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The Green Police in the Golden State: An Analysis of the Criminal Enforcement of Environmental Law in the State of California

Joshua Ozymy* & Melissa Jarrell Ozymy**

ABSTRACT

The use of criminal enforcement tools is necessary for deterring and punishing environmental offenses involving significant harm or culpable conduct. Yet we have very limited empirical knowledge of how the criminal enforcement of environmental laws has functioned historically in the Golden State. Through content analysis of prosecution summaries for every federal criminal investigation undertaken by the U.S. Environmental Protection Agency (EPA) in the State of California that led to criminal prosecution, 1983-2019, we are able to provide a comprehensive account of what laws are violated, how prosecutors charge environmental criminals, and how these criminals are sentenced, illustrating broader themes in prosecutions over thirty-seven years. Findings demonstrate that monetary penalties exceeded \$230 million and that defendants received over 7,800 months of probation and almost 1,500 months of incarceration. Forty-five percent of prosecutions focused on water pollution, seventeen percent hazardous waste, fifteen percent air pollution, and fifteen percent state-level crimes. We conclude by arguing that environmental criminal enforcement may be enhanced through community policing, resources, and public salience.

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INTRODUCTION

On November 18, 2014, at roughly 3:45 A.M., a massive explosion occurred at the Santa Clara Waste Water Company in Santa Paula.¹ The blast was resulted from the improper mixing of hazardous chemicals in a 5,040-gallon vacuum truck and caused a chain reaction of explosions and fires that injured more than three dozen employees and first responders and that led to evacuation of the nearby area.² The subsequent investigation determined the blast occurred during a late night effort to clean up hazardous waste that went horribly wrong. Santa Clara and Green Compass Environmental, along with nine executives were prosecuted for a series of environmental crimes that led to the disaster.³ Charges included illegal storage and disposal of hazardous waste, conspiracy to impede an investigation, false statements, and other charges. Both companies were sentenced on August 23, 2019 to three years of probation and ordered to pay millions in restitution to victims.⁴

Significant harm and culpable conduct necessitate the application of criminal enforcement tools to investigate and prosecute serious environmental crimes, such as those perpetrated by the Santa Clara Waste Water Company, Green Compass Environmental, and its executives.⁵ While the goals of criminal enforcement are to punish serious violations of environmental law and deter future offenses, we know little about how environmental enforcement has been applied historically, particularly in the State

1. OFF. OF INSPECTOR GEN., U.S. DEP'T OF TRANSP., ELEVEN DEFENDANTS INDICTED AFTER EXPLOSION OF VACUUM CARGO TANK TRAILER (Aug. 19, 2015), <https://perma.cc/K46P-L933>.

2. Stephen K. Peeples, *Grand Jury, Feds Say Hazardous Materials Shipped to Chiquita Landfill*, *SCVnews.com*, SCVTV (Aug. 5, 2019), <https://perma.cc/7RTG-5EPQ>. From above the investigation was undertaken jointly by the Ventura County District Attorney's Office, County Environmental Health Department, Fire Department, The California Department of Justice's Fraud and Special Prosecution Section, The U.S. Environmental Protection Agency's (EPA) Criminal Investigation Division (CID), and the U.S. Department of Transportation Inspector General's Office.

3. Indictment, *California v. Green Compass Env't Sols.*, No. 2015023881 (Cal. Super. Ct. Aug. 7, 2015).

4. According to the EPA's prosecution summary above, it appears both companies were sentenced to pay some \$2.65 million in restitution, but other sources note this amount was assigned jointly and does not include other victim restitution paid by the companies bringing the total to about \$3.6 million. See Jeremy Childs, *\$2.65 Million in Restitution Ordered in 2014 Explosion Near Santa Paula, Chemical Case*, *VC STAR* (Aug. 23, 2019), <https://perma.cc/ZT2B-RMEF>.

5. Memorandum from Earl E. Devaney, Director, EPA Off. of Crim. Enf't to all EPA Employees Working in or in Support of the Criminal Enforcement Program (Jan. 12, 1994) (on file with *Hastings Environmental Law Journal*).

of California.⁶ We address this gap in the literature, by exploring charging and sentencing patterns in criminal investigations undertaken by the EPA that led to prosecution, from 1983 to 2019. Through content analysis of these cases, we are able to show the broader themes that emerged in these cases over thirty-seven years. We discuss the evolution of criminal enforcement of environmental law at the federal level, followed by our method, analysis, and suggestions for improving the criminal enforcement system.

CRIMINAL ENFORCEMENT OF ENVIRONMENTAL LAW

The development of the tools to enforce federal environmental laws via a criminal process began towards the end of the nineteenth century. The Rivers and Harbors Act of 1899 and the Lacey Act of 1900 regulated illegal discharges and alteration of the waterways of the United States and prohibited the unpermitted interstate trade in wildlife, respectively, while bringing misdemeanor provisions in federal environmental law.⁷ The Public Lands Division was founded in 1909 to address violations of federal environmental law and later became the Environment and Natural Resources Division (ENRD) with the Department of Justice (“DOJ”).⁸ Additional misdemeanor provisions were added in the 1970s to the Clean Water Act (“CWA”), Resource Conservation and Recovery Act (“RCRA”), and others, but the 1980s represented the next major advancement in criminal enforcement. Particularly important were the Hazardous and Solid Waste Amendments to the RCRA that added felony provisions into federal environmental law.⁹ Most federal environmental statutes contain criminal provisions today.¹⁰ In 1982, DOJ’s Environmental Crimes Section (“DOJ-ECS”) was founded within ENRD.¹¹ By adding professional staff to investigate and prosecute

6. Carole M. Billiet & Sandra Rousseau, *How Real Is the Threat of Imprisonment for Environmental Crime?*, 34 EUR. J. L. & ECON. 183, 183 (2014); Michael J. Lynch, *The Sentencing/Punishment of Federal Environmental/Green Offenders*, 38 DEVIANT BEHAV. 991 (2013).

7. Rivers and Harbors Act, 33 U.S.C. § 403 (1899); Lacey Act, 16 U.S.C. § 3371 (1900).

8. *History*, ENV’T & NAT. RES. DIV., U.S. DEP’T. OF JUST. (May 18, 2021), <https://perma.cc/BQF2-WRLC>.

9. Resource Conservation and Recovery Act, 42 U.S.C. § 6901 (1976); Clean Water Act, 33 U.S.C. § 1251 (1972); *Historical Development of Environmental Criminal Law*, ENV’T & NAT. RES. DIV., U.S. DEP’T OF JUST. (May 13, 2015), <https://perma.cc/C2GJ-N9WG>.

10. *Criminal Provisions of Water Pollution*, U.S. ENV’T PROT. AGENCY (Aug. 21, 2020), <https://perma.cc/TKU2-EVMR>; *Criminal Provisions of the Resource Conservation and Recovery Act*, U.S. ENV’T PROT. AGENCY (Feb. 9, 2021), <https://perma.cc/J8CLWJFF>; *Criminal Provisions of the Clean Air Act*, U.S. ENV’T PROT. AGENCY (Feb. 9, 2021), <https://perma.cc/L5EN-DBZG>.

11. ENV’T & NAT. RES. DIV., U.S. DEP’T. OF JUST., *supra* note 9.

environmental crimes, and by adding felonies to environmental statutes, the tools necessary to specialize in criminal enforcement were now in place. DOJ-ECS became an independent unit in 1987, alongside the Environmental Enforcement Section (“EES”) that handles civil-judicial cases, which further solidified the resources to enforce environmental statutes.¹² DOJ-ECS currently has some forty-three prosecutors and a dozen support staff to support the prosecution of environmental offenders.¹³

The 1980s were an important time for developing criminal investigative tools within EPA. In 1981, the Office of Enforcement was founded, now called the Office of Enforcement and Compliance Assurance (“OECA”).¹⁴ Criminal investigators, also called special agents or 1811s, were hired to investigate environmental crimes. They were deputized as Special Deputy U.S. Marshalls beginning in 1984 and this process was renewed annually until Congress granted them full law enforcement powers in 1988.¹⁵ In 1995, the Office of Criminal Enforcement, Forensics and Training (“OECFT”) was created to undertake investigative and forensics work for the agency.¹⁶ The EPA’s Criminal Investigation Division (“CID”) currently employs about 200 criminal investigators stationed across the United States to investigate environmental crimes.¹⁷ Investigators source information on potential crimes from official documents, civil inspectors, and former employees.¹⁸ Investigators pursue prosecution when they feel the evidence warrants doing so, and they typically approach prosecutors in ECS or the U.S. Attorney’s Office to convene a grand jury or file an information in District Court.¹⁹

12. *An Overview of Our Practice*, ENV’T & NAT. RES. DIV., U.S. DEP’T OF JUST. (May 14, 2014), <https://perma.cc/TE2N-DB3L>.

13. These numbers were given as of 2015. See *Environmental Crimes Section*, ENV’T & NAT. RES. DIV., U.S. DEP’T OF JUST. (July 2, 2021), <https://perma.cc/GPM3-7S53>; further number provided at *EPA CID Agent Count*, PUB. EMPS. FOR ENV’T RESP. (PEER) (Nov. 21, 2019), <https://perma.cc/5DA4-WMLR>.

14. ENV’T & NAT. RES. DIV., U.S. DEP’T. OF JUST., *supra* note 9.

15. Memorandum from John Peter Suarez, Assistant Adm’r, EPA Off. of Crim. Enf’t & Compliance Assurance to all OCEFT 7 (Dec. 15, 2003) (on file with *Hastings Environmental Law Journal*).

16. *Basic Information on Enforcement*, U.S. EPA (Jan. 13, 2021), <https://perma.cc/8G3B-XDZZ>.

17. OFF. OF CRIM. ENF’T, FORENSICS & TRAINING, U.S. ENV’T PROT. AGENCY, U.S. ENVIRONMENTAL PROTECTION AGENCY CRIMINAL ENFORCEMENT PROGRAM: AMERICA’S ENVIRONMENTAL CRIME FIGHTERS (2021), <https://perma.cc/YFY3-NTQF>.

18. Joel A. Mintz, “*Treading Water*”: *A Preliminary Assessment of EPA Enforcement During the Bush II Administration*, 34 ENV’T L. REP. 10912, 10912-14 (2004).

19. JOEL A. MINTZ, ENFORCEMENT AT THE EPA: HIGH STAKES AND HARD CHOICES (2012); JOEL A. MINTZ, *Some Thoughts on the Interdisciplinary Aspects of Environmental Enforcement*, 36 ENV’T L. REP. 10495, 10497 (2006).

The goals of criminal enforcement are punishment and deterrence.²⁰ The costs of prosecution and the nature of most infractions means that violations are typically remedied through civil remedies.²¹ Research suggests only about 2,588 federal environmental prosecutions resulting from EPA-CID investigations may have taken place since 1983.²² To deter serious environmental crimes, the costs of an offense must outweigh the benefits received by the offender and the probability of being detected must be sufficiently high, as should the penalties to deter rational actors from offending.²³ We begin exploring what crimes investigators chose to pursue and what offenders to punish in the State of California, as well as trends in charging and sentencing to understand the broader picture of the criminal enforcement of environmental law in the state over thirty-seven years. While we cannot know whether this approach effectively deters environmental crimes in specific cases or cumulatively presents a general deterrent, our analysis can give us the bigger picture of these efforts over many years in the state.²⁴

20. A management review of the Division noted, “To the extent any single pattern dominates, it is the law enforcement orientation of the Immediate Office, CID, and (to a lesser extent) LCRMD (Legal Counsel and Resources Management Division)”. See Memorandum from John Peter Suarez, *supra* note 15.

21. Jeremy Firestone, *Agency Governance and Enforcement: The Influence of Mission on Environmental Decisionmaking*, 21 J. POL’Y ANALYSIS & MGMT. 409, 410-12 (2002); Evan J. Ringquist & Craig E. Emmert, *Judicial Policymaking in Published and Unpublished Decisions: The Case of Environmental Civil Litigation*, 52 POL. RES. Q. 7, 11-12 (1999).

22. Joshua Ozymy et al., *Persistence or Partisanship: Exploring the Relationship Between Presidential Administrations and Criminal Enforcement by the U.S. Environmental Protection Agency*, PUB. ADMIN. REV. 49, 49 (forthcoming 2021) (manuscript at 1983-2019).

23. Gary Becker, *Punishment: An Economic Approach*, 76 J. POL. ECON. 169, 183 (1968); Richard A. Posner, *An Economic Theory of the Criminal Law*, 85 COLUM. L. REV. 1193, 1200 (1985).

24. Empirical studies of criminal sanctioning and deterrence of environmental offenders are limited. Knowledge of California is especially sparse. For key examples, see Michael J. Lynch et al., *Environmental Law Violations Against Petroleum Refineries: Race, Ethnicity, Income, and Aggregation Effects*, 17 SOC. & NAT. RES. 333-47; Paul B. Stretesky & Jackie Gabriel, *Self-Policing and the Environment: Predicting Self Disclosure of Clean Air Act Violations Under the U.S. Environmental Protection Agency’s Audit Policy*, 18 SOC. & NAT. RES. 871-87; Paul B. Stretesky & Michael J. Lynch, *Does Self-Policing Reduce Chemical Emissions?* 46 SOC. SCI. J. 459-73 (2009); Paul B. Stretesky et al., *Does Environmental Enforcement Slow the Treadmill of Production? The Relationship Between Large Monetary Penalties, Ecological Disorganization, and Toxic Releases Within Offending Corporations*, 36 J. CRIME & JUST. 233-47 (2013); David M. Uhlmann, *Prosecutorial Discretion and Environmental Crime*, 38 HARV. ENV’T L. REV. 159 (2014); Joshua Ozymy & Melissa L. Jarrell, *Why Do Regulatory Agencies Punish? The Impact of Political Principals, Agency Culture, and Transaction Costs in Predicting Environmental Criminal Prosecution Outcomes in the United States*, 33 REV. POL’Y RES. 71, 73 (2016); and Matthew J. Griefe et al., *Corporate Environmental Crime and Environmental Justice*, 28 CRIM. JUST. POL’Y REV. 327 (2017).

A. DATA

We analyze EPA's Summary of Criminal Prosecution Database.²⁵ This data provides prosecution case summaries for all cases investigated by EPA-CID. We analyze the cases by EPA fiscal year ("FY"), starting with the very first case in the dataset through the end of calendar year 2019. This gives us 2,588 total prosecutions, of which 190 occurred in California and are selected for analysis. From each prosecution summary, we coded the following variables: number of defendants; narrative summary of the case; case identifier/docket number; state identifier; fiscal year identifier; major environmental charging statutes used in the case; whether at least one company was a named defendant in the case; the presence of any criminal charges such as smuggling, false statements, obstruction, conspiracy or other charges; total probation assessed to all individual defendants in the case in months, including all companies in months; total incarceration assessed to all defendants in the case; total hours of community service assessed to all defendants in a case; and total monetary penalties assessed to all individual and company defendants in a case including fines, fees, assessments, restitution, and other penalties. We began our coding protocols by examining the data for four weeks with two coders that analyzed cases through FY 2015. We moved forward with coding the data after our inter-coder reliability exceeded ninety percent. Each coder independently analyzed cases. The lead author reviewed discrepancies and then met with coders to find consensus on discrepancies. Our inter-coder reliability for the project was approximately ninety-five percent.²⁶

Limitations to our approach include an inability to know the role of key actors in the prosecutions, the impact of changes in any environmental laws, and whether the EPA failed to include cases or the cases took place elsewhere (in which case we would be unaware of such cases). Additionally, we end our data collection in calendar year 2019, not fiscal year 2019. None of these limitations affect the outcome of our analysis, as we seek to draw broader conclusions from fairly straightforward content analyses of the cases.

25. U.S. ENV'T PROT. AGENCY, SUMMARY OF CRIMINAL PROSECUTION DATABASE (2020), <https://perma.cc/RT2C-QNMS>. We take data directly from the EPA's database as our only data source in the analysis. In order to establish a bottom-line for all cases, we do not seek out web articles or other sources to verify certain case data, because that would establish different rules for analysis depending on the case and violate our coding protocols. We code values based on independent code, and judgment was reviewed when there were discrepancies in those judgements.

26. OLE R. HOLSTI, CONTENT ANALYSIS FOR THE SOCIAL SCIENCES AND HUMANITIES, 140 (1969).

B. FINDINGS

In Figure 1, we graph the total number of federal environmental crime prosecutions that stem from EPA-CID investigations in California, 1983-2019. These numbers represent cases that were adjudicated by EPA fiscal year (FY) in the database. While there were 2,588 total prosecutions across the United States during this time period in the database, we catalog all 190 prosecutions occurring in California. As would be expected, if EPA-CID was organized by the commencement of data collection, few prosecutions occur in the 1980s. The first case adjudication occurs in FY 1985, and then one is settled in FY 1986. By the end of the decade, ten prosecutions were undertaken and adjudicated in the state. The annual total increased to eight by FY 1998, and we find twenty-nine prosecutions in the FY 1990s. By FY 2006, the annual high increased to eighteen and we see seventy-three prosecutions from FY 2000-09 and from FY 2010-19. The average number of prosecutions across these thirty-seven years was about 5.1. Prosecutions can span multiple years and FY 2006 may represent the high point in annual prosecutions, but that number may not reflect the highest level of prosecutorial vigor in the data. Instead, it is better to look at the broader trend, which is an upward tick over time, increasing through the George W. Bush Administration, and with some peaks and valleys in the Obama Administration, rising and falling and then a downward trend beginning to occur after the 2009 Financial Crisis.

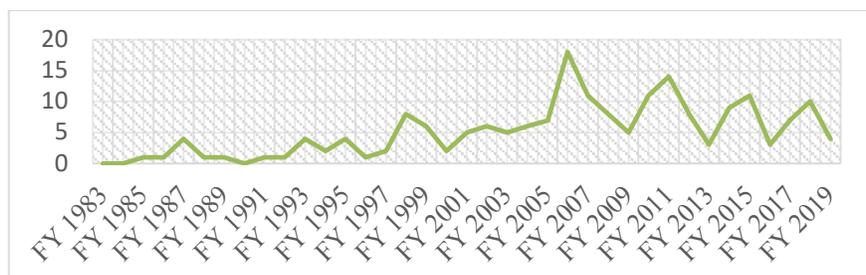


Figure 1. Environmental Crime Prosecutions by EPA Fiscal Year in the State of California, 1983-2019. Source: EPA Summary of Criminal Prosecutions Database.

In Figure 2, we explore changing patterns in environmental crime prosecutions in the State of California, 1983-2019. The vast majority of prosecutions initiated by EPA-CID investigations center on using criminal provisions in the U.S. Clean Water Act (“CWA”), Clean Air Act (“CAA”), Resources Conservation and Recovery Act (“RCRA”), Toxics Substances Control Act (“TSCA”), and the Federal Insecticide, Fungicide and

Rodenticide Acts (“FIFRA”).²⁷ The Figure shows the total number of prosecutions using these major federal charging statutes. We find that sixty-two cases or thirty-three percent of prosecutions utilize the CWA to charge at least one defendant with an environmental crime. RCRA was the second most prevalent charging statute, with thirty-one prosecutions or sixteen percent of cases using RCRA to charge at least one defendant. In eighteen cases or about nine percent of prosecutions, the CAA was used as a charging statute. FIFRA and TSCA were used less-commonly at six and two percent of total prosecutions respectively. In thirty-one cases, defendants were charged via state level environmental statutes. This finding suggests a significant amount of collaboration and cooperation amongst state and federal environmental law enforcement agencies, as sixteen percent of all prosecutions contained state-level offenses.

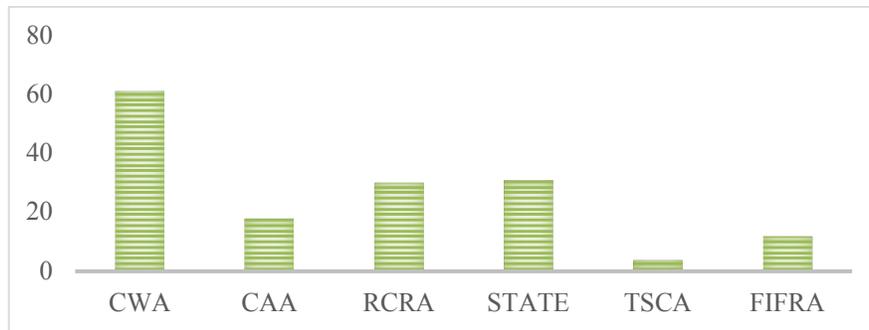


Figure 2. Charging Patterns in Environmental Crime Prosecutions in the State of California, 1983-2019. *Source: EPA Summary of Criminal Prosecutions Database.*

In many cases, defendants were investigated for environmental crimes, but ultimately charged with a series of criminal offenses including false statements, fraud, and obstruction. In some cases, they were charged under criminal provisions of environmental statutes, subsequent criminal charges related to their actions, or both in the case. We illustrate some of the more prevalent patterns we see with these criminal charges in Figure 3. The most common criminal offense was giving false statements. Such charges typically came in the form of giving false statements to investigators, lying on official reports, or submitting false documents. In total, some thirty cases or sixteen percent of the prosecutions involved a charge of false statements. In twenty-two prosecutions, defendants were charged with conspiracy, representing about twelve percent of all prosecutions. In eleven

27. Clean Water Act, 33 U.S.C. § 1251 (1972); Clean Air Act, 42 U.S.C. § 7401 (1970); Resource Conservation and Recovery Act, 42 U.S.C. § 6901 (1976); Toxic Substances Control Act, 15 U.S.C. § 2601 (1976); Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. § 136 (1972). Defendants can be charged under more than one statute in the Figure. We counted the number of times each was used in a case.

prosecutions, or about six percent of cases, defendants were charged with fraud. This took the form of mail fraud, wire fraud, and defrauding the U.S. Government. In four cases, defendants were charged with obstruction, and in five cases, they were charged with smuggling. Smuggling cases focused on attempts to illegally import ozone depleting substances into the United States or to import vehicles that violated emissions standards.²⁸

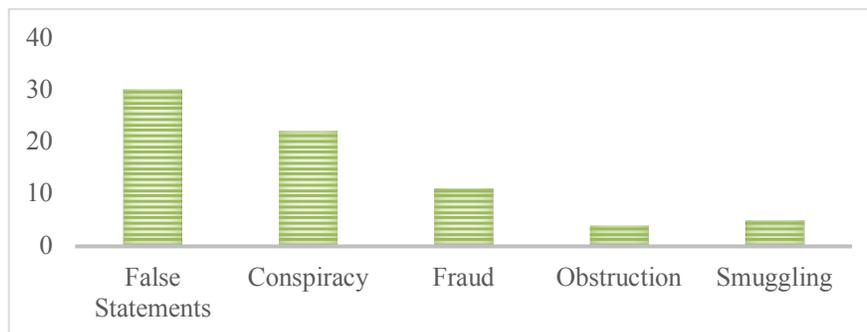


Figure 3. Common Criminal Charges in Environmental Crime Prosecutions in the State of California, 1983-2019. *Source: EPA Summary of Criminal Prosecutions Database.*

In Figure 4, we examine punishment patterns in environmental criminal prosecutions occurring in the State of California, 1983-2019 by aggregating all penalties assessed to individuals and to corporations/companies over this time period. The upper-left quadrant aggregates all monetary penalties assessed to all individual defendants. We find that all individual defendants were assessed cumulative monetary penalties over \$16 million during this time period and companies some \$213 million. In the upper-right quadrant, we show the total months of probation assessed to all individual and company defendants. We estimate all individual defendants were cumulatively assessed over 5,500 months of probation and, for companies, 2,310 months of probation. In the lower-left quadrant, we show that all individual defendants were cumulatively sentenced to serve 1,496 months incarceration for environmental crimes. In the lower-right

28. See Summary of Criminal Prosecutions: Four Star Chemical, C.D. Cal. CR-96-887-ABC, U.S. ENV'T PROT. AGENCY (1997), <https://perma.cc/JB5P-MD69> (the company was prosecuted for illegally importing 50,000 pounds of CFC-113 from China); Summary of Criminal Prosecutions: Armen Chahin Boghogian, C.D. Cal. CR-03-1043, U.S. ENV'T PROT. AGENCY (2004), <https://perma.cc/Q8HE-C42N> (Boghogian was prosecuted for illegal importation of CFC-12); Summary of Criminal Prosecutions: Mohammed Fateh, C.D. Cal. CR-04-282(A)-DDP, U.S. ENV'T PROT. AGENCY (2006), <https://perma.cc/P982-M98E> (Fateh was prosecuted for illegally selling R-12); Summary of Criminal Prosecutions: JDMevolution, C.D. Cal. SA CR-08-300(A)-JVS, U.S. ENV'T PROT. AGENCY (2012), <https://perma.cc/8JYA-HY7K> (the company was prosecuted for illegally importing vehicles that were non-conforming to emissions standards).

quadrant, we show 7,240 hours of community service assessed at sentencing for all defendants.

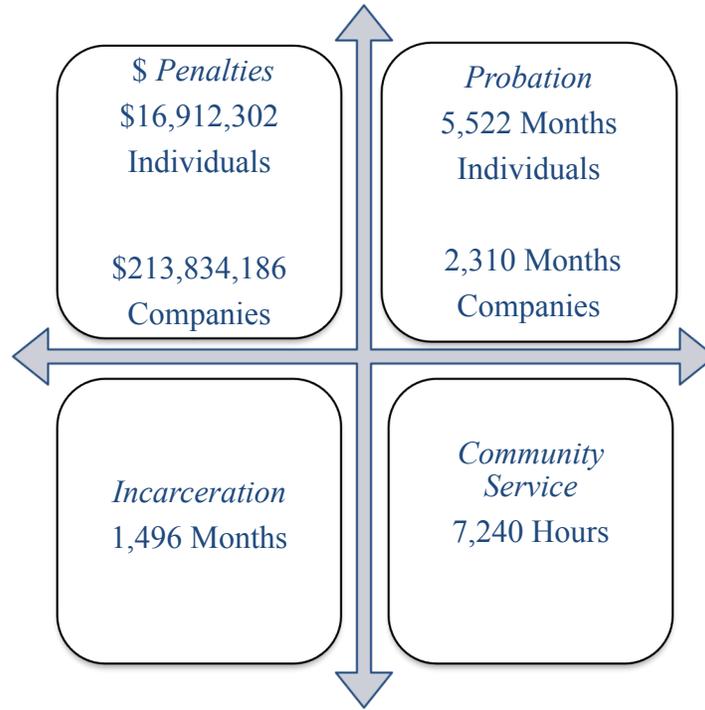


Figure 4. Total Penalties Assessed in Environmental Crime Prosecutions in the State of California, 1983-2019. *Source: EPA Summary of Criminal Prosecutions Database.*

In order to bring some context to the sentencing and penalty patterns in Figure 4, we provide examples of large monetary penalties assessed to corporations in the data. For context, the total monetary penalties assessed against all corporations was about \$213 million. These prosecutions represent some \$159 million in penalties. Removing them from the total reduces cumulative monetary penalties assessed to all companies to around \$54 million from 1983-2019.

Chevron U.S.A., Inc. operated an oil drilling and production facility known as Platform Grace, located in the Santa Barbara Channel about eleven miles off the coast of Ventura, California.²⁹ The company was charged on May 18, 1992 with a sixty-five-count indictment alleging illegal discharge of oil and grease in wastewater exceeding their National

29. Russell Mokhiber, *Top 100 Corporate Criminals of the Decade*, CORP. CRIME REP., <https://perma.cc/6BN7-XA53>.

Pollution Discharge Elimination System (“NPDES”) permit under the CWA.³⁰ On July 20, 1992, the company pled guilty and was sentenced to a \$6.5 million fine and ordered to pay \$1.5 million for related civil charges.³¹ Rockwell International’s Rocketdyne Division illegally disposed of hazardous waste, including rocket propellant, by incineration without a permit on July 26, 1994. The incineration caused an explosion killing two employees.³² The company was charged on April 8, 1994 with three counts of knowing violations under RCRA. The company pled guilty and was sentenced to pay \$6,500,600 in federal fines.³³

John Joseph Cota was sentenced to ten months incarceration and a year probation after pleading guilty to negligently discharging some 53,000 gallons of oil into San Francisco Bay.³⁴ Cota and the crew of the M/V COSCO Busan caused the ship to collide with a tower of the San Francisco Bay Bridge.³⁵ In August 2009, the owner of the ship, Fleet Management, pled guilty to violations of the CWA and lying to investigators. The company was sentenced to pay a \$10 million fine and implement a compliance management program for its ships.³⁶ Wal-Mart California was prosecuted for negligent violations of the CWA and was sentenced on May 28, 2013 to pay some \$110 million to resolve the charges.³⁷ The company did not have a training program in place for hazardous substances at the store level. Workers would dispose of hazardous waste in the sewer system, in the trash, or improperly return them to one of six product return centers located

30. Summary of Criminal Prosecutions: Chevron, U.S.A., Inc., D. Cal. CR-92-408, U.S. ENV’T PROT. AGENCY (1992), <https://perma.cc/9ETR-D59C>; see also U.S. ENV’T PROT. AGENCY, NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES), NPDES PERMIT BASICS (2020), <https://perma.cc/PZX9-YQV8>. NPDES permits regulate discharges to the waters of the United States under the CWA.

31. We coded penalties as they appeared in the prosecution summary. In this case, we aggregated the criminal fine and civil fine because it had been noted as such. All figures on penalties come from the case summaries directly.

32. Mack Reed, *Rockwell Expected to Plead Guilty to Charges in Fatal ‘94 Blast*, L.A. TIMES (Apr. 6, 1996, 12:00 PM), <https://perma.cc/XE9D-A3BZ>.

33. Summary of Prosecutions: Rockwell International, Rocketdyne Division, C.D. Cal. CR-96-372-MRP, U.S. ENV’T PROT. AGENCY (2004), <https://perma.cc/C6UE-J2E3>. Three employees were also sentenced, and final sentencing ended on December 8, 2003.

34. Summary of Prosecutions: John Joseph Cota, N.D. Cal. CR-08-0160-001-SI, U.S. ENV’T PROT. AGENCY (2010), <https://perma.cc/XB6H-G29N>.

35. *Shipping Firm Sentenced to Pay \$10 Million for Causing Cosco Busan Oil Spill and Coverup*, OFF. OF PUB. AFFS., U.S. DEPT. OF JUST. (Feb. 19, 2010), <https://perma.cc/2PZV-2KV7>.

36. Summary of Prosecutions: Fleet Management, Ltd., N.D. Cal. CR-08-0160-001-SI, U.S. ENV’T PROT. AGENCY (2010), <https://perma.cc/77CP-V387>.

37. Summary of Prosecutions: Wal-Mart California, C.D. Cal. 13-CR-033-JSC-1, CR-13-334-MAG, U.S. ENV’T PROT. AGENCY (2013), <https://perma.cc/VJE2-586X>.

throughout the United States.³⁸ United Industries, LLC engaged in improper repair and replacement of functional parts on railway cars and dumped parts in the ocean spanning 2008-2014.³⁹ Government estimates place the gain on the illegal activities over this time period around \$5 million. The company was sentenced on December 8, 2017 to pay a \$5 million criminal fine and to pay \$20 million in restitution to three companies that were defrauded.⁴⁰

<i>Year</i>	<i>Company</i>	<i>Penalty</i>
1992	Chevron	\$ 8,000,000
2004	Rockwell International	\$ 6,500,600
2010	Fleet Management	\$ 10,000,000
2013	Wal-Mart California	\$ 110,000,000
2018	United Industries	\$ 25,000,000

Table 1. Large Monetary Penalties Assessed to Corporations in Federal Environmental Crime Prosecutions in the State of California. *Source: EPA Summary of Criminal Prosecutions Database.*

In order to bring context to the incarceration totals in Figure 4, we include the largest incarceration penalties assessed in the prosecutions in Table 2. Tariq Ahmad was president of Pacific Energy and Mining Company in Reno, Nevada. Ahmad acquired Shankman Laboratories in Chatsworth, California. He and his employee, Rafat Asrar, set fire to the laboratory to collect an insurance payout on the facility and also illegally shipped hazardous waste to Pakistan.⁴¹ On August 10, 1993, Ahmad was sentenced to ninety-seven months incarceration.⁴² Art Krueger, an officer of SafeWaste, and the SafeWaste CEO Frank Fiorillo, Jr, who also owned West Coast Airways, leased a warehouse in Sacramento. Inspections by the Sacramento Fire Department in 1993 found explosives, artillery shells, rocket

38. *Wal-Mart Pleads Guilty—\$110 Million Penalty to be Paid*, LEHIGH ACRES GAZETTE (May 29, 2013), <https://perma.cc/CC7D-LBSN>.

39. James Hagerty & Bob Tita, *Caterpillar Unit Cheated Customers, Tossed Evidence into Ocean To Hide It*, WALL ST. J. (Dec. 7, 2017, 8:39 PM), <https://perma.cc/M7FK-SERW>.

40. Summary of Prosecutions: United Industries, LLC, C.D. Cal. CR-17-00726-DMG, U.S. ENV'T PROT. AGENCY (2018), <https://perma.cc/9KUP-MG9D>.

41. Summary of Prosecutions: Ahmad, D. Cal. CR-92-201, U.S. ENV'T PROT. AGENCY (1993), <https://perma.cc/G3E9-DCPA>.

42. Chip Johnson, *Lab Owner Gets 8 Years for Disposal Scheme*, L.A. TIMES (Aug. 10, 1993, 12:00 AM), <https://perma.cc/V2E2-CC6J>.

motors, and warheads illegally stored in the warehouse. SafeWaste provided false certificates of disposal and illegally stored the hazardous waste at the facility without a permit.⁴³ Krueger was sentenced to twenty-one months incarceration, and Fiorillo fifty-one months incarceration, along with fines and restitution.⁴⁴

The final three large incarceration cases center on drug crimes, with environmental crimes playing a related role in the prosecution. Julio Cesar Villanueva-Cornejo, a Mexican national, was sentenced to six years in prison for possession of a firearm, illegal distribution of rat poison, and operating a large marijuana growing operation involving the cultivation of some 9,746 plants in the Lilly Canyon area of the Sequoia National Forest.⁴⁵ Herman Cortez Villasenor was sentenced to ten years of incarceration for his role in the illegal marijuana cultivation crime. Cortez was prosecuted under FIFRA for supplying rat poison and chemicals for the illegal operation.⁴⁶ Tiburcio Munoz Olmos, Adalid Rosales Lopez, and Venustiano Gonzalez-Jauregui were prosecuted for cultivating marijuana in the Lassen National Forest. On August 25, 2017, law enforcement served a search warrant finding some 6,769 marijuana plants and a banned pesticide, carbofuran used to poison nearby animals. Munoz Olmos was sentenced to seventy-two months incarceration, Lopez to thirty-seven months incarceration, and Gonzalez-Jauregui to seventeen months incarceration.⁴⁷ Collectively, the incarceration sentences in Table 2 make up about one third of all incarceration time assessed to defendants in our data.

<i>Year</i>	<i>Primary Defendant</i>	<i>Months Incarceration</i>
1993	Tariq Ahmad	97
1998	Art Krueger	72
2014	Julio Cesar Villanueva-Cornejo	72
2015	Herman Cortez Villasenor	120
2015	Tiburcio Munoz Olmos	126

43. Cathy Locke, *Crime Q&A: What Happened to Man Convicted of Illegally Storing Hazardous Waste, Explosives?*, SACRAMENTO BEE (Jun. 29, 2016, 9:31 PM), <https://perma.cc/D5TH-BE9P>.

44. Summary of Prosecutions: Krueger, E.D. Cal. CR-S-96-00116, U.S. ENV'T PROT. AGENCY (1998), <https://perma.cc/WC4T-YWS3>.

45. Press Release, U.S. Attorney's Office in the Eastern District of California, U.S. Dept. of Just., Mexican National Sentenced for Firearms and Illegal Pesticides in Connection with Forest Marijuana Cultivation Operation, (Feb. 24, 2014), <https://perma.cc/TVT6-4BNU>; Summary of Prosecutions: Villanueva-Cornejo, E.D. Cal. 1:12-CR-00221 LJO, U.S. ENV'T PROT. AGENCY (2014), <https://perma.cc/NQG8-PP95>.

46. Summary of Prosecutions: Villasenor, E.D. Cal. 1:12-CR-00184 AWI, U.S. ENV'T PROT. AGENCY (2015), <https://perma.cc/P2CH-3CLW>.

47. Summary of Prosecutions: Olmos, E.D. Cal. CR-00272-KLM, U.S. ENV'T PROT. AGENCY (2015), <https://perma.cc/2UAN-Q34H>.

Table 2. Large Incarceration Sentences Assessed to Individuals in Federal Environmental Crime Prosecutions in the State of California. *Source: EPA Summary of Criminal Prosecutions Database.*

We conclude the analysis in Figure 5 by exploring the dominant themes that emerge in the data. We returned to all 190 prosecutions in our data and examined them to determine what appears to be the primary crime that defines the case. This approach helps us to give some structure to the categories of crimes prosecuted over time and the emphasis taken by prosecutors. While prosecutions can often involve multiple charging statutes and crimes, we explore and categorize all of the prosecutions occurring in the State of California, 1983-2019. We group all of the prosecutions into what becomes the four major themes of crimes committed in these prosecutions that define the data: water pollution crimes, hazardous waste crimes, air pollution crimes, and violations of state environmental laws. In our judgment, ninety-two percent of all prosecutions center on one of these major crimes/themes, leaving eight percent of prosecutions uncategorized.

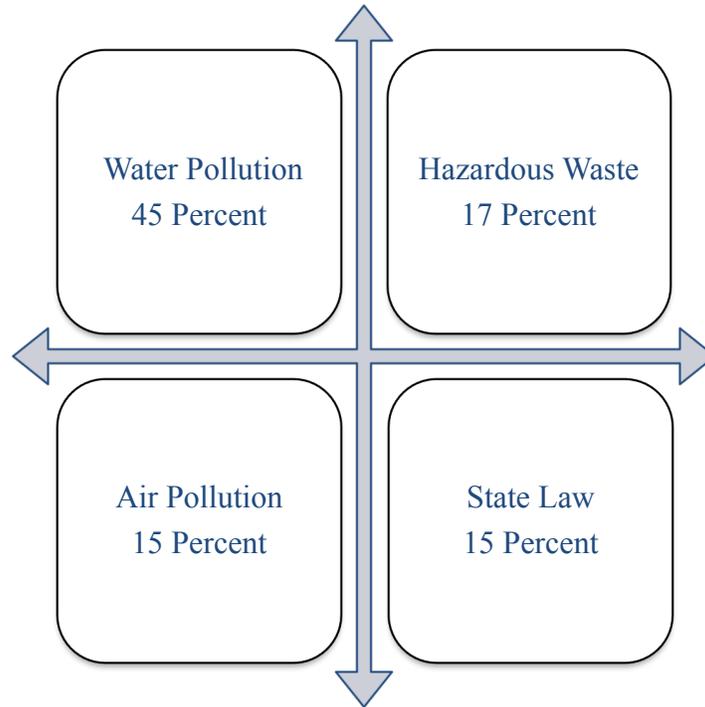


Figure 5. Dominant Themes in Environmental Crime Prosecutions in the State of California. *Source: EPA Summary of Criminal Prosecutions Database.*

We catalog eighty-six cases or forty-five percent of total environmental criminal prosecutions occurring in California as centering on water pollution crimes. The vast majority involve violations of the CWA via illegal discharges to public sewers, rivers, canals, streams, the ocean, or other

navigable waters of the United States. One common example was the crew of an ocean-going vessel bypassing the oil water separator, tampering with monitoring devices, or falsifying their Oil Record Book on the ship. Twilight Marine was prosecuted for discharging oil into the ocean in violation of the CWA. The company's ship, Warrior, was anchored in San Francisco Bay when inspectors from the U.S. Coast Guard discovered the crime. The company was sentenced to fines and restitution totaling \$150,125.⁴⁸ Wagner Construction, JV was prosecuted for spilling a large volume of Plasti-Kote a mix of Acrylic Polymer and Xylene in a creek near their facility in Lakeside. During clean-up efforts, consultants found a significant amount of soil contaminated with Toluene, suggesting the company had been illegally dumping hazardous materials on site. Wagner was sentenced to twenty-four months of probation, a \$20,000 fine, and restitution.⁴⁹

These crimes also fall into illegal dredging or alteration of waterways without proper 404 permitting by the Army Corps of Engineers.⁵⁰ Donco Industries was prosecuted for illegal dredging. The company engaged in a scheme to illegally dredge the channel leading to its property at Indian Basin and to dump the dredge material into San Francisco Bay off Hunter's Point. The company was sentenced to thirty-six months of probation and a \$10,000 fine.⁵¹ Another crime we categorized as water pollution was the illegal filling of wetlands without a permit. Robert Bruce Fischer was prosecuted for illegally filling six acres of land without a permit on land near Sycamore Creek in Chico in October, 1994. Fischer was sentenced to pay a \$5,000 fine and to donate \$50,000 to the Nature Conservancy.⁵² Another water pollution crime was that perpetrated by Mark Stoffer, who supervised operations at nine wastewater treatment plants at Camp Pendleton. He falsely reported low levels of chlorine discharged into the Santa Margarita that flows to the Pacific Ocean. He was prosecuted for making false statements and sentenced to four months incarceration, thirty-six months of probation, and \$5,100 in fines and fees.⁵³

In thirty-two cases or seventeen percent of our data, we catalog the prime crime in the prosecution as a hazardous waste crime. Typically, these

48. Summary of Prosecutions: Twilight Marine LTD, N.D. Cal. CR07-00114 WBD, U.S. ENV'T PROT. AGENCY (2007), <https://perma.cc/2TYQ-V6N8>.

49. Wagner Constr., JV, S.D. Cal. 07CR3443-IEG (2009), <https://perma.cc/PH86-3HYC>.

50. *Permit Program under Clean Water Act Section 404*, U.S. ENV'T PROT. AGENCY, <https://perma.cc/N9NB-RDZV> (Oct. 19, 2021).

51. Summary of Prosecutions: Donco Indus., N.D. Cal. CR-92-407-SBA, U.S. ENV'T PROT. AGENCY (1993), <https://perma.cc/YP92-P2RV>.

52. Summary of Prosecutions: Fisher, E.D. Cal. CRS-96-0071PAN, U.S. ENV'T PROT. AGENCY (1996), <https://perma.cc/63SH-CGRD>.

53. Summary of Prosecutions: Stoffer, S.D. Cal. 01-CR-1149-EJG, U.S. ENV'T PROT. AGENCY (2002), <https://perma.cc/UX74-C2S4>.

crimes revolve around one or more violations of unpermitted storage, transport, or disposal under RCRA or failure to notify authorities of the release of a hazardous substance under the Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”), also known as Superfund.⁵⁴ Steve Julius Kiss was prosecuted for closing his business that manufactured magnetic tape leader in Banning and for abandoning hazardous wastes that required removal by EPA Emergency Response teams. He was charged under RCRA for illegal disposal and under CERCLA for failure to notify, and he was sentenced to six months incarceration, thirty-six months of probation, and a \$5,000 fine.⁵⁵ Edward Louis Wyman was prosecuted for a RCRA violation after a fire at his home caused the evacuation of the neighborhood. Wyman was illegally storing some one million rounds of ammunition, two refrigerators full of gun powder, and hazardous industrial solvents. When the residence caught fire, thousands of bullets were sent flying into the nearby neighborhood. Wyman was sentenced to sixty months incarceration, three years of supervised release, and to pay the EPA \$800,000 for costs associated with the forty-seven-day clean-up for the illegal storage and for knowingly endangering his neighbors.⁵⁶

Another crime clustered around this theme was violation of lead-based paint rules for inspections under the TSCA. Ronald Barney was prosecuted in this vein for performing lead-based paint inspections without being certified by the EPA. He was sentenced to twenty-four months of probation and a \$2,500 fine.⁵⁷ These crimes can have serious consequences, particularly since lead paint in old buildings is a toxic substance that can injure children, who may consume the leaded paint flakes.⁵⁸ Polychlorinated biphenyls (“PCBs”) are carcinogenic substances regulated under the TSCA.⁵⁹ Power transformers remain one of the few relatively ubiquitous industrial and commercial applications still containing PCBs. Given that the cost of disposal is high, we find instances of prosecutions for illegally burying these transformers. For example, Custom Food Machinery was prosecuted in this manner under the TSCA in 1987 for illegal burial of a transformer that was leaking PCBs. The company was fined \$15,000 and

54. Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. § 9601 (1980).

55. Summary of Prosecutions: Kiss, Cal. CR-95-238, U.S. ENV’T PROT. AGENCY (1995), <https://perma.cc/2V3T-28V5>.

56. Summary of Prosecutions: Wyman, C.D. Cal. 2009-CR-577(A)-GHK, U.S. ENV’T PROT. AGENCY (2012), <https://perma.cc/AE7P-HCD8>.

57. Summary of Prosecutions: Barney, C.D. Cal. 8:15-CR-177-RFT, U.S. ENV’T PROT. AGENCY (2016), <https://perma.cc/P8GB-6U3W>.

58. *Childhood Lead Poisoning Prevention*, CTRS. FOR DISEASE CONTROL & PREVENTION (July 30, 2019), <https://perma.cc/R69K-RHKH>.

59. *What Are Adverse Health Effects of PCB Exposure*, AGENCY FOR TOXIC SUBSTANCES & DISEASE REGISTRY, <https://perma.cc/F2H5-K8BQ>.

sentenced to thirty-six months of probation.⁶⁰ CSI Technologies was prosecuted for illegally smuggling high frequency capacitors containing PCBs from Columbia and was sentenced to pay a \$30,000 fine.⁶¹

In fifteen percent of prosecutions or twenty-eight cases, we categorize the prosecution as centering on air pollution crimes. These crimes are broad, and include unpermitted emissions from stationary sources of pollution; illegal importation of ozone depleting substances; vehicles violating federal emissions standards; and unpermitted actions related to asbestos demolition, disposal, training, worker safety, and related issues regulated under Asbestos NESHAP.⁶² Most of the air pollution crimes are charged under the CAA and/or with related criminal charges.

Kaizo Industries was prosecuted for smuggling Nissan Skyline vehicles into the U.S. for sale to the public, for false statements, and for money laundering. The company was sentenced on March 7, 2011 to twenty-four months of probation.⁶³ Victor Manuel Diaz was prosecuted for smuggling HCFC-22 (“R-22”), an ozone depleting substance, from Mexico. He was sentenced to twenty-four months of probation and a \$250 federal fine.⁶⁴ Shore Terminals, LLC was sentenced to pay a \$1.75 million criminal fine and serve twenty-four months of probation, as well as make a \$750,000 community service payment and create an environmental compliance plan.⁶⁵ The company operated a bulk terminal in Selby that received and distributed petroleum products. The vapor recovery unit that captures the release of volatile organic compounds (“VOCs”) into the ambient air was found to be malfunctioning between December 21, 2005 and December 1, 2006. Atticus Scott Gee was prosecuted for submitting false data from devices meant to monitor and measure air emissions from landfills. Gee worked as a technician under contract for the San Diego County Public Works. He was charged with false statements, mail fraud, and tampering with a monitoring device under the CAA. Gee was sentenced on May 24, 2010 to twenty-four months of probation, a \$100 special assessment, and

60. Summary of Prosecutions: Custom Food Mach., N.D. Cal. 87-20002, U.S. ENV’T PROT. AGENCY (1987), <https://perma.cc/H5HX-SWGQ>.

61. Summary of Prosecutions: CSI Tech., S.D. Cal. 85-0325, U.S. ENV’T PROT. AGENCY (1985), <https://perma.cc/2H4W-HWC3>.

62. National Emissions Standards for Hazardous Air Pollutants (“NESHAP”). Air toxins are covered under these standards and give EPA authority to regulate activities that release toxic materials, such as asbestos into the ambient air. *See Overview Of The Asbestos National Emissions Standards For Hazardous Air Pollutants (NESHAP)*, U.S. ENV’T PROT. AGENCY (2020), <https://perma.cc/R9BN-G3RP>.

63. Summary of Prosecutions: Kaizo Indus., C.D. Cal. SA CR 10-0212m, U.S. ENV’T PROT. AGENCY (2011), <https://perma.cc/JE2U-RRQT>.

64. Summary of Prosecutions: Diaz, S.D. Cal. 11-CR-1581-WQH, U.S. ENV’T PROT. AGENCY (2011), <https://perma.cc/XJK9-W95A>.

65. Summary of Prosecutions: Short Terminals, N.D. Cal. CR09 0395, U.S. ENV’T PROT. AGENCY (2010), <https://perma.cc/J9KZ-NAYL>.

to perform 100 hours community service.⁶⁶ Jaime Patrick Alvarez and eight co-defendants were prosecuted for clean-scanning or clean-piping over 1,300 vehicles.⁶⁷ Alvarez was sentenced to twenty-four months of probation.⁶⁸

Asbestos NESHAP violations can be seen with the prosecution of Joseph Yoon for hiring non-certified day labors to remove asbestos. The illegal demolition and removal at the Forest Glen apartment complex in Winnetka resulted in clean-up cost of some \$1.2 million. Yoon and his co-defendants were charged under the CAA for the asbestos violations and conspiracy. Yoon was sentenced to twenty-four months of probation and to pay \$5,400 in restitution to three affected workers.⁶⁹ Rudolph Buendia III, the site supervisor for Firm Build, Inc. operated a demolition and renovation project at the former Castle Air Force Base in Atwater. Buendia hired high school students to remove asbestos without training or proper protective equipment. Buendia was sentenced on March 31, 2014 to twenty-four months incarceration for the asbestos violations.⁷⁰ Lachele Rene Thrower was prosecuted for issuing fraudulent asbestos training certificates. She was sentenced to thirty-six months of probation.⁷¹

The final theme we uncover is that a significant number of cases, fifteen percent in total, focus on violations of California state environmental statutes. In twenty-eight cases we find that state charges represent the primary violation in the case and drive the prosecution. These cases ranged considerably and included illegal discharge and disposal of hazardous substances, abandoned hazardous waste, failure to report an environmental violation, and other charges. Qmect, Inc. stored and transported 129 drums of hazardous waste from Battle Mountain, Nevada. The company was charged with state environmental violations and sentenced to pay a \$60,000

66. Summary of Prosecutions: Gee, S.D. Cal. 09-CR-4121-BTM, U.S. ENV'T PROT. AGENCY (2010), <https://perma.cc/7VDA-KV9C>.

67. Summary of Prosecutions: Alvarez, C.D. Cal. CR-2016-0049, U.S. ENV'T PROT. AGENCY (2017), <https://perma.cc/7S8M-RLM6>. Clean scanning involves circumventing emissions testing under the CAA and California Smog Check Program by passing a non-conforming vehicle through substitution of another vehicle.

68. The CAA requires vehicle emissions testing in areas of the country not in attainment for one or more criteria pollutants listed under the National Ambient Air Quality Standards ("NAAQS"). See *Nonattainment Areas for Criteria Pollutants*, U.S. ENV'T PROT. AGENCY (2020), <https://perma.cc/W92C-2NRR>.

69. Summary of Prosecutions: Yoon, C.D. Cal. 2010-CR-00575, U.S. ENV'T PROT. AGENCY (2011), <https://perma.cc/Q4BW-VPV7>.

70. Summary of Prosecutions: Buendia, E.D. Cal. 1:10-CR-0285 OWW, U.S. ENV'T PROT. AGENCY (2014), <https://perma.cc/WA3B-NDMT>.

71. Summary of Prosecutions: Thrower, S.D. Cal. 2014-CR-03485, U.S. ENV'T PROT. AGENCY (2016), <https://perma.cc/XH2J-73ML>.

state fine.⁷² Del Mar Seafoods was prosecuted for dumping fish and squid parts from fishing vessels in the waters of the Port of Los Angeles. The company was charged on July 26, 2006 with five counts of violating state environmental regulations and was sentenced on September 12, 2006 to pay \$15,340 in restitution.⁷³ Golden West Nuts, Inc. was prosecuted when two employees applying the pesticide Methyl Bromide broke a hose and exposed employees to the pesticide. The supervisor ordered the employees to get back to work. The defendants were charged with state environmental regulations and the company was sentenced to thirty-six months of probation, a \$10,000 state fine, and a \$20 special assessment.⁷⁴

We find that eight percent of the prosecutions or sixteen cases do not have a central theme that fall within the four dominant themes outlined in Figure 5. Many of these are FIFRA violations resulting from the misuse of a registered pesticide, unpermitted use of a pesticide, or selling and distributing unregistered pesticides.⁷⁵ Three cases involve laboratory testing fraud.⁷⁶ Other cases include the marijuana prosecutions noted in Table 2, the sale of misbranded veterinary products, and the submission of false documents.⁷⁷

CONCLUSION

Analysis of all environmental crime prosecutions stemming from or in conjunction with EPA-CID investigations yields interesting patterns of types of environmental crimes have been committed in the Golden State since 1983, the penalties assessed, and the major themes over time. Our first major finding is that prosecutions are dominated by water pollution

72. Summary of Prosecutions: Qmect, Inc., Cal. 211365B, U.S. ENV'T PROT. AGENCY (2005), <https://perma.cc/DF7V-92NS>.

73. Summary of Prosecutions: Del Mar Seafoods, Inc., Cal. 6CA02368, U.S. ENV'T PROT. AGENCY (2006), <https://perma.cc/227N-UCPZ>.

74. Summary of Prosecutions: Golden West Nuts, Inc., Cal. CAL 2004-401, U.S. ENV'T PROT. AGENCY (2007), <https://perma.cc/6ML6-QALW>.

75. *See generally*, Summary of Prosecutions: Guardian Prot., E.D. Cal. CRF-985315, U.S. ENV'T PROT. AGENCY (1998), <https://perma.cc/83Z6-EL9E>; Summary of Prosecutions: Colleasure, C.D. Cal. EDCR 05-00035-GSL, U.S. ENV'T PROT. AGENCY (2005), <https://perma.cc/C7C7-QJ8Q>; Summary of Prosecutions: Plantillaz, C.D. Cal. 109CR 0037, U.S. ENV'T PROT. AGENCY (2011), <https://perma.cc/P47C-AXSH>; Summary of Prosecutions: Cordeniz, E.D. Cal. 15-CR-1685-JLS, U.S. ENV'T PROT. AGENCY (2009), <https://perma.cc/ZA6C-EXY6>; Summary of Prosecutions: Clement, E.D. Cal. MFG-98-2119, U.S. ENV'T PROT. AGENCY (1998), <https://perma.cc/3XFK-CDTN>.

76. Pan, E.D. Cal. CR S 98 234 (1999), <https://perma.cc/3SWU-3846>; Yang, N.D. Cal. CR-06-0374SBA (2010), <https://perma.cc/3S9M-BPYF>; Hubbard, N.D. Cal. CR17 278 (2018), <https://perma.cc/3BDS-VFRC>.

77. Summary of Prosecutions: Vaccination Serv. C.D. Cal. CR17-0013(A)-RGK (2018), <https://perma.cc/F28H-U2E2>; Summary of Prosecutions: Conrad, S.D. Cal. 15-CR-1685-JLS (2015), <https://perma.cc/J89P-TF3C>.

cases, followed by air pollution, and hazardous waste crimes. A good percentage of cases resulted in state-level charges, suggesting some level of cooperation between federal and state environmental law enforcement agencies. Most prosecutions fall within these four basic areas, with sixteen cases revolving around pesticide misuse, controlled substances, and other miscellaneous violations.

Our second major finding is that, while over \$230 million in fines were assessed to all defendants, as was a significant amount of probation and prison time, much of these fines and other sentences are skewed by large penalty cases. Analyzing 190 prosecutions over some thirty-seven years is not a significant number. The plausibility of deterring environmental crimes with so few prosecutions does not seem terribly significant in our analysis. This conclusion has to be taken in the broader context of other state criminal enforcement efforts, as well as state and federal civil enforcement efforts to ensure compliance with environmental laws.

The first remedy for improving the outcomes of criminal enforcement is to extend greater resources to environmental law enforcement agencies. EPA-CID should have 200 criminal investigators by statute but has consistently fallen short most years over the past decade. The statutory minimum is low and proper federal enforcement cannot occur without sufficient staff.⁷⁸ DOJ-ECS has forty-three prosecutors and a dozen support staff, which could also be expanded to meet an ever-growing mandate.⁷⁹ A second remedy is to build on formal resources with added community policing. With so many industrial facilities and stationary sources of pollution in the state, there are numerous communities that are exposed to toxic pollution on a daily basis. Partnering with environmental justice communities and others that can report violations and taking those concerns seriously in a law enforcement context would be helpful. The EPA's Report a Violation Website resulted in EPA-CID opening thirty-five cases, and six were referred for successful prosecution in the first decade. Such a program could be expanded.⁸⁰ A final remedy is to bring greater salience to the value of environmental criminal enforcement for punishing and deterring serious environmental crimes. The mass media rarely gives significant attention to environmental crime and the public rarely conceptualizes it as serious crime, even if such acts are arguably as injurious as street crime in the United States.⁸¹ Without public attention and a reconceptualization of

78. *EPA CID Agent Count*, PUB. EMPS. FOR ENV'T RESP. ("PEER") (Nov. 21, 2019), <https://perma.cc/5DA4-WMLR>; Pollution Prosecution Act of 1990, Pub. L. No. 101-593, 42 U.S.C. § 13101.

79. These numbers were given as of 2015. See DEP'T OF JUST., ENV'T CRIMES SECTION (2015), <https://perma.cc/7FXP-GYQ4>; PEER, *supra* note 78.

80. OFF. OF CRIM. FORENSICS, ENF'T & TRAINING, U.S. ENV'T PROT. AGENCY, CRIMINAL ENFORCEMENT PROGRAM 4, 6-7 (2011), <https://perma.cc/R9LX-WE39>.

81. Melissa L. Jarrell, *Environmental Crime and Injustice: Media Coverage of a Landmark Environmental Crime Case*, 6 SW. J. CRIM. JUST. 27, 27-28 (2009).

environmental crimes as serious crimes with real victims, there is little need for state and federal policymakers to put forth additional resources to sustain and enhance it.
