 1.
83. *See infra* Table 1.
84. *See infra* Table 1.
85. *See infra* Table 1.

Table 1. Total Penalties Assessed in Environmental Crime Prosecutions in EPA Region 6, 1983–2022.

Monetary Penalties Individuals: $255,367,210 Companies: $653,383,534	*Probation (Months)* Individuals: 9,146 Companies: 3,234
Incarceration (Months) 2,696	*Community Service (Hours)* 13,993

Source: Summary of Criminal Prosecutions Database, EPA, https://cfpub.epa.gov/compliance/criminal_prosecution/ (Mar. 21, 2023).

B. Significant Prosecutions

We begin to describe significant prosecutions in the second section of the analysis that impact broader trends shown in the previous section. Table 2 shows an analysis of significant probation cases within EPA Region 6. Of the significant prosecutions analyzed, three large penalty probations stand out. These cases involve the prosecutions of Utilities Management Services,[86] Rowan Companies,[87] and Craven Laboratories.[88] The government prosecuted Utilities Management for obstruction of justice and violating the CWA for failing to maintain water treatment plants, lying on discharge monitoring reports, and offering money to an employee to lie to federal investigators about said reports.[89] Federal prosecutors indicted Rowan Companies, Inc. for discharging hydraulic fluid from a drilling rig into the Gulf of Mexico and illegally discharging other materials into the Sabine Pass.[90] Officials charged Craven Laboratories for producing fraudulent pesticide residue tests and making false statements, committing mail fraud, and obstruction. These charges were in addition to the original FIFRA violations in the case.[91]

86. *See* United States v. Utilities Management Services, No. 98-276 (E.D. La. 2001).
87. *See* United States v. Rowan Companies, Inc., No. 1:07-CR-148 (E.D. Tex. 2008).
88. *See* United States v. Craven Laboratories, Inc., No. A-92-CR-152 (W.D. Tex. 1994).
89. *See* United States v. Utilities Management Services, No. 98-276 (E.D. La. 2001).
90. *See* United States v. Rowan Companies Inc., No. 1:07-CR-148 (E.D. Tex. 2008).
91. *See* United States v. Craven Laboratories, Inc., No. A-92-CR-152 (W.D. Tex. 1994).

Table 2. Large Probation Sentences Assessed in Environmental Crime Prosecutions within EPA Region 6.

Defendant	*Fiscal Year*	*Crime*	*Total Probation (Months)*
Utilities Management Services	2001	Water Pollution	472
Rowan Companies	2008	Water Pollution	264
Craven Laboratories	1994	Hazardous Substances	276

Source: Summary of Criminal Prosecutions Database, EPA, https://perma.cc/F63S-85K3 (last visited Mar. 21, 2023).

Table 3 shows large penalty incarceration sentences from EPA Region 6. We provide case examples with the prosecution of Lucius Flanagan, Jeffrey David Gunselman, and Charles Ferris Callihan.[92] These prosecutions resulted in 593 months of incarceration assessed at sentencing, making up 22% of total incarceration assessed in the data, if 593 is divided by total incarceration given in Table 1.[93] Unlike probation, these prosecutions show that a few significant cases can have a robust impact on overall incarceration trends in our data.

Prosecutors charged Lucius, Donald, and Lionel Flanagan for illegally storing hazardous waste and discharging production waste into Halls Bayou.[94] The government indicted Jeffrey David Gunselman, the owner of Absolute Fuels, Inc., for conducting 51 fraudulent transactions claiming to produce biofuel.[95] Officials charged Charles Ferris Callihan, along with other officials from Explo Systems, Inc., for defrauding the United States by failing to properly demilitarize munitions for the U.S. Army.[96]

92. *See* United States v. Flanagan, No. CR94-21570 (Tex. 1995); United States v. Gunselman, No. 5:12-CR-00078-C-BG (N.D. Tex. 2013); United States v. Callihan, No. 16-CR-00214-06 (W.D. La. 2019).

93. *See* United States v. Flanagan, No. CR94-21570 (Tex. 1995); United States v. Gunselman, No. 5:12-CR-00078-C-BG (N.D. Tex. 2013); United States v. Callihan, No. 16-CR-00214-06 (W.D. La. 2019).

94. United States v. Flanagan, No. CR94-21570 (Tex. 1995) (showing the defendants were collectively sentenced to serve 180 months of incarceration, with all but 180 days suspended for each defendant).

95. United States v. Gunselman, No. 5:12-CR-00078-C-BG (N.D. Tex. 2013) (finding the defendant fraudulently claimed to produce biofuels at his facility Absolute Fuels in Anton, Texas, netting over $41 million in illegal proceeds. Defendant was sentenced to serve 188 months of incarceration. Defendant was also ordered to pay over $54 million in restitution and a $175,000 fine).

96. United States v. Callihan, No. 16-CR-00214-06 (W.D. La. 2019) (finding the companies practices resulted in an explosion at Camp Minden, Louisiana and the evacuation of a nearby town. The defendants were collectively sentenced to serve 225 months of incarceration).

Table 3. Large Incarceration Sentences Assessed in Environmental Crime Prosecutions within EPA Region 6.

Defendant	*Fiscal Year*	*Crime*	*Total Incarceration (Months)*
Lucius Flanagan	1995	State-Level Crime	180
Jeffrey David Gunselman	2013	Air Pollution	188
Charles Ferris Callihan	2019	Hazardous Substances	225

Source: Summary of Criminal Prosecutions Database, EPA, https://perma.cc/F63S-85K3 (Mar. 21, 2023).

Table 4 describes large monetary penalties assessed to companies at sentencing within EPA Region 6. Like incarceration totals, overall patterns in monetary penalties are strongly affected by a few large penalty outliers.[97] Three prosecutions are listed in the table, including the prosecutions of Transocean,[98] BP Products North America,[99] and Koch Industries.[100] These three cases alone make up $470 million in monetary penalties which makes up about 52% of total monetary penalties noted in Table 1 and shows an extreme influence of a few cases on overall outcomes in our analysis.[101]

Table 4. Examples of Large Monetary Penalties Assessed to Companies in Environmental Crime Prosecutions within EPA Region 6.

Defendant	*Fiscal Year*	*Crime*	*Total Monetary Penalties*
Transocean	2014	Water Pollution	$400 Million
BP Products North America	2009	Air Pollution	$50 Million
Koch Industries	2001	Air Pollution	$20 Million

Source: Summary of Criminal Prosecutions Database, EPA, https://perma.cc/F63S-85K3 (Mar. 21, 2023) (numbers are rounded).

Prosecutors charged Transocean, LTD for violating the CWA based on its role in the massive oil spill during the Deepwater Horizon disaster.[102] Government

97. *See infra* Table 4.

98. *See* United States v. Transocean Deepwater Inc., No. 2:13-CR-00001-JTM-SS (E.D. La. 2014).

99. *See* United States v. BP Products North America Inc., No. 4:07-CR-434 (S.D. Tex. 2009).

100. *See* United States v. Koch Industries Inc., No. 2:00-CR-325 (S.D. Tex. 2001).

101. *Cf.* United States v. Gunselman, No. 5:12-CR-00078-C-BG (N.D. Tex. 2013) (showing Defendant was ordered to pay over $54 million in restitution); United States v. Callihan, No. 16-CR-00214-06 (W.D. La. 2019) (showing Callihan and his co-defendants were ordered to pay over $35 million in restitution).

102. United States v. Transocean Deepwater Inc., No. 2:13-CR-00001-JTM-SS (E.D. La. 2014); *cf. Deepwater Horizon – BP Gulf of Mexico Oil Spill*, EPA, https://perma.cc/X3SW-Y83Y (Aug. 31, 2022)

officials indicted BP Products North America for violating the CAA when an explosion at its Texas City Refinery killed 15 workers and injured over 170 people.[103] DOJ charged Koch Industries for violating the CAA and other crimes for failing to control benzene emissions at its West Plant refinery in Corpus Christi, Texas.[104]

C. Themes in Prosecutions

The final section of the analysis turns toward categorizing prosecutions within Region 6 into a few major themes. Our approach analyzes the case summaries and is based on our best judgment in determining the primary crime driving the prosecution of each case. We organize cases into these general themes in Figure 5, where we find prosecutions center on water pollution crimes, air pollution crimes, hazardous waste crimes, and various state-level crimes.[105] In 2% of cases, the prosecutions did not fit within these general themes.[106] We explore each of these themes with case examples below.

1. Water Pollution Crimes

In 43% of prosecutions or 123 cases in the data, in our judgment, we determined prosecution centered on water pollution crimes. These crimes were often associated with violations of the CWA for illegally discharging into the navigable waters of the United States. They also included ocean dumping, where ships emptied polluted bilge water or oil into the ocean, altering waterways or filling in wetlands, and laboratory testing fraud or tampering with a monitoring device. We provide case examples with the prosecution of Joshua Rael, Gary Keating, Kenneth Fulton, and Great Lakes Dredge and Dock Company.[107]

(explaining that Deepwater Horizon involved the criminal actions of Transocean, British Petroleum (BP), and other companies that lead to an explosion on a drilling rig that killed 11 workers and spilled some four million gallons of oil over an 87-day period, representing the largest oil spill in maritime oil operations in U.S. history). The company plead guilty to violations of the CWA, felony manslaughter, obstruction of Congress, and violations of the U.S. Migratory Bird Treaty Act, and paid $4 billion in criminal fines and was ordered to serve 60 months of probation.

103. *United States v. BP Products North America Inc.*, No. 4:07-CR-434 (S.D. Tex. 2009); *see generally BP North America Settlement*, EPA, https://perma.cc/LS57-FMVE (Jan. 26, 2023) (explaining how the company also settled a number of other claims in the case); *U.S. and Five Gulf States Reach Historic Settlement with BP to Resolve Civil Lawsuit Over Deepwater Horizon Oil Spill*, DOJ (Oct. 5, 2015), https://perma.cc/MCE6-PJ7X.

104. United States v. Koch Industries Inc., No. 2:00-CR-325 (S.D. Tex. 2001).

105. *See infra* Figure 5.

106. The following five prosecutions are unclassified in Figure 5: United States v. Abuamer, No. 6:02-CR-600004-01 (W.D. La. 2003) (improper storage and operating sewage system without a permit); United States v. Ringo, No. 04-184-C-M3 (M.D. La. 2006) (improper storage and operating sewage system without a permit); United States v. Partin, No. 04-170-D-M3 (M.D. La. 2006) (improper storage and operating sewage system without a permit); United States v. Courtney, No. 04-175-C-MI (M.D. La. 2010) (perjury at mail fraud trail); United States v. Abuteir, No. H-07-279 (S.D. Tex. 2016) (multi-million-dollar fuel excise scheme).

107. United States v. Rael, No. 95-340 (D. N. M. 1996); United States v. Keating, No. 90-262-M-4 (E.D. La. 1991); United States v. Fulton, No. CR-21-00075-001-G (W.D. Okla. 2022).

Prosecutors charged Joshua Rael for pumping sewage into the Rio Grande River.[108] The government indicted Gary Keating with illegally constructing a concrete jetty and retaining wall in Lake Pontchartrain.[109] Government officials charged Kenneth Fulton with falsifying water quality samples in violation of the CWA.[110] DOJ charged Great Lakes Dredge and Dock Company for causing a pipeline rupture that leaked oil into the navigable waters of the United States.[111]

2. Hazardous Substances Crimes

In 70 prosecutions or 24% of prosecutions in the data, we determined the prosecution centered on crimes involving hazardous substances.[112] These crimes were broad in scope, including violating hazardous waste laws under RCRA, off-label use and other pesticide violations under FIFRA, and violating lead-based paint and PCB rules in violation of TSCA.[113] We provide case examples with the prosecution of Stephen Coffey,[114] John Fansler,[115] Leslie Hardwick,[116] and Harold Rockaway.[117]

Prosecutors charged Stephen Coffey for creating a fictitious hazardous waste company in order to gain contracts for removing and disposing of hazardous waste.[118] Government officials indicted John Fansler for illegally storing hazardous waste: inspectors found 1,200 rusted cylinders—one of which exploded after leaking an unknown gas—costing EPA about $4.4 million in site cleanup.[119] DOJ charged Leslie Hardwick, Jr. for off-label use of a registered pesticide in violation of FIFRA, which resulted in the death of a significant amount of wildlife in the area.[120] The government prosecuted Harold Rockaway for the illegal storage and transport of PCBs in violation of TSCA and RCRA.[121]

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108. United States v. Rael, No. 95-340 (D. N. M. 1996) (The defendant received 12 months of probation and a $500 fine).

109. United States v. Keating, No. 90-262-M-4 (E.D. La. 1991) (Keating was sentenced to eight months incarceration, 12 months of probation, and a $125 special assessment); *see generally Jetty*, NAT'L GEOGRAPHIC, https://perma.cc/X3BT-7UAN (last visited Apr. 2, 2023) (a jetty protects a coastline from currents and tides).

110. United States v. Fulton, No. CR-21-00075-001-G (W.D. Okla. 2022) (Fulton was sentenced to serve two years of probation and pay a $10,000 fine).

111. United States v. Great Lakes Dredge and Dock Company, LLC, No. 21-56 (E.D. La. 2022) (The company was ordered to pay a $1 million fine).

112. *See infra* Figure 5.

113. *See infra* Figure 5.

114. United States v. Coffey, No. 13-CR-223GKF (N.D. Okla. 2014).

115. United States v. Fansler, No. 4:20-CR-00450 (S.D. Tex. 2022).

116. United States v. Hardwick, No. 3:11-CR-00127-01 (W.D. La. 2012).

117. United States v. Rockaway, No. H-92-282 (S.D. Tex. 1994).

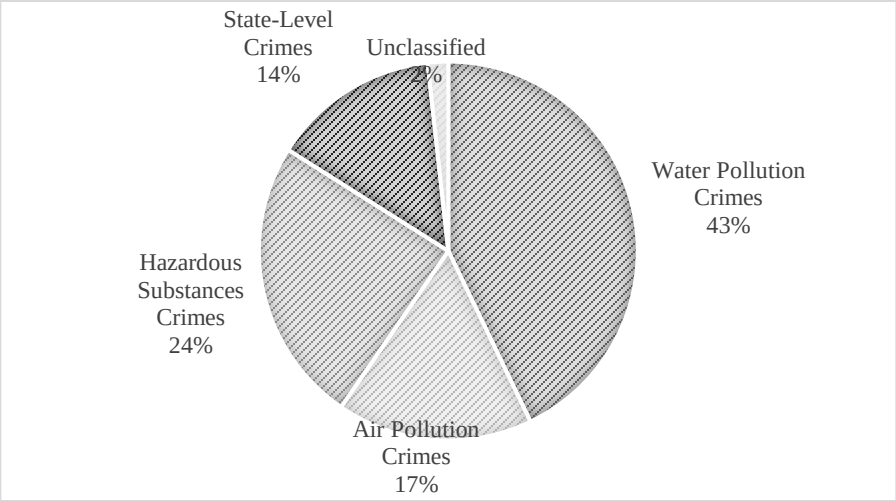
118. United States v. Coffey, No. 13-CR-223GKF (N.D. Okla. 2014) (Coffey and co-defendant James Danley were each sentenced to serve 5 years of probation and pay $47,665 in restitution).

119. United States v. Fansler, No. 4:20-CR-00450 (S.D. Tex. 2022) (the defendant was sentenced to time served).

120. United States v. Hardwick, No. 3:11-CR-00127-01 (W.D. La. 2012) (Hardwick was sentenced to 36 months of probation, 6 months of home confinement, $75 in special assessments, and a $5,000 fine).

121. United States v. Rockaway, No. H-92-282 (S.D. Tex. 1994) (the defendant, Williams, was sentenced to six months of home confinement).

Figure 5. Themes in Environmental Crime Prosecutions in EPA Region 6.



Source: Summary of Criminal Prosecutions Database, EPA, https://cfpub.epa.gov/compliance/criminal_prosecution/ (Mar. 21, 2023).

3. Air Pollution Crimes

In 48 prosecutions or 17% of the analyzed cases, the prosecution centered on air pollution crimes.[122] Many of these cases involve violations of the CAA for illegal renovation or disposal of asbestos, unpermitted emissions from stationary sources, vehicle emissions fraud, and crimes involving refrigerants.[123] We provide case examples with the prosecution of Faiz Abdallahi,[124] Big Lake Gas Plant,[125] Marc Victoriano,[126] and Dexter C. Wells.[127]

Prosecutors charged Faiz Abdallahi for smuggling R-22 refrigerant gas into the United States from China in violation of the CAA.[128] DOJ indicted Big Lake Gas Plant for negligently releasing 525 pounds of hydrogen sulfide into the air in violation of the CAA, resulting in the injury of one worker and the death of another.[129] The government charged Marc Victoriano for submitting 56 falsified

122. *See supra* Figure 5.

123. *See infra* notes 148–51, 157–60 and accompanying text.

124. United States v. Abdallahi, No. 4:21-CR-024-Y (N.D. Tex. Mar. 1, 2022).

125. United States v. Big Lake Gas Plant, LP, No. 6:21-CR-00057-H-BU (N.D. Tex. Feb. 17, 2022).

126. United States v. Victoriano, No. CR-20-00018 (E.D. La. June 23, 2021).

127. United States v. Wells, No. 98-151B-MZ (M.D. La. Feb. 25, 2000).

128. United States v. Abdallahi, No. 4:21-CR-024-Y (N.D. Tex. Mar. 1, 2022) (the defendant was sentenced to serve three years of probation and pay a $250,000 fine).

129. United States v. Big Lake Gas Plant, LP, No. 6:21-CR-00057-H-BU (N.D. Tex. Feb. 17, 2022) (the company plead guilty to negligent endangerment and violating the CAA and was ordered to pay a $3 million criminal fine).

asbestos laboratory reports and fraudulently obtaining about $212,618 in compensation.[130] Government officials prosecuted Dexter C. Wells for using falsified licensing to obtain work as an asbestos abatement worker.[131]

4. State-Level Crimes

In 41 prosecutions or 14% of the analyzed cases, we found the primary crime centered on violations of state level environmental laws.[132] These violations varied widely from illegally abandoning hazardous waste, submitting fraudulent environmental reports, vehicle emissions testing fraud, and other assorted environmental crimes.[133] We provide case examples with the prosecution of Cecil Lamar Person,[134] Edward Joseph,[135] and Jerry Franklin.[136]

Prosecutors charged Cecil Lamar Person for willful disposal of a substance as part of a joint investigation between EPA-CID which Louisiana state agents called "Operation Jubilee."[137] Operation Jubilee was meant to enforce rules against widespread illegal landfills and dumpsites near New Orleans, Louisiana.[138] Government officials indicted Edward Joseph for dumping drilling mud from a vacuum truck and discharging into the waters of the United States.[139] DOJ charged Jerry Franklin for providing fraudulent vehicle emissions testing during vehicle safety inspections.[140]

IV. DISCUSSION

The first major finding in our analysis of environmental crime prosecutions within EPA Region 6 is the extent of the penalties: over $908 million in monetary penalties, 1,032 years of probation, and 225 years of incarceration are significant achievements for prosecutors over time in the region.[141] However, cumulative incarceration and monetary penalty metrics are heavily skewed by a few significant prosecutions in our analysis.[142] These cases show the ability of prosecutors to effect

130. United States v. Victoriano, No. CR-20-00018 (E.D. La. June 23, 2021) (the defendant was sentenced to eight months of home confinement, five years of probation, and to pay restitution in the amount of the fraudulent compensation).

131. United States v. Wells, No. 98-151B-MZ (M.D. La. Feb. 25, 2000) (the defendant was sentenced to serve 60 months of probation and pay a $1,000 fine).

132. *See supra* Figure 5.

133. *See infra* notes 158–60.

134. United States v. Person, No. 508-592 (La. Dec. 8, 2010).

135. United States v. Joseph, No. 37-CR-21-55-1 (Ark. May 6, 2022).

136. United States v. Franklin, No. 07-14-0449 (La. July 14, 2014).

137. United States v. Person, No. 508-592 (La. Dec. 8, 2010).

138. *Id.* (the defendant was sentenced to serve 12 months of incarceration, 24 months of probation, pay $1,500 in fines, and remove 100 loads of solid waste from an illegal dump site).

139. United States v. Joseph, No. 37-CR-21-55-1 (Ark. May 6, 2022) (the defendant was sentenced to serve 12 months of probation and pay $275,000 in restitution).

140. United States v. Franklin, No. 07-14-0449 (La. July 14, 2014) (the defendant was sentenced to serve 12 months of probation and pay a $2,500 state fine and $930 in restitution).

141. *See supra* Table 1.

142. *See supra* notes 109–10, 148–49, 159.

large penalties at sentencing, but also demonstrate the broader pattern of penalties is significantly reduced over time when these cases are excluded.[143]

Criminal enforcement should be reserved for crimes involving culpable conduct or significant harm.[144] While it is difficult to ascertain if this is the case across so many prosecutions in our analysis, we can look at Title 18 and other criminal violations as an indirect means of ascertaining the presence of such factors in prosecutions. A second major finding of our work is that many prosecutions contain one or more of these aggregating factors. In fact, some 37% contain at least one defendant charged with one or more of these offenses, aligning with past research on the role of aggregating factors in the decision to pursue prosecution.

A third implication of our study flows from the number of prosecutions adjudicated in the analysis. We find only 287 prosecutions adjudicated across five states, with the majority of prosecutions from Louisiana and Texas.[145] Over almost 40 years of analysis, the annual average was about seven prosecutions per year and prosecutions begin to decline towards the beginning of the Trump Administration.[146] These numbers are fairly low in terms of potentially expecting a strong deterrent value for criminal prosecution.[147] Civil enforcement has a parallel deterrent effect across the regulated community.[148] EPA chooses how to utilize its resources over time, apportioning as appropriate in certain industries, at the expense of others over time, given its limited resources.[149] We discuss the implications of these patterns below.

CONCLUSIONS AND RECOMMENDATIONS

We find that 287 EPA-CID criminal investigations led to criminal prosecution within EPA Region 6 from 1983–2022.[150] Given the extensive geographical scope and regulated community within those states, it seems hard to argue for a strong deterrent value of these prosecutions without an expansion of the criminal enforcement regime. Without added funding and consistent political support for EPA and DOJ's efforts to police and prosecute the most serious environmental offenses, one could argue the enterprise simply does not have adequate resources to expand and broaden its reach.[151]

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143. *See supra* notes 158–60.

144. Devaney, *supra* note 4, at 3–4.

145. *See supra* Figure 2.

146. *See supra* Figure 1.

147. McMurry & Ramsey, *supra* note 20, at 1163–1164; Lynch, *supra* note 6, at 991.

148. Nicholas S. Dufau, *Too Small to Fail: A New Perspective on Environmental Penalties for Small Businesses*, 81 UNIV. CHI. L. REV. 1795, 1795–1796 (2014).

149. Enforcing air pollution from coal-fired powerplants is a good example here. Many of these companies violated the CAA clear into the 1990s. EPA's Power Plant Initiative had them work with DOJ to file a series of civil suits that began in 1999 and continue to present, in order to pressure changes to compliance in the industry, which has proven stubborn to change and resistant to compliance with the CAA over time. *See* Rustad et al., *supra* note 30, at 428–429; *Coal-Fired Power Plant Enforcement*, EPA, https://perma.cc/V7KT-VBV8 (Apr. 5, 2023).

150. *See supra* Figure 1. A total of 287 prosecutions in the region, out of 2,807 prosecutions studied in the EPA database.

151. Joel A. Mintz, *"Running on Fumes": The Development of New EPA Regulations in an Era of Scarcity*, 46 ENV'T L. REP. 10510, 10510–19 (2016).

Examining real funding for EPA and ENRD, when adjusted for inflation, shows a much darker picture for criminal enforcement than the general stagnant funding shown when looking at nominal budget figures. The peak in EPA funding was in FY 1980, and total EPA staffing peaked in 1999.[152] Since then, no president has made structural investments in budgets and staffing to offset the real loss of agency budgetary support over time.[153] This same pattern of stagnant real funding has been true for ENRD for at least a decade.[154] Efforts from the Biden Administration to enhance budgetary support for both agencies is welcome, as is the new mandate for added enforcement within environmental justice communities that has languished for decades.[155] However, adding additional mandates to an agency's mission can stretch their organizational effectiveness over time, particularly without major, structural investment for core functions alongside new mandates.

The Trump Administration worked diligently to cut funding and staff at EPA and reduce environmental regulations and it is little surprise prosecutions begin to decline during his presidency.[156] EPA has faced hostility from Republican administrations going back to the Reagan Administration, but Trump certainly exacerbated this long term trend.[157] Democratic presidents have failed to offset Republican disinvestment in environmental regulation and enforcement, with Clinton and Obama offering support and even resources, but failing to offset broader losses.[158]

A few prescriptions may be offered to counteract some of the longer term, negative trends that hold back more extensive criminal enforcement efforts. The first is enhanced Congressional funding that builds over time and greatly extends Biden's

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152. *Id.*; *see also EPA's Budget and Spending*, EPA, https://perma.cc/XHE6-ZRC7 (Feb. 28, 2023).

153. *Criminal Enforcement's Intergovernmental Partnerships*, EPA, https://perma.cc/ZU5L-KTXV (Oct. 21, 2022) [hereinafter *Intergovernmental Partnerships*].

154. U.S. DEP'T JUST., ENVIRONMENT AND NATURAL RESOURCES DIVISION FY 2023 PERFORMANCE BUDGET 15 (2023); *see also Budget and Performance*, U.S. DEP'T JUST., https://perma.cc/D66L-S7RH (Mar. 13, 2023) (contains link directory for Budget and Performance Summary Reports for ENRD from FY 2017–2024).

155. Press Release, EPA, Statement by Administrator Regan on the President's FY 2022 Budget (June 2, 2021).

156. 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/F3W8-4BA4. Some 700 employees exited EPA under Trump, dropping the number of staff to 14,172. *See 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/BE2T-T54W; *see also* Jay Michaelson, *The Ten Worst Things Scott Pruitt's EPA Has Already Done*, DAILY BEAST, https://perma.cc/F6YS-9JJR (Dec. 29, 2017, 10:26 AM).

157. President Reagan's first EPA administrator, Anne Gorsuch Burford, was purportedly asked by the President's staff if she would be able and willing to "bring EPA to its knees." Lia Cattaneo, *Wrinkling Citizen Suits: California v. EPA (9th Cir. 2020) and Clean Air Act Underenforcement*, 45 HARV. ENV'T L. R. 503, 503 (2021); *See generally Trump Watch: Trump's War on the Environment*, ENV'T INTEGRITY PROJECT, https://perma.cc/X7HK-6TDU (last visited Apr. 2, 2023) (providing summaries and further reading regarding the Trump Administration's perceived negative effects on the EPA).

158. Lazarus, *supra* note 27, at 874; *see* Judson W. Starr, *Turbulent Times at Justice and EPA: The Origins of Environmental Criminal Prosecutions and the Work that Remains*, 59 GEO. WASH. L. R. 900, 900–905 (1991). A politically, organizationally, or budgetarily constrained EPA may choose to temporarily not enforce the law or even fail to act in some circumstances. *See* Cattaneo, s*upra* note 157, at 505–506.

recent efforts to fund EPA and DOJ,[159] but in a structural manner that demonstrates that a clean environment is a priority to the Democratic Party. A second remedy that flows from additional resources is to provide support for state-level agencies to monitor and police environmental crimes and engage in enforcement actions. This can come in the form of federal grants, as well as training.[160] State agencies are tasked with most of the day-to-day operations of the federal compliance regime and enhanced funding and training can lead to more efforts to police and prosecute offenders, leaving federal prosecutions for more complex cases. Finally, organizing and enhancing criminal enforcement associations will go a long way to develop connections and collaboration between all levels of criminal enforcement and are warranted.[161]

Our expectations for environmental enforcement may continue to grow as we see a cultural shift towards broadening protections for marginalized communities, and as we see an increasingly dire need to protect critical habitat, endangered species, and public health. EPA's mandate to provide clean air, water, and protection from dangerous pesticides, chemical substances, and other hazardous wastes has remained constant since it was organized in 1970; strong enforcement is arguably key towards fulfilling this mandate in the future. Environmental regulation, however, has always been a politically contentious subject between Republicans and Democrats, just as it has been between EPA and its state counterparts, causing a significant amount of friction in the regulatory process, and leaving many of the dreams of the 1970s still unfulfilled. As we continue to include new mandates in the future—such as the regulation of carbon emissions—we cannot expect EPA and DOJ to be able to properly police and prosecute the worst environmental crimes without additional resources. Congress will need to make structural investments to prioritize federal criminal enforcement and state-level enforcement of environmental crimes if environmental enforcement is to succeed now and in the future.

159. EPA, *supra* note 153.

160. Monitoring and enforcement federal environmental laws traditionally falls to the states in cooperation with the federal government, but this relationship has not always been frictionless. *See* Henry N. Butler & Nathaniel J. Harris, *Sue, Settle, and Shut Out the States: Destroying the Environmental Benefits of Cooperative Federalism*, 37 HARV. J. L. & PUB. POL'Y 579, 580–583 (2014).

161. Mushal, *supra* note 44, at 1125–1127. Funding could go to support grants for enhancing collaborative enforcement training and joint exercises and other efforts. *See* EPA, *supra* note 153.