MISLABELED: EXPLORING THE HISTORY OF CHARGING AND SENTENCING PATTERNS IN FIFRA CRIMINAL PROSECUTIONS

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ABSTRACT

The regulation of pesticides affects a number of applications in the United States agricultural industry. While the criminal prosecution of defendants who violate federal laws governing registered pesticides has been ongoing for four decades, we continue to have a poor understanding of how federal prosecutors use the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) to charge and prosecute defendants and the outcomes of those prosecutions. We use content analysis of 2,588 federal prosecution case summaries from 1983 to 2019 to gain a better historical understanding of how FIFRA has been used as a prosecutorial tool, to bring out the major themes in the prosecutions, and quantify sentencing outcomes. Analysis of all 123 FIFRA prosecutions undertaken during this time period suggest prosecutions center on four themes, including: unlawful production, off-label use, illegal disposal, and fraudulent testing or documentation related to registered pesticides. Cumulatively, defendants were assessed over $167

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million in monetary penalties, 3,168 months of probation, and 1,103 months of incarceration.[1]

I. INTRODUCTION

The year 2020 represents the 50th anniversary of the founding of the United States Environmental Protection Agency (EPA) and the first Earth Day. Numerous legislative achievements followed these major environmental milestones, including: the National Environmental Policy Act (NEPA),[2] the Clean Air Act

1. *Summary of Criminal Prosecutions*, EPA (Nov. 3, 2020, 1:29 p.m.), https://cfpub.epa.gov/compliance/criminal_prosecution/index.cfm (select specific "Fiscal year" dropdown; then select "FIFRA – Federal Insecticide, Fungicide, and Rodenticide Act") [https://perma.cc/RFW8-4YJH] (analyzing data set created from cases complied from source).

2. *See generally* 42 U.S.C. § 4321 (NEPA was critically important for requiring all federal agencies to consider the impact on the environment in all major federal decisions. It established a national-level framework for functionally protecting the environment. EPA reviews Environmental Impact Statements (EIS) from all federal agencies. These are reviewed through the Office of Federal Activities (OFA) in the Office of Enforcement and Compliance Assurance (OECA), which handles civil and criminal enforcement activities across eight offices for the agency. The Environmental Quality Improvement Act of 1970 (42 U.S.C. § 4371) was passed in conjunction with NEPA**,** which established the President's Council on Environmental Quality (CEQ). This provided a line in the Executive Office of the President to environmental matters and disagreements over EIS, given almost all activities of the federal government affect the environment in some manner.).

(CAA),[3] the Clean Water Act (CWA),[4] the FIFRA,[5] the Endangered Species Act (ESA),[6] the Safe Drinking Water Act (SDWA),[7] the Resource Conservation and

3. *See generally* 42 U.S.C. § 85 (The CAA was the culmination of a series of important pieces of prior congressional legislation. The Air Pollution Control Act of 1955 (P.L. 84-159) was the first major effort to identify and control air pollution. Congress deferred to the states for enforcement. The importance of the Act was that it acknowledged air pollution as a national-level environmental problem. The Clean Air Act of 1963 (P.L. 88-206) (CAA) authorized the U.S. Public Health Service to begin researching methods to monitor and control air pollution. The National Emissions Standards Act of 1965 (P.L. 89-272) amended the CAA to set the first vehicle emissions standards beginning with 1968 models. The CAA Extension of 1970 (P.L. 91-604) represents a significant movement forward towards empowering the federal government to take the lead regulating emissions from stationary sources.).

4. *See generally* 33 U.S.C. § 1251 (The statutory name is the Federal Water Pollution Control Act Amendments of 1972 (P.L. 92-500), which formed the basis for the modern CWA. This Act subsequently received major revisions in 1977 and then again in 1987 with the passage of the Water Quality Act, giving the EPA significant authority to develop a regulatory framework for discharges of pollutants into waters in the United States. The Act contains six titles: Title I sets goals and policies and establishes grant and pollution control programs; Title II establishes the basis for grants to subsidize the construction of municipal wastewater treatment plants; Title III manages standards and enforcement and establishes the need for discharge permits and technology-based standards for treatment plans, such as effluent standards and New Source Performance Standards (NSPS), the National Water Quality Inventory, water quality standards program, and the Non-Point Source Management Program, as well as enforcement provisions for civil and criminal penalties; Title IV establishes permit and licensure requirements for point sources and state certification; Title V contains the citizen suit provisions and whistleblower protections; Title VI establishes the Clean Water Act State Revolving Funds (CWSRF) program that replaced the original construction grants program for municipal wastewater facilities.).

5. *See generally* 7 U.S.C. § 136 (FIFRA traces its history to the Federal Insecticide Act of 1910, which began to establish regulations to ensure quality and integrity of pesticides on the market. FIFRA was signed into federal law in 1947 and the United States Department of Agriculture was assigned responsibility for the expanding mandate to regulate pesticides and create basic labeling provisions. The growing understanding that pesticides were posing a significant threat to human and animal health and the environment shifted responsibility to the EPA when amendments were passed in 1972 establishing the Federal Environmental Pesticide Control Act (FEPCA). The major difference from its predecessors is the Act changed the mandate from truth in labeling to balancing the health risks of pesticides with their economic benefits. The Food Quality Protection Act (FQPA) ((P.L. 104-170) was passed into law in 1996 to empower the EPA to set tolerances for pesticides. The new standard was a **"**reasonable certainty of no harm.**"** FIFRA was further amended by the Pesticide Registration Improvement Act (P.L. S.1664), which, among other issues, allowed the EPA to set fees for registration and remedies for delayed administration action on approvals. The Federal Food, Drug, and Cosmetic Act of 2002 (21 U.S.C. § 301) authorizes the EPA to set maximum residue limits for pesticides in food. In practice, the EPA is authorized under FIFRA and

related acts to regulate risks in the broader environment as well as dietary risks caused by pesticides in food.).

6. *See generally* 16 U.S.C. § 1531 (The ESA developed a framework for conserving threatened plants, animals, and their related habitats. The Act requires federal agencies to consider the impacts of their actions on any listed endangered species and their critical habitat. The Act regulates importing, exporting, and interstate commerce related to endangered species. The United States Fish and Wildlife Service (FWS) maintains the list of endangered species, of which the Act is most notable. FWS and the United States National Oceanic and Atmospheric Administration**'**s (NOAA) National Marine Fisheries Service (NMFS) are the key federal agencies involved in the regulation and protection of endangered species. The Act seeks to prevent the extinction of certain species and helps endangered species recover to the extent that federal protection is no longer necessary. The acknowledgement of species lost in the late 1890s resulted in early conservation laws focused on specific species, such as the Lacey Act (16 U.S.C. § 3371) of 1900, which focused on game and wild bird preservation and interstate commerce in prohibited animals. Today the Act is used to regulate the importation of non-native species. As amended by the Food, Conservation, and Energy Act (P.L. 110-234) of 2008 enhanced regulation of a broader range of plant and animal products. The Endangered Species Preservation Act (P.L. 89-669) of 1966 began forming the framework for the modern ESA and the first endangered species list was published in 1967. The Endangered Species Conservation Act (P.L. 91-135) expanded protections for endangered species and developed the template for the ESA of 1973 for the standard to protect, which is based on **"**the best scientific and commercial data**"** available.).

7. *See generally* 42 U.S.C. § 300(f) (The SDWA gave the EPA the authority to set drinking water quality standards for public water systems in the United States. The Act does not authorize the EPA to regulate bottled water or private wells serving under 25 people, but it does provide authority over injection wells. Maximum Containment Levels (MCLs) is the primary mechanism used by the EPA to determine the legal threshold for a substance allowed in public water systems. These standards regulate the following categories of substances: microorganisms, disinfectants, disinfection byproducts, inorganic chemicals, organic chemicals, and radionuclides. The EPA currently sets quality standards for over 170,000 public waters systems in the United States. Further research is available at https://www.epa.gov/sites/production/files/2015-04/documents/epa816f04030.pdf.).

Recovery Act (RCRA),[8] and the Toxic Substance Control Act (TSCA). [9] The founding of the EPA as the country's preeminent federal environmental regulator and these extensive legislative actions by the United States Congress ushered in the modern era of environmental regulation. These actions also represent a period of the broadest legislative commitments to protecting human and animal health and the natural environment in United States history.

FIFRA regulates the production, distribution, sale, use, and disposal of pesticides in the United States and enjoins the EPA to have oversight of these responsibilities and enforce the provisions of FIFRA.[10] The general goal of FIFRA is to authorize the EPA to ensure that pesticides will not cause an unreasonable risk to human or animal health or the environment.[11] Before companies can distribute or sell pesticides in the United States, they must register them with the EPA.[12] The standard for registration is the pesticide cannot generally cause unreasonable adverse effects on the environment.[13] Adverse effects means: ''(1)

8. *See generally* 42 U.S.C. § 82 (RCRA gives the EPA authority over hazardous waste from cradle to grave. The agency is provided authority over the generation, storage, transportation, treatment, and disposal of hazardous waste. RCRA is the basis for establishing a national framework of solid and hazardous waste control. RCRA empowers the EPA to develop treatment standards for waste before it enters landfills and requires facilities that manage waste to clean up or remediate contaminated soil, groundwater, or surface water. States issue permits to facilities based on EPA guidelines that establish minimum technical standards for the design and operation of disposal facilities. Facilities managing solid and hazardous waste are responsible for preventing future environmental problems caused by waste and to take corrective action to clean up environmental problems caused by the mismanagement of waste.).

9. *See generally* 15 U.S.C. § 1261 (The TSCA empowers the EPA to regulate chemical substances. The Office of Pollution Prevention and Toxics (OPPT) oversees programs related to the TSCA. The EPA regulates many key aspects of the manufacturing, use, and importation of chemical substances. The Act defines "chemical substance" as, "organic or inorganic substance of a particular molecular identity, including any combination of these substances occurring in whole or in part as a result of a chemical reaction or occurring in nature, and any element or uncombined radical." These include organics, inorganics, polymers, and chemical substances of unknown or variable composition, complex reaction products, and biological materials (UVCBs). Pesticides, food additives, drugs, cosmetics, tobacco and tobacco products, nuclear materials, and munitions are not covered by the Act. Further research is available at https://www.epa.gov/tsca-inventory/about-tsca-chemical-substance-inventory#chemicalsubstancedefined.).

10. *Summary of the Federal Insecticide, Fungicide, and Rodenticide Act*, EPA (Oct. 28, 2020, 10:08 PM), https://www.epa.gov/laws-regulations/summary-federal-insecticide-fungicide-and-rodenticide-act [https://perma.cc/5KCL-FGJM].

11. *Id.*

12. *Id.*

13. *Id.*

any unreasonable risk to man or the environment, taking into account the economic, social, and environmental costs and benefits of the use of any pesticide, or (2) a human dietary risk from residues that result from a use of a pesticide in or on any food inconsistent with the standard under section 408 of the Federal Food, Drug, and Cosmetic Act."[14]

The EPA defines a pesticide as: "with certain exceptions, a pesticide is any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, or intended for use as a plant regulator, defoliant, or desiccant, or desiccant, or any nitrogen stabilizer."[15] The EPA establishes a review process of registered pesticides, most of which are used in commercial applications.[16] Conventional pesticides, biopesticides, and antimicrobials must meet different standards to become registered.[17] The agency develops risk assessments based on data an applicant provides when seeking to register a pesticide based on the ingredients, site or location of use, amount and frequency/timing of use, and storage and disposal practices.[18] The Office of Pesticide Programs (OPP) regulates the manufacture and use of registered pesticides.[19]

14. *Id.*; *see also* Federal Food, Drug, and Cosmetic Act of 1938, Pub. L. No. 75-717, § 502, 52 Stat. 1040 (codified and amended as 21 U.S.C. Ch. 9) (The Act gave the U.S. Food and Drug Administration (FDA) authority to regulate food, drugs, medical devices, and cosmetics. This came on the heels of a public scandal when Elixir sulfanilamide sold by the S.E. Massengill Company caused over 100 deaths. This event, in addition to other related poisonings, empowered the FDA to require testing before certain drugs could come to market. It also gave the FDA the ability to legally define drugs, dietary supplements, and medical devices.).

15. *Federal Insecticide, Fungicide, Rodenticide Act (FIFRA) and Federal Facilities*, EPA (Oct. 28, 2020, 10:05 PM), https://www.epa.gov/enforcement/federal-insecticide-fungicide-and-rodenticide-act-fifra-and-federal-facilities [https://perma.cc/SBH8-R8ML].

16. *Registration Review Process*, EPA (Nov. 7, 2020, 9:18 AM), https://www.epa.gov/pesticide-reevaluation/registration-review-process [https://perma.cc/5Q5Z-Q6SP].

17. *Pesticide Registration Manual: Chapter 4 - Additional Considerations for Antimicrobial Products Facilities*, EPA (Nov. 7, 2020, 9:19 AM), https://www.epa.gov/pesticide-registration/pesticide-registration-manual-chapter-4-additional-considerations [https://perma.cc/MST4-H3N2]; *Biopesticide Registration*, EPA (Nov. 7, 2020, 9:20 AM), https://www.epa.gov/pesticide-registration/biopesticide-registration [https://perma.cc/RG32-TZ7F].

18. *Data Requirements for Pesticide Registration*, EPA (Nov. 7, 2020, 9:20 AM), https://www.epa.gov/pesticide-registration/data-requirements-pesticide-registration [https://perma.cc/B22S-2PYJ].

19. *See Federal Insecticide, Fungicide, Rodenticide Act (FIFRA) and Federal Facilities*, *supra* note 15.

The EPA develops a compliance monitoring strategy (CMS) with the help of state environmental agencies to ensure regulated entities obey the law.[20] States may regulate registered pesticides, but are not authorized to create minimum standards for pesticides below those established by the EPA.[21] States and tribal governments typically monitor pesticide use, conduct inspections, license commercial applicators, and engage in enforcement actions.[22] Under section 26 of FIFRA, states have primary enforcement responsibility for pesticide use violations.[23] Enforcement issues for the EPA center on proper registration, manufacturing and production, distribution, use, testing, and application of registered pesticides.[24] Additionally, their mandate to protect human health and the environment brings issues into the enforcement arena, such as exposure to pesticides by agricultural workers, commercial applicators, and the general public.[25]

When individuals or companies break the law, state environmental agencies are generally the first line of defense.[26] The EPA must also engage in investigations of infractions in certain cases and decide whether to undertake enforcement actions.[27] The vast majority of enforcement actions at the state or federal level

20. EPA: OFF. OF ENF'T AND COMPLIANCE ASSURANCE, COMPLIANCE MONITORING STRATEGY FOR FEDERAL INSPECTION FUNGICIDE RODENTICIDE ACT (FIRA) 4 (Oct. 28, 2020, 10:05 PM), https://www.epa.gov/sites/production/files/2015-09/documents/fifra-cms.pdf [https://perma.cc/Z9MZ-ML3H] [hereinafter COMPLIANCE MONITORING STRATEGY FOR FIFRA].

21. *Federal Insecticide, Fungicide, Rodenticide Act (FIFRA) and Federal Facilities*, *supra* note 15.

22. COMPLIANCE MONITORING STRATEGY FOR FIFRA, *supra* note 20.

23. *Id.* at 6 (Tribal governments are not granted primacy to enforce FIFRA, but refer cases to relevant EPA regional enforcement offices. Tribes can be given pesticide enforcement grants. For certified applications, if EPA approves a State Certification Plan that meets EPA standards, the state can certify commercial applicators to use restricted use pesticides.).

24. *Federal Insecticide, Fungicide, Rodenticide Act (FIRA) and Federal Facilities*, *supra* note 15.

25. COMPLIANCE MONITORING STRATEGY FOR FIFRA, *supra* note 20, at 5 (The agency admits the vastness of the regulatory universe for registered pesticides. They focus their compliance monitoring strategy on those that pose the greatest risk to human health and the environment. Distributors, producers, commercial applicators, importers, and farms represent the most significant sources. Estimates in 2015 were approximately 3.2 million by the agency's estimates and this excludes many other categories, including retailers, which are vastly larger and generally unknown.).

26. *See id.* at 4.

27. *See Basic Information on Enforcement*, EPA (Oct. 28, 2020, 10:04 PM), https://www.epa.gov/enforcement/basic-information-enforcement [https://perma.cc/WP6F-CD2T].

involve a series of civil remedies.[28] These include administrative or civil judicial actions, such as monetary penalties, injunctive relief settlements, Administrative Orders on Consent (AOCs), mandated mitigation plans, or Supplemental Environmental Projects (SEPs), that require the violator to perform an agreed upon action.[29] EPA investigations involve cooperation and collaboration with state and local agencies, law enforcement, prosecutors, laboratories, and at times, elected officials.[30] Civil remedies, if utilized, are typical given the nature of most infractions and the cost of criminal prosecution.[31]

Historically, the EPA was authorized to develop rules and regulations to meet initial congressional mandates in the 1970s.[32] This included complex measurements, such as developing the National Ambient Air Quality Standards (NAAQS) for six criteria pollutants under the CAA including sulfur oxides (SO_X), atmospheric particulate matter (PM_{10} and $PM_{2.5}$), carbon monoxide (CO), ozone (O_3), nitrogen oxides (NO_x), and lead (Pb), as well as standards for hazardous substances and chemicals under the TSCA, FIFRA, and many federal laws.[33] The EPA had to manage hard cases of individuals and companies that refused to comply with rules and regulations, but the agency and federal government were ill-equipped to deal with serious, chronic, or willful environmental crimes at the time, as most regulatory efforts and resources went towards acknowledging the risks of various chemicals and hazardous substances and developing guidelines and rules to be enforced.[34] For example, the federal government prosecuted only

28. *See id.*

29. *Id.*

30. Theodore M. Hammett & Joel Epstein, *Local Prosecution of Environmental Crime*, 1993 NAT'L INST. OF JUST. Xll (provides introduction and identification of effective prosecution measures through examination of case studies and practical examples of environmental crime prosecution).

31. *See* David M. Uhlmann, *Environmental Crime Comes of Age: The Evolution of Criminal Enforcement in the Environmental Regulatory Scheme*, 4 UTAH L. REV. 1223, 1244 (2009) (providing a classic account of how the criminal enforcement apparatus has evolved over time in the broader context of the goals of environmental regulation and enforcement); *see generally* Kathleen F. Brickey, *Charging Practices in Hazardous Waste Crime Prosecutions*, 62 OHIO ST. L. J. 1077 (2001) (quantifying the ways prosecutors use RCRA and the outcomes).

32. *Evolution of the Clean Air Act*, EPA (Nov. 9, 2020, 11:17 AM), https://www.epa.gov/clean-air-act-overview/evolution-clean-air-act#:~:text=The%20enactment%20of%20the%20Clean,industrial)%20sources%20and%20mobile%20sources [https://perma.cc/2LX4-YUDJ].

33. *Criteria Air Pollutants*, EPA (Nov. 9, 2020, 11:46 AM), https://www.epa.gov/criteria-air-pollutants [https://perma.cc/485F-699U].

34. *See* Hammett & Epstein, *supra* note 30, at 54.

25 environmental crimes in the 1970s.[35] The need for stronger criminal enforcement tools became evident with time.[36]

Penalties in environmental statutes had to evolve so that it would no longer be easy for companies and individuals to simply pay fines rather than comply with regulations.[37] In the 1970s, the major expansion of federal environmental laws brought only additional misdemeanor provisions.[38] Felony provisions made their way into federal environmental laws in 1984, with the passage of The Hazardous and Solid Waste Amendments to RCRA.[39] Congress strengthened penalties in some environmental statutes over the following years.[40] These changes included upgrading misdemeanors in the CWA to felonies in 1987 and the CAA in 1990, following Guidelines issued by the U.S. Sentencing Commission that suggested

35. F. Henry Habicht (II), *The Federal Perspective on Environmental Criminal Enforcement: How to Remain on the Civil Side*, 17 ENV'T. L. RPTR 10478, 10479 (1987).

36. *Basic Information on Enforcement*, *supra* note 27 (Civil liability comes with the simple violation of the law; criminal liability considers intent in the violation. The EPA tends to investigate and pursue prosecution for "knowing violations" or willful violations of the law. Civil liability responds on a preponderance of the evidence standard that the evidence presented of a crime is more likely to be true than not. A defendant may be found liable in a civil trial under this standard or agree to a settlement with the government prior to or during trial. Criminal guilt is decided beyond a reasonable doubt that the defendant committed the crime with which they are charged. If found guilty under a civil standard, a defendant may face a monetary penalty or injunctive relief to fix the problem or take additional steps to remedy the problem. If convicted of a criminal violation a defendant can face a monetary penalty, restitution, or incarceration.).

37. Rivers and Harbors Appropriation Act of 1899, 33 U.S.C. § 403 (The first misdemeanor provisions in federal environmental law came about towards the end of the 19th century during the progressive push to have the federal government conserve natural resources. The Rivers and Harbors and Lacey Acts were the first federal laws that included misdemeanor provisions for environmental crimes. These Acts made illegal unpermitted discharges or alterations to the navigable waters of the United States and the unpermitted interstate wildlife trade.); The Lacey Act, 16 U.S.C § 3371, 1900.

38. Clean Water Act, 33 U.S.C. § 1251 (1972); Clean Air Act, 42 U.S.C. § 7401 (1970); Toxic Substances Control Act, 53 U.S.C. § 2601 (1976); Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. § 136 (1972); Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. § 9601 (1980); Resource Conservation and Recovery Act 42 U.S.C. § 6901 (1976).

39. David T. Barton, *Corporate Officer Liability Under RCRA: Stringent but not Strict*. 1991 BYU L. REV. 1547, 1548 (1991).

40. Richard J. Lazarus, *Assimilating Environmental Protection into Legal Rules and the Problem with Environmental Crime*, 27 LOY. L. REV. 867, 867-870 (1993).

enhanced penalties for a variety of federal offenses including environmental crimes.[41] Felony penalties are now common in federal environmental statutes.[42]

The Office of Environmental Enforcement (currently the Office of Enforcement and Compliance Assurance (OECA)), was founded in 1981 to institutionalize a policing presence for environmental crimes.[43] Criminal investigators were hired the following year and were deputized as Special Deputy U.S. Marshalls from 1984 until 1988, when Congress granted criminal investigators full law enforcement authority.[44] The Criminal Investigation Division (EPA-CID) currently employs some 145 criminal investigators to investigate

41. WASH. LEGAL FUND, CHAPTER TWO: ENVIRONMENTAL PROTECTION AGENCY CRIMINAL ENFORCEMENT POLICIES 2-3 (Mar. 2, 2021, 2:51 PM), https://s3.us-east-2.amazonaws.com/washlegal-uploads/upload/Chapter2EPA.pdf [https://perma.cc/T262-V5KH].

42. For examples of criminal provisions in federal environmental law *see Criminal Provisions of the Clean Air Act*, EPA (Mar. 2, 2021, 3:08 PM), https://www.epa.gov/enforcement/criminal-provisions-clean-air-act [https://perma.cc/76MG-KDDN]; *Criminal Provisions of the Resource and Recovery Act*, EPA (Mar. 2, 2021, 3:11 PM), https://www.epa.gov/enforcement/criminal-provisions-water-pollution [https://perma.cc/TUV6-VHRM]; *Criminal Provisions of the Resource Conservation and Recovery Act (RCRA)*, EPA (Mar. 2, 2021, 3:20 PM), https://www.epa.gov/enforcement/criminal-provisions-resource-conservation-and-recovery-act-rcra [https://perma.cc/9CAG-43CK].

43. *About the Office of Enforcement and Compliance Assurance (OECA)*, EPA (Oct. 28, 2020 10:04 PM), https://19january2017snapshot.epa.gov/aboutepa/about-office-enforcement-and-compliance-assurance-oeca_.html [https://perma.cc/U8UF-5VAW] (The OECA includes: the Office of Administration and Policy (OAP), which provides policy recommendations on compliance and enforcement and other administrative functions; the Office of Civil Enforcement (OCE) sets priorities for enforcement and assists the EPA regional offices with civil and judicial cases; the Office of Criminal Enforcement, Forensics and Training, which includes the Criminal Investigation Division (CID); the Office of Compliance (OC) establishes enforcement initiatives; the Office of Environmental Justice addresses unequal environmental protection in low-income and communities of color by developing partnerships, strategic planning, and grant programs; the Office of Federal Activities (OFA) reviews environmental impact statements provided by other federal agencies and the EPA's compliance with NEPA; the Federal Facilities Enforcement Office (FFEO) is charged with ensuring federal facilities are in compliance with federal environmental statutes; and the Office of Site Remediation Enforcement (OSRE) is charged with hazardous waste cleanup oversight at EPA for Superfund, RCRA, the Oil Pollution Act (OPA), and underground storage tanks.).

44. John P. Suarez, EPA ASSISTANT ADM'R, REVIEW OF THE OFFICE OF CRIMINAL ENFORCEMENT, FORENSICS AND TRAINING 7 (Nov. 2003), https://www.epa.gov/sites/production/files/documents/oceft-review03.pdf [https://perma.cc/K9H9-BZHH].

environmental crimes.[45] The Office of Criminal Enforcement, Forensics and Training (OECFT) was created in 1995 to provide forensics support for criminal cases opened by investigators and to house EPA-CID.[46]

EAP relies on the Department of Justice (DOJ) to charge and prosecute offenders.[47] Developing resources to prosecute environmental crimes can be traced to the founding of the DOJ's Public Lands Division, formed in 1909 and now known as the Environment and Natural Resources Division (ENRD).[48] In 1982 the Environmental Crimes Section (DOJ-ECS) was founded to focus resources and professional expertise on prosecuting environmental crimes. In 1987 DOJ-ECS became its own unit within ENRD.[49] DOJ-ECS employs some 43 prosecutors and a dozen support staff.[50] Once criminal investigators build sufficient evidence of a crime, the most common scenario is to approach prosecutors in DOJ-ECS or the

45. *See* EPA, U.S. ENVIRONMENTAL PROTECTION AGENCY CRIMINAL ENFORCEMENT PROGRAM: AMERICA'S ENVIRONMENTAL CRIME FIGHTERS 3 (Mar. 2, 2021, 3:33 PM), https://www.epa.gov/sites/production/files/documents/oceftbrochure.pdf [https://perma.cc/LT28-8WM4]; PUB. EMPLOYEES FOR ENV'T RESP. (PEER), EPA CID AGENT COUNT (Mar. 2, 2021, 3:37 PM), https://www.peer.org/wp-content/uploads/2019/11/11_21_19-Federal_Pollution_EPA_CID_Agent_Count.pdf [https://perma.cc/2YEX-T7BK] (noting that the number of investigative staff employed by EPA-CID varies on whether one includes active investigators, also known as special agents, or support staff and management).

46. *Basic Information on Enforcement*, EPA (Mar. 2, 2021, 3:40 PM), https://www.epa.gov/enforcement/basic-information-enforcement [https://perma.cc/F2B9-L2AM].

47. Kathleen F. Brickey, *Environmental Crime at the Crossroads: The Intersection of Environmental and Criminal Law Theory*, 71 TUL. L. REV. 487, 495 (1996).

48. *History*, U.S. Dep't of Just.: Env't & Nat. Res. Div. (June 19, 2019), https://www.justice.gov/enrd/history [https://perma.cc/4WNJ-79TR].

49. *Historical Development of Environmental Criminal Law*, U.S. Dep't of Just.: Env't & Nat. Res. Div. (May 13, 2015), https://www.justice.gov/enrd/about-division/historical-development-environmental-criminal-law [https://perma.cc/L3QQ-69MT]; *An Overview of our Practice*, U.S. Dep't of Just.: Env't & Nat. Res. Div. (May 14, 2015), https://www.justice.gov/enrd/overview-our-practice [https://perma.cc/5JK3-KSF9] (Noting the Environmental Enforcement Section handles civil-judicial cases in ENRD).

50. *See Environmental Crimes Section*, U.S. Dep't of Just.: Env't & Nat. Res. Div. (Jan. 21, 2021), https://www.justice.gov/enrd/environmental-crimes-section [https://perma.cc/QS3U-M7NZ] (Noting these numbers were given as of 2015); PUB. EMPLOYEES FOR ENV'T RESP. (PEER), EPA CID AGENT COUNT (Mar. 2, 2021, 3:55 PM), https://www.peer.org/wp-content/uploads/2019/11/11_21_19-Federal_Pollution_EPA_CID_Agent_Count.pdf [https://perma.cc/Z77W-JXAF].

U.S. Attorney's Office to convene a grand jury or file an information in District Court in order to pursue a case.[51]

Many studies have examined how the EPA uses its civil enforcement authority. However, there is a poor understanding of how the agency uses its criminal enforcement tools.[52] How FIFRA has been interpreted and utilized by federal prosecutors as a criminal enforcement tool and the outcomes of those prosecutions remains mostly unknown over time. Our central goal in this article is to fill this gap through an exploration of the charging and sentencing patterns in FIFRA prosecutions from 1983 through 2019. Through analysis of all 123 FIFRA-focused federal prosecutions, we are able to study how prosecutors used FIFRA in various criminal enforcement scenarios, exclusively and in conjunction with other statutes, and explore the punishments meted out to offenders. Our findings will help scholars comprehend how these criminal enforcement tools are used and to understand the universe of FIFRA prosecutions since the creation of the modern criminal enforcement process.

II. DATA COLLECTION

We collected data from the EPA's *Summary of Criminal Prosecutions* database.[53] The EPA database contains all federal prosecutions resulting from EPA criminal investigations.[54] We searched the database by EPA fiscal year, beginning with the initial case in the dataset in 1983, through the last case as of January 1, 2020. We coded the following categories in the data using a content analysis of each prosecution summary: summary data on the crime, year, docket number, state,

51. *See generally* Joel A. Mintz, ENFORCEMENT AT THE EPA: HIGH STAKES AND HARD CHOICES (Austin: University of Texas Press 2012); Joel A. Mintz, *Some Thoughts on the Interdisciplinary Aspects of Environmental Enforcement*, 36 ENV'T L. REP. 10495 (2006).

52. 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. RSCH. 71, 72 (2016) (using the EPA Database for years 2001-11 and provides multi-variate models to help explain punishment outcomes); Wayne B. Gray & Jay P. Shimshack, *The Effectiveness of Environmental Monitoring and Enforcement: A Review of the Empirical Evidence*, 5 REV. ENV'T, ECON., & POL'Y 1-23 (2011) (providing a summary of studies of civil environmental enforcement and explore themes in the scholarly research regarding the effectiveness of different monitoring and civil enforcement strategies). *See generally* Michael J. Lynch, *The Sentencing/Punishment of Federal Environmental/Green Criminal Offenders, 2000-2013*, 38 DEVIANT BEHAVIOR 1008 (2017) (examining the criminal prosecution of environmental offenders for certain federal statutes and questions the deterrent value of the criminal enforcement apparatus, given the small number of cases prosecuted over time).

53. *See generally Summary of Criminal Prosecutions*, *supra* note 1.

54. *See generally id.*

major environmental and non-environmental charging statutes used, number of defendants in the case, whether the defendants were companies or individuals, cumulative penalties assessed to all individual and company defendants, and whether each case contained a death or injury to humans that was clearly discussed in the summary. If the case was prosecuted under FIFRA, we included it in the analysis below. We analyzed 2,588 total cases, which yielded 123 FIFRA prosecutions.[55] The OECA and ECS were founded in 1981 and 1982, making this dataset fairly inclusive of the history of FIFRA criminal prosecutions.[56]

The primary limitation of our approach is that we are only able to analyze cases the EPA entered into the database. If the agency failed to include a case, then those prosecutions are unknown to us and not analyzed herein. Other agencies may investigate and pursue criminal prosecution of environmental crimes. The role of key players in the prosecutions, such as investigators, prosecutors, other state and federal agencies, defendants, or judges, is unknown in most cases, unless this information can be gleaned from the plain language of the prosecution summaries. The United States Government's fiscal year (FY) is October through September, so we lack data from the remainder of FY 2019. We concluded our analysis on January 1, 2020. One can use various search criteria to explore the database, including state, charging statute, or fiscal year. We found searching by fiscal year and going case by case was the most accurate method to catalog all of the FIFRA cases. A search of the database using the FIFRA statute at the time of writing, revealed 117 cases through 2019.[57] When the database was analyzed using our method, going case by case, we found an additional six prosecutions.[58]

We developed our coding protocols by examining criminal prosecutions through FY 2005. We piloted protocols with two coders for four weeks. We sought to have our inter-coder reliability reach above 90% before we were comfortable proceeding with the full analysis. Two individuals coded cases. One of the authors reviewed for discrepancies. These were discussed among the group to reach a consensus on the value of the discrepancies. Complex sentences represented the most common scenario of disagreement in the research group. The level of agreement for the overall analysis was approximately 95% by dividing the agreed upon items by total items coded in the dataset.[59]

55. *See generally id.*

56. *See About the Office of Enforcement and Compliance Assurance (OECA)*, *supra* note 43; *see also* Brickey, *supra* note 47, at 487.

57. *See generally Summary of Criminal Prosecutions*, *supra* note 1.

58. *See generally id.*

59. *See generally* OLE R. HOLSTI, CONTENT ANALYSIS FOR THE SOCIAL SCIENCES AND HUMANITIES (1969).

III. RESULTS

Figure 1 displays the total number of FIFRA criminal prosecutions adjudicated per EPA fiscal year, from 1983 to 2019. Final sentencing can take multiple years, so the annual number itself is not always indicative of prosecutorial efforts of a particular year. The first two prosecutions in the database were adjudicated in 1985.[60] The high points in the data are 1998, with eight (8), and 2012, with twelve (12) prosecutions.[61] Five prosecutions were adjudicated in the 1980s, 31 in the 1990s, 31 from 2000 to 2009, and 56 from 2010 to 2019.[62] In our dataset, prosecutors completed 124 FIFRA prosecutions in the last 37 years.[63]

Figure 1. Total FIFRA Criminal Prosecutions Adjudicated by EPA Fiscal Year.[64]

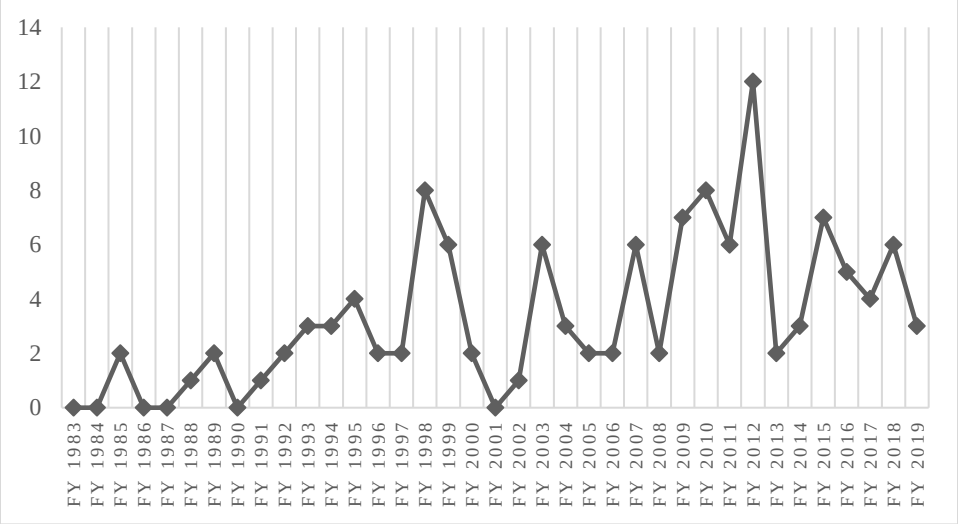

Figure 2 explores the geography of FIFRA prosecutions within and across the United States from 1983-2019. Many states, including Alaska, Delaware, Iowa, Maine, North Dakota, New Mexico, Oregon, South Carolina, Wisconsin, and West Virginia, contain zero prosecutions.[65] California and Kentucky, at 12 and 13 total

60. *Summary of Criminal Prosecutions*, *supra* note 1.
61. *Id.*
62. *Id.*
63. *Id.*
64. *Id.*
65. *See id.*

prosecutions respectively, contained the most prosecutions.[66] Cases prosecuted in the states averaged 2.4 cases over 37 years.[67]

Figure 2. Total FIFRA Criminal Prosecutions by U.S. State.

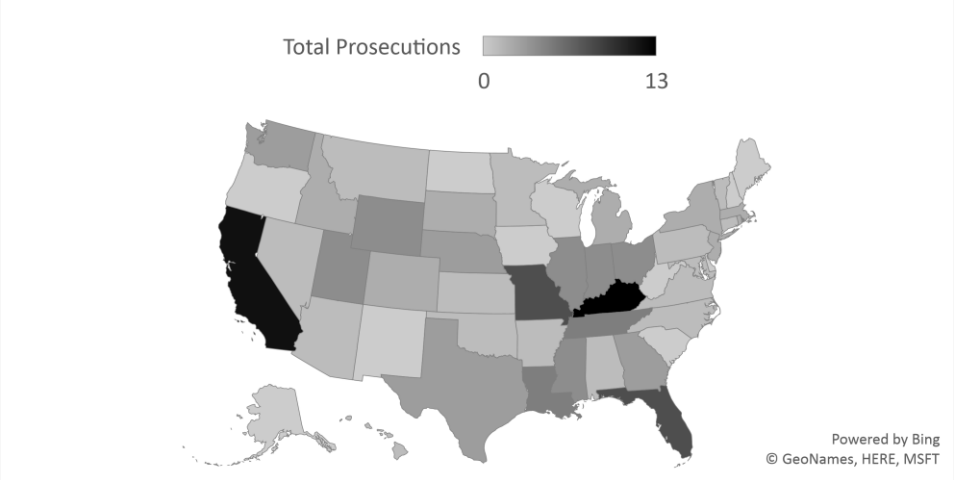

Table 1 examines charging patterns under FIFRA by state and United States territory, plus other similar criminal statutes. We show the total number of FIFRA plus CAA, CWA, RCRA, Migratory Bird Treaty Act (MBTA), and Bald and Gold Eagle Protection Act (BGEPA) cases by state and territory from 1983 to 2019.[68] Outside of the states, two cases were settled in the Northern Mariana Islands, United States Virgin Islands, and one case was settled in Puerto Rico.[69] We find no examples of a combination of FIFRA and CAA cases in the data. We find three examples of combinations of FIFRA and CWA and FIFRA and RCRA.[70] An example of all three statutes in one prosecution is the case against Hans Nilesen

66. *Id.*

67. *Id.*

68. *Id.*; 16 U.S.C. §§ 703–712 (preventing the taking (including transporting, trading, capturing, selling, or killing) of protected migratory birds without the prior authorization of the United States Fish and Wildlife Service); 16 U.S.C. §§ 668-668c (preventing taking or disturbing bald or gold eagles or their nests or eggs, including the killing, injuring, or interfering with its nesting or habitant in an effort to interfere with breeding or sheltering behaviors).

69. *Summary of Criminal Prosecutions*, *supra* note 1.

70. *Id.*

and HPI products.[71] HPI, a pesticide company in St. Joseph, Missouri, illegally stored and disposed of waste generated from their pesticide manufacturing process in the sewer system.[72] They were sentenced under FIFRA, RCRA, and CWA for the illegal storage and disposal of registered pesticides.[73]

The MBTA was used in conjunction with FIFRA in 20 cases or 16% of data.[74] Common scenarios include the misuse of pesticide to manage wildlife or nuisance animals that results in the killing of migratory birds.[75] The same common example occurs with the BGEPA in three examples.[76] A good example of the MBTA being used in conjunction with FIRGA is the case against Richard Bee.[77] Bee owned a feed crop farm and soaked corn with the pesticide Furadan to kill nuisance birds.[78] On or about June 1, 2009, 16 birds, including protected migratory birds, were found dead near the bait stations.[79] Bee was charged under FIFRA for misuse of a registered pesticide and the MBTA for the illegal killing protected birds.[80] In 2006, Alfred Craft was sentenced in Arkansas for the illegal use of a pesticide that killed a bald eagle.[81] Craft was charged under FIFRA for the use of a registered pesticide inconsistent with its labeling, the MBTA, BGEPA, and for obstruction.[82]

71. United States v. Nilesen, No. 09-00023-01-CR-W-HFS (W.D. Mo. 2009) (EPA Prosecutions Database).

72. *Id.*

73. *Id.* (HPI was sentenced to pay a $300,000 federal fine. Nilesen paid an undisclosed criminal fine. The third defendant, William Garvey, was sentenced to 12 months incarceration and a $100,000 fine. Typical of these types of crimes, the defendant was charged under RCRA for illegal storage of a hazardous substance and the CWA for the illegal discharge. In this case FIFRA was used, given the nature of the chemical stored.).

74. *Summary of Criminal Prosecutions*, *supra* note 1.

75. *See id.*

76. *See id.*

77. United States v. Bee, No. 3:10PO044 (S.D. Ohio 2010) (EPA Prosecutions Database).

78. *Id.*

79. *Id.*

80. *Id.* (Bee was indicted on two charges under FIFRA and 2 counts under the MBTA. Bee was sentenced to 12 months probation, an $18,750 fine, and $6,250 in community service to the Animal Rescue Fund of Amelia, Ohio.).

81. United States v. Craft, No. 4:04CR00181SWW (E.D. Ark. 2006) (EPA Prosecutions Database).

82. *Id.* (Craft was sentenced to 60 months incarceration, 36 months probation, a $2,700 special assessment fee, $50,000 in federal fines, and $11,907 in restitution to the Arkansas Game and Fish Commission. The court imposed a judicially mandated fine of $126,440. The

Table 1. Total FIFRA Prosecutions by State and U.S. Territory Plus Additional Charging Statutes.[83]

State	TOTAL FIFRA	CAA	RCRA	CWA	MBTA	BGEPA
AK	0					
AL	1					
AR	1				1	1
AZ	1		1			
CA	12					
CO	2					
CT	1					
DE	0					
FL	8					
GA	3					
HI	1					
IA	0					
ID	2				1	
IL	4				1	
IN	4					
KS	1					
KY	13				9	1
LA	5					
MA	2					
MD	1			1		
ME	0					
MI	2					
MN	1					
MO	8		1	1	2	
MS	4				1	

case narrative notes the illegal use was of a pesticide called TEMAC, but it is likely Aldicarb, also known by the tradename Temik, was used, which is a widely used commercial insecticide.).

83. *See generally Summary of Criminal Prosecutions*, *supra* note 1.

MT	1					
NC	1					
ND	0					
NE	3					1
NH	0					
NJ	2					
NM	0					
NV	1					
NY	2					
OH	4				1	
OK	1					
OR	0					
PA	1					
RI	2				1	
SC	0					
SD	2					
TN	5				2	
TX	3					
UT	4				1	
VA	1					
VT	1					
WA	3		1			
WI	0					
WV	0					
WY	4			1		
MAR	2					
PR	1					
VI	2					
Total	123	0	3	3	20	3

Table 2 examines common criminal charging patterns in FIFRA prosecutions from 1983 to 2019. Here, we list non-environmental criminal charges, (often always Title 18 violations and in other cases charged under FIFRA), such as false statements, obstruction, and conspiracy. We found that in 16 cases or 13% of the data, at least one defendant was charged with false statements.[84] These typically arose from defendants lying on official reports or lying to investigators to cover up a crime.[85] An example of this is from Indiana against principal defendant Paul Ficker and co-defendants David Rudolph, John Rudolph, and Michael Joseph Jochem.[86] In 2008, numerous birds were found dead in a residential subdivision in Jasper, Indiana.[87] An Indiana Conservation Officer noticed a ring of death typical of pesticide poisoning, where a ring of animals extending out across the food chain die from ingesting the poison.[88] The defendant "Jochem admitted he had obtained Furadan and provided it to defendant Ficker."[89] Ficker admitted "he used it to kill approximately 25–30 migratory birds that were feeding on his corn crop" and provided Furadan to the other two defendants.[90] Ficker was charged under FIFRA for the use of a pesticide inconsistent with its labeling and for making false statements about the crime to investigators.[91] Jochem was charged with the illegal distribution of a registered pesticide and the other defendants were charged with illegal use of a pesticide inconsistent with its labeling.[92]

In 8% of the prosecutions in our dataset, at least one defendant was charged with conspiracy.[93] Timothy and Denise Smither were prosecuted for conspiracy and off-label use of a registered pesticide for purchasing Termidor SC, relabeling it, and using it to illegally treat animal trophy mounts in a commercial

84. *Summary of Criminal Prosecutions*, *supra* note 1.

85. *Id.*

86. United States v. Ficker, 3:10-CR-0033RLY-WGH (S.D. Ind. 2012) (EPA Prosecutions Database).

87. *Id.*

88. *Id.*

89. *Id.*

90. *Id.*

91. *Id.*

92. *Id.* (Ficker was sentenced to a 24 month probation and ordered to pay a $10,000 fine. Jochem, John Rudolph and David Rudolph were each sentenced to pay a $5,000 fine. Jochem was also sentenced to six month probation. This is a common theme in the data when a pesticide is used off-label and investigators are called to the attention of the crime when migratory birds ultimately consume the poison. A typical off-label use is to soak corn with the pesticide, which is then ingested and consumed up the food chain.).

93. *See Summary of Criminal Prosecutions*, *supra* note 1.

application.[94] The defendants mislabeled material data sheets claiming they produced a proprietary chemical and profited in excess of $2.5 million from the fraud.[95] Both defendants were sentenced in North Carolina in 2012.[96]

In 5% of cases at least one defendant was charged with fraud, including mail and tax fraud in the commission of a FIFRA crime.[97] Steven Murray and his company, Biotech Systems, were prosecuted for the illegal use of a registered pesticide (Termidor) in an indoor environment.[98] In this case, the company applied Termidor illegally in nursing homes in Georgia from October 2005 to June 2009.[99] The defendants pleaded guilty in federal court in Macon, Georgia to charges of conspiracy, unlawful use of pesticides, false statements, and mail fraud in connection with the crimes.[100]

In 3% of the cases defendants were charged with obstruction.[101] This charge was typically levied for obstructing an investigation.[102] Harrison Research Laboratory and co-defendant Lynne Harrison were sentenced in New Jersey in 2000.[103] The defendants tested the pest repellant DEET on over 300 people without informing them of the health risks. Lynne Harrison also asked the firm that

94. United States v. Smither, 5:11-CR-371-1FL (E.D. N.C. 2012) (EPA Prosecutions Database).

95. *Id.*

96. *Id.* (Timothy Smither was sentenced to 12 months and one day incarceration, 36 months supervised release and ordered to pay a $100 special assessment, along with $99,278 in restitution to victims. Denise Smither was sentenced to a 24 month probation, and to pay a $25 special assessment. This case represents another common scenario; a commercial applicator uses pesticides in an off-label manner, such as indoor use, which represents a hazard to occupants without their knowledge. In this case they altered the labels and material data sheets as well to cover up the illegal behavior.).

97. *See Summary of Criminal Prosecutions*, *supra* note 1.

98. United States v. Murray, 5:13-CR-68-MTT (M.D. Ga. Fiscal Year 2010) (EPA Prosecutions Database).

99. *Id.*

100. *Id.* (Biotech Systems was sentenced to 3 years probation and ordered to pay a $50,000 fine. Steven Murray was sentenced to two years incarceration and ordered to pay a $7,500 fine. This was a common example of a commercial application of pesticides to control termites. However, the use of Termidor is not allowed indoors except for in wall spaces or it poses a threat to occupants. Rather than mislabel and obscure the crime as in the Timothy and Denise Smither example, the company simply used it arguably for the sake of convenience. After the Georgia Department of Agriculture inquired about the misuse of pesticides, Murray directed his employees to alter company service reports with the intent to obstruct the investigation.

101. *See Summary of Criminal Prosecutions*, *supra* note 1.

102. *See* United States v. Harrison Rsch. Lab'y, No. 00-CR-58 (D. N.J. 2000).

103. *Id.*

contracted for the tests to backdate documents.[104] The company was charged with obstruction and Lynne Harrison was charged under FIFRA for testing a pesticide on humans without consent.[105]

Table 2. Common Criminal Charges in FIFRA Criminal Prosecutions.[106]

Statute	Number of Cases	Percentage of Total
False Statements*	16	13%
Conspiracy	10	8%
Fraud**	6	5%
Obstruction	4	3%

Table 3 provides supplemental data for the analysis. Our analysis shows that in 13% of cases an individual is killed or injured as the result of a FIRA-related environmental crime.[107] In three cases, defendants committed a crime involving the misuse of pesticides that resulted in death.[108] Two Orkin Exterminating Company employees pleaded guilty in Virginia state court in 1987 to misuse of Vikane when fumigating a house that resulted in the deaths of the occupants.[109] The State referred the case against Orkin to the United States Attorney's Office. The company was prosecuted under FIFRA for the illegal use of the registered pesticide in an off-label manner.[110]

104. *Id.*

105. *Id.* (The company was sentenced to 60 months probation and ordered to pay a $104,000 fine. Lynne Harrison was sentenced to pay a $5,000 fine. Section 12(a)(2)(P) of FIFRA makes it unlawful to: "to use any pesticide in tests on human beings unless such human beings (i) are fully informed of the nature and purposes of the test and of any physical and mental health consequences which are reasonably foreseeable therefrom, and (ii) freely volunteer to participate in the test.").

106. *See Summary of Criminal Prosecutions*, supra note 1. Note: Percentages are rounded. Defendants in a case may be charged with multiple violations. *Include false statements and falsification of documents. **Includes mail and tax fraud.

107. *See id.*

108. *See id.*

109. *Id.*

110. United States v. Orkin Exterminating Co., No. 88-00040 (W.D. Va. 1988) (The company was fined $500,000 ($150,000 suspended), 24 months probation, and ordered to perform 2,000 hours of community service. Vikane is a commercial fumigant to control drywood termites in a variety of applications. Drywood termites are more common in warm, moist areas of the United States, such as the coastal south and southwest.).

Margaret Stewart illegally sold the pesticide Endosulfan to the public in unmarked containers.[111] Minnie Lou Rudd of Batesville, Mississippi mistakenly drank what she thought was a gallon of milk and ingested the pesticide leading to her death.[112] Bugman Pest and Lawn, Inc., Coleman Nocks, and Ray Wilson, Jr. were sentenced in Utah in 2012 for the illegal use of a registered pesticide that resulted in the death of two children.[113] On February 5, 2010, Nocks as an employee of the company, used Fumitoxin at a Layton, Utah residence outside of applicable limits and application amount, nor did he provide the material safety data sheet to the owners.[114] As the result of his actions, two young children died.[115] Bugman and Nocks were charged with violating FIFRA for the off-label use of the pesticide inconsistent with its labeling.[116]

111. United States v. Stewart, No. 2:98CR012 (N.D. Miss. 1998) (EPA Prosecutions Database).

112. *Id.* (Stewart was prosecuted under FIFRA and sentenced to 12 m onths incarceration, 12 month probation, and ordered to pay a $25 court assessment fee. Endosulfan is a highly toxic insecticide and the manufacture and use has been banned by the Stockholm Convention. It was used for agricultural use in the United States and has since been phased out due to his toxicity and bioaccumulation properties. When mixed with water, Endosulfan presents as a white, milky substance.).

113. United States v. Bugman Pest and Lawn, Inc., No. 1:11-CR-00017 (D. Utah Fiscal Year 2012) (EPA Prosecutions Database).

114. *Id.*

115. *Id.*

116. *Id.* (Bugman Pest and Lawn were sentenced to a 36 month probation and ordered to pay a $3,000 fine. The company was not allowed to operate as a business that sells, distributes, purchases, or uses any pesticide during its probation. Nocks was sentenced to a 36 month probation, 100 hours of community service, and to pay a $25 assessment. In a related case against the owner's son, Ray Wilson Jr., who was also found to have illegally applied the same registered pesticide, Bugman Pest and Lawn pleaded guilty to one count and was sentenced to a 36 month probation to run concurrently with the previous case and was ordered to pay an assessment of $125 and pay a $600 fine. The case has the same assignment in the prosecution summaries. Fumitoxin or aluminum phosphide is a highly toxic fumigant often used to protect stored cereal grains from pests.).

Table 3. Supplementary Data in FIFRA Criminal Prosecutions.[117]

Case Description	Total	Percentage of Total
Cases with Individuals Killed or Injured	16	13%
Cases with Animals Killed or Injured	39	32%
Defendant's Prosecuted	195	-
Cases with Companies as Primary Defendant	38	31%
Cases with Non-Environmental Criminal Charges	38	31%

In 32% of cases, animals were killed in a FIFRA-related crime.[118] In half of these cases, the MBTA was used in conjunction with FIFRA.[119] A total of 195 defendants were prosecuted in the data.[120] We find that 31% of cases have a company as the principal defendant and 69% of cases have individuals as the principal defendant in the case.[121] In about one-third of cases, defendants were charged with non-environmental, criminal charges in the case.[122]

Table 4 explores sentencing patterns by showing the total fines (in nominal dollars), probation (in months), incarceration (in months), home confinement (in months), community corrections (in months), and community service (in hours) assessed to both individual and company defendants over the last 37 years.[123] Individuals in 95 cases received monetary penalties, totaling in excess of $8.1 million.[124] The average fine for individuals was approximately $85,000 for FIRA-related crimes.[125] Individual defendants in 66 cases received probation at sentencing.[126] Total months of probation for individual defendants equaled 2,229,

117. *See Summary of Criminal Prosecutions*, *supra* note 1. Note: Percentages are rounded.
118. *See id.*
119. *See id.*
120. *See id.*
121. *See id.*
122. *See id.*
123. *See id.*
124. *See id.*
125. *See id.*
126. *See id.*

or an average of 34 months probation per case.[127] Individuals in 38 cases were incarcerated for their crimes.[128] Total incarceration equaled 1,103 months or an average of 29 months per case.[129]

An example of a case involving a large financial penalty at sentencing was against Vaccination Services, Inc. and the company's owner Shawn Gerson.[130] Sentenced in California in 2018, Gerson sold misbranded veterinary medications without a prescription in a fraud scheme that netted him over $2.5 million in illegal proceeds over a 15-year period.[131] Gerson sold Comfortis and Ciprofloxacin without a prescription.[132] He was convicted in Texas in 2014 for selling Clenbuterol in a similar manner.[133] Gerson was charged under FIFRA and Title 18 for defrauding the United States Food and Drug Administration and was sentenced to serve 30 months of incarceration, forfeit $2.5 million in assets gained from the crime, and pay a $200,000 fine.[134] Vaccination Services, Inc. was sentenced to a term of five years supervised release and ordered to pay a fine totaling $300,000.[135]

Table 4. Total Penalties Assessed in FIFRA Criminal Prosecutions.[136]

Penalty	Number of Cases	Total	Average
Individual Fines ($)	95	$8,108,879	$85,357
Individual Probation (Months)	66	2,229	34
Incarceration (Months)	38	1,103	29
Company Fines ($)	34	$159,596,471	$4,694,014

127. *Id.*

128. *Id.*

129. *Id.*

130. United States v. Vaccination Services, Inc., No. CR17-0013(A)-RGK (C.D. Cal. 2018) (EPA Prosecutions Database).

131. *Id.*

132. *Id.*

133. *Id.*

134. *Id.*

135. *Id.* (Comfortis is an anti-flea medication and Ciprofloxacin is an antibiotic used to treat infections. Clenbuterol is used in the United States as an asthma drug for horses and livestock but is often used illegally in humans for weight loss and bodybuilding as it stimulates the central nervous system aiding in weight loss.).

136. *See Summary of Criminal Prosecutions*, *supra* note 1.

Company Probation (Months)	25	939	38
Home Confinement (Months)	13	92	7
Community Corrections (Months)	9	267	30
Community Service (Hours)	8	5,360	670

An example involving a long prison sentence is the case against Herman Cortez Villasenor, sentenced in California in 2012 to 10 years of incarceration and ordered to pay $3,328 in restitution.[137] The defendant supplied rat poison and other chemicals to support the growing of almost 9,000 marijuana plants in the Sequoia National Forest in Kern County, California.[138] Cortez pleaded guilty to conspiring to manufacture, distribute, and possess with intent to distribute marijuana and distributing unregistered pesticides under FIFRA.[139] As a Mexican citizen, the defendant is subject to deportation upon completion of his prison sentence.[140]

Companies in 34 cases received monetary penalties at sentencing, exceeding $159 million with an average penalty per case of almost $4.7 million.[141] Companies in 25 cases received probation, totaling 939 months or an average of 38 months per case.[142] Individuals in 13 cases received home confinement at sentencing, in nine cases community corrections, and in eight cases community service.[143] The company penalty totals are greatly skewed by the case against Wal-Mart Missouri, sentenced in 2013 to pay $110 million in penalties.[144] The penalty

137. United States v. Villasenor, No. 1:12-CR-00184 (E.D. Cal. 2014) (EPA Prosecutions Database).

138. *Id.*

139. *Id.*

140. *Id.*

141. *See Summary of Criminal Prosecutions*, *supra* note 1.

142. *See id.*

143. *See id.*

144. United States v. Wal-Mart Mo., No. 4:13-CR-00135 (W.D. Mo. 2013) (EPA Prosecutions Database).

came from Wal-Mart not having a program in place to train employees in hazardous waste management and disposal practices.[145]

In Figure 3 we provide further categorization of the FIFRA prosecutions by developing a typology of all cases from 1983 to 2019. In the typology, we categorize prosecutions by the nature of the primary charge in the case, as well as the principal defendant. Our content analysis of the cases derived four categories by which we can place all FIFRA prosecutions.

Figure 3. Typology of FIFRA Criminal Prosecutions[146]

I **Unlawful Production or Distribution** 37 Prosecutions -Illegal individual actions related to counterfeiting, production, distribution, and/or smuggling of registered pesticides (28) -Illegal company actions related to counterfeiting and/or distribution of registered pesticides (9)	**II** **Off-Label Use** 73 Prosecutions -Illegal individual actions related to using a registered pesticide in a manner inconsistent with its labeling (60) -Illegal company actions related to using a registered pesticide in a manner inconsistent with its labeling (13)
III **Illegal Disposal** 7 Prosecutions -Illegal individual actions related to the disposal of registered pesticides (3) -Illegal company actions related to the disposal of registered pesticides (4)	**IV** **Fraudulent Testing or Documentation** 6 Prosecutions -Illegal individual actions related to the testing and documentation of registered pesticides (2) -Illegal company actions related to the testing and documentation of registered pesticides (4)

145. *Id.* (As a result of the lack of training and corporate policies, employees illegally discarded hazardous wastes in trash bins, disposed of them in the sewer system, or transported them without proper documentation to one of six return centers in the United States.).

146. *See Summary of Criminal Prosecutions*, *supra* note 1.

In Quadrant I we categorize 37 prosecutions as primarily stemming from the unlawful production or distribution of registered pesticides. In 28 cases (23% of the data), the principal is an individual defendant. Crimes occurring in this category are defined as illegal individual actions related to the counterfeiting, production, distribution, and/or smuggling of registered pesticides. For all 29 prosecutions, we find with an individual as the principal defendant, these are the scenarios that occur in the data related to illegal production or distribution of registered pesticides. Ronald Heward was a sheep rancher in Wyoming who was prosecuted under FIFRA and sentenced in 1993 for the illegal distribution of unregistered pesticides.[147] Carl Kieser was prosecuted and sentenced in Illinois in 2015 for selling counterfeit products.[148] According to the summary of Kieser's prosecution, "Kieser obtained more than $400,000 in proceeds from customers from the sale of Pond Clear Plus, but failed to pay any federal income tax on his profits from 2008 to 2011."[149] Kieser also advertised the product as a "natural" product with no chemicals, when in fact it contained Diuron 80DF.[150] In addition to mail fraud and tax evasion, the defendant was charged under FIFRA for illegally selling the misbranded merchandise.[151]

John Buerman operated an online retail store, "CatsMart Plus," in Rhode Island.[152] He sold large amounts of counterfeit pesticides online and defrauded customers who thought they were purchasing Frontline and Frontline Plus.[153] The defendant was charged under Title 18 for trafficking counterfeit goods and for being a felon in possession of a firearm, as well as for selling a misbranded pesticide under FIFRA.[154] David Pang was sentenced in Hawaii in 2015 to six years of probation and a $30,000 fine for smuggling foreign-manufactured

147. United States v. Heward, No. 92-CR-108-MAG (D. Wyo. 1993) (EPA Prosecution Database) (This is one of the 13 examples listed in this category in the dataset where individuals were prosecuted for selling unregistered pesticides.).

148. United States v. Kieser, No. CR12-20072 (C.D. Ill. Fiscal Year 2015) (EPA Prosecutions Database).

149. *Id.*

150. *Id.*

151. *Id.* (Kieser was sentenced to 97 months in federal prison, three years of supervised release, and ordered to pay restitution of $75,862. Diuron 80DF is a pre-emergent herbicide used for weed control and is toxic to fish and other marine life. While Kieser used the pesticide in a manner inconsistent with its labeling, the primary crime was the illegal production and distribution.).

152. United States v. Buerman, No. 1:09-CR-00150/1 and 1:10CR00072 (D. R.I. 2011) (EPA Prosecutions Database).

153. *Id.*

154. *Id.* (In 2011, Buerman was sentenced to 24 months of incarceration and 36 months of probation. Frontline Plus is a topical flea and tick control product for dogs and cats.).

pesticides into the United States and then reselling them in counterfeit packaging.[155] He was prosecuted under FIFRA for selling the misbranded pesticides.[156]

We categorize nine cases in the data stemming from illegal company actions related to the counterfeiting and/or distribution of registered pesticides. Scotts Miracle-Gro Company was sentenced in Ohio in 2012 for applying pesticides to its bird food products in a manner inconsistent with its labeling.[157] It then falsified documents to the EPA and state regulators claiming the pesticides were registered.[158] Scotts then sold more than 70 million units of the illegally treated bird food bearing false and misleading information not approved by the EPA.[159] The company was charged under FIFRA for the use and sale of a pesticide inconsistent with its labeling and falsifying their pesticide application.[160] Scotts was sentenced to pay $12.5 million in fines and penalties.[161]

The vice president of Marman USA, Inc., Robert Renes, was sentenced in Florida in 1996 for forging EPA seals on pesticides the company sold abroad in 16 Central and South American countries.[162] Marman USA, Inc. was accused of forging the seal of a department or agency of the United States and distributing the

155. United States v. Pang, No. CR14-00914HG (D. Haw. 2015) (EPA Prosecutions Database).

156. *Id.*; Marla Cone, *Endosulfan to Be Banned, Pesticide Poses "Unacceptable Risks," EPA Says*, SCI. AM. (June 10, 2010), https://www.scientificamerican.com/article/endosulfan-banned-epa/ [https://perma.cc/9AY2-AXW8] (The United States has banned the manufacturing of certain pesticides under the Stockholm Convention, which is meant to eliminate or restrict the use of persistent organic pollutants (POPs). Certain pesticides, such as Endosulfan, are being phased out globally but are still in wide use in China and India, creating an incentive to smuggle them into the U.S. and elsewhere.).

157. United States v. Scotts Miracle-Gro Co., No. 2:12-CR-00024-JLG (S.D. Ohio 2012) (EPA Prosecutions Database).

158. *Id.*

159. *Id.*

160. *Id.*

161. *Id.* (This was the largest historical FIFRA penalty at the time. The company engaged in multiple violations, but the primary thrust of the crimes and central themes was to profit from selling the illegally treated and fraudulently-labeled pesticides. Actellic 5E and Storcide II were the chemicals in question, which are both treatments for pests applied to stored grain. Sheila Kendrick, a federal products manager at Scotts, was also charged for the false statements and submitting false documents and was sentenced to three months of incarceration.).

162. United States v. Marman USA, Inc., (M.D. Fla. 1996) (EPA Prosecutions Database) (Marman USA, Inc. was sentenced to 24 months of probation and fined $350,000. Renes was sentenced to 36 months of probation and fined $150,000.).

mislabeled pesticides.[163] It was subsequently charged for the crimes under Title 18 and FIFRA.[164]

In Quadrant II we categorize 73 cases (59% of total cases) as stemming from off-label use. In 60 cases, individuals engaged in the illegal use of registered pesticides in a manner inconsistent with its labeling, and in 13 cases companies were the principal defendants engaging in such actions. We found two broad categories for the 60 cases involving individuals in this category. The first is the illegal application of a registered pesticide to kill nuisance animals. The second is the illegal substitution of a pesticide for the proper pesticide in a commercial application. Lenard Jud Harward is a common case example of the first category.[165] Harward soaked corn with Carbofuran to kill nuisance birds.[166] The more than 700 dead birds alerted investigators to his actions.[167] He was sentenced in 2003 under FIFRA for using a pesticide inconsistent with its labeling and the MBTA for the illegal taking of migratory birds.[168]

Daniel Trehey is an example of the second category of off-label pesticide use by individuals, besides its misuse to kill nuisance animals.[169] The defendant was sentenced in Kansas in 1999 for misuse of a pesticide under FIFRA.[170] In a strange happenstance, Trehey, owner and operator of Trehey Termite and Pest Control in Kansas City, Kansas, used a pesticide containing Fenthion, which is highly toxic to humans, in an office building containing employees of EPA Region 7.[171] The defendant and several EPA employees became ill following the illegal application and the third floor of the building was evacuated.[172]

163. *Id.*

164. *Id.*

165. United States v. Harward, No. 2:03-CR-270 (D. Utah 2003) (EPA Prosecutions Database).

166. *Id.*

167. *Id.*

168. *Id.* (He was sentenced to pay a $25 special assessment fee, a $975 federal fine, and was ordered to pay restitution in the amount of $1,000 to the Help Stop Poaching Fund, Utah Division of Wildlife Resources. Harward's case is an almost universal example of an individual using a registered pesticide off-label as bait to kill nuisance animals that ends up indiscriminately killing many more animals than intended, including migratory birds.).

169. United States v. Trehey, No. 98-20074-01-GLR (D. Kan. 1999) (EPA Prosecutions Database).

170. *Id.*

171. *Id.*

172. *Id.* (Trehey was sentenced to 12 months on probation and a $2,000 fine). *See also* United States v. Brown, No. 97-CR-277-1 (N.D. Ill. 1997) (EPA Prosecutions Database) (In a similar case example, defendant Ruben Brown (who was not a licensed exterminator) applied

Prestige Pest Management was prosecuted for using methyl bromine in a manner inconsistent with its labeling in Puerto Rico.[173] The company and president Mark Kitchenman pleaded guilty to the FIFRA violations in 2017.[174] The Little Rhody Beagle Club was prosecuted in Rhode Island for using Carbofuran to kill nuisance animals.[175] The defendant's actions resulted in the death of coyotes and turkey vultures and sickened a neighbor's dog.[176] The Club itself and club member William Forward were prosecuted under FIFRA for the illegal application and the MBTA for the illegal taking of migratory birds.[177]

In Quadrant III we catalog seven cases as stemming from illegal disposal. We categorize three of these prosecutions as illegal individual actions related to the disposal of registered pesticides. We find four cases of companies engaging in illegal actions related to the disposal of regulated pesticides. John Martin Anderson discharged pesticides into the Big Horn River in Wyoming and sold diclofop methyl to a non-certified applicator.[178] He was charged under FIFRA and the CWA and sentenced in 1984 to 36 months probation, ordered to contribute $5,000 to Big Horn County Agricultural Extension Service or, in the alternative, pay a $6,150

a toxic outdoor pesticide Methyl Parathion to thousands of homes in the Chicago area as a roach killer. Over 100 homes had to be remediated and various occupants relocated during the process. Brown was sentenced to 24 months incarceration and a special assessment fee of $50; United States v. Clement, No. MFG-98-2119 (E.D. Cal. 1998) (EPA Prosecutions Database) (In another case, against John Clement, the defendant used an appropriate pesticide, but did not follow the precautions on the label, namely the 12-hour re-entry period. He owned Casa Famosa Packing in California and sprayed Agri-Mycin 17, a fungicide for ornamental plants and fruits and vegetables, while workers were present picking pears and caused several workers to seek medical attention. He was charged for using a pesticide in a manner inconsistent with its labeling under FIFRA and was sentenced to a fine of $1,000.).

173. United States v. Prestige Pest Management Co., No. 3:17-CR-00525-0001 (D. P.R. 2018) (EPA Prosecutions Database).

174. *Id.* (The company was doing business as Terminix (Prestige). Prestige was sentenced to pay a $25,000 fine and four years on probation. Kitchenman was sentenced to one year probation.).

175. United States v. Little Rhody Beagle Club, Inc., No. CR06 138-02T (D. R.I. 2007) (EPA Prosecutions Database).

176. *Id.*

177. *Id.* (Special conditions at sentencing include an inability to allow firearms on Club premises and Forward could not be an officer of the club for one year or a member for nine months. The Club was sentenced to 12 months of probation, ordered to pay a $18,145 fine, a $175 special assessment fee, and $1,855 in veterinary bills to a neighbor whose dog was sickened after ingesting the pesticides. Forward was sentenced to 12 months of probation and $10,000 in fines.).

178. United States v. Anderson, No. 84-00056 (D. Wyo. 1984) (EPA Prosecutions Database).

fine.[179] The Helena Chemical Company was sentenced in Oklahoma in 2015 for its employees disposing of a restricted-use pesticide into the Little Cabin Creek.[180] The company was charged under FIFRA and sentenced to pay a $150,000 fine and make a $75,000 community service payment to the Oklahoma Department of Environmental Quality to fund environmental projects, as well as serve four years unsupervised probation.[181]

In Quadrant IV we categorize six cases stemming from fraudulent testing and documentation charges. We define two cases as illegal individual actions related to the testing and documentation of registered pesticides. David Battigelli was a Research Director with Clancy Environmental Consultants.[182] The defendant was charged for falsifying research data used to support an EPA application for a water purification process.[183] The defendant was charged under FIFRA and sentenced to 12 months probation, ordered to pay a federal fine in the amount of $500, and a special assessment fee of $50.[184]

In four cases, we found illegal company actions related to the testing and documentation of registered pesticides to be at the center of the FIFRA prosecution.[185] Smith Logistics International, Inc. was sentenced in Florida in 2009

179. *Id.* (Diclofop-methyl is a post-emergent herbicide to control weeds in vegetables). *See also* United States v. Thomas, No. DKC-01-0563 (D. Md. 2002) (EPA Prosecutions Database) (Charles Lewis Thomas III, sentenced in Maryland in 2002 for discharging the insecticide Cypermethrin into Rock Creek Park.); United States v. Nilesen, No. 09-00023-01-CR-W-HFS (W.D. Mo. Fiscal Year 2010) (EPA Prosecutions Database) (Defendant Hans Nilesen was sentenced for illegal disposal of pesticides.).

180. United States v. Helena, Chem. Co. No. 4:15-CR-00087-PJC (N.D. 2015) (EPA Prosecutions Database).

181. *Id.*; *see also* United States v. Wal-Mart Mo., No. 4:13-CR-00135 (W.D. Mo. 2013) (EPA Prosecutions Database); United States v. Cenex Ltd., No. CR-95-025-JQL (E.D. Wash. 1995) (EPA Prosecutions Database); United States v. Omni Applications, Inc. No. CR-93-0000 (D. Ariz. Fiscal Year 1994) (EPA Prosecutions Database) (Referencing other citations in this category).

182. United States v. Battigelli, No. 1:06-CR-115-1 (D. Vt. 2007) (EPA Prosecutions Database).

183. *Id.*

184. *Id.*; *see also* United States v. Jackson, No. 3:11CR211 (D. Conn. 2011) (EPA Prosecutions Database) (John Jackson was prosecuted in Connecticut for failing to submit annual production reports to the EPA as vice-president of Embalmers Supply Company. Jackson falsified documents in order to attempt to cover up the lack of reporting.).

185. *See generally* United States v. Smith Logistics Int'l, Inc., No. 09-CR-20659-JLK (S.D. Fla. 2009) (EPA Prosecutions Database); United States v. Gutierrez, No. 09-CR-20661-CMA (S.D. Fla. 2009) (EPA Prosecutions Database); United States v. Alden Leeds, Inc., No. 2:16CR106 (S.D. Ohio 2017) (EPA Prosecutors Database) (defendant was engaged in an

for failing to complete required notice of arrival forms.[186] Smith imported registered pesticides on 202 occasions and approximately 72 were falsified to show the EPA signed the notices.[187] The defendant was charged under FIFRA for failure to file and falsification of the forms.[188]

IV. CONCLUSION

The primary goals of this article were to better understand which FIFRA crimes have been prosecuted over the past 37 years and the outcomes of those prosecutions. Our analysis combed through 2,588 federal environmental crime prosecutions to focus on 123 FIFRA prosecutions that have taken place since 1983. Given the ECS and OECA were founded in the years prior, this gives a fairly robust accounting of the use of FIFRA and the outcomes of those prosecutions over time. We conclude with a focus on the primary themes we uncovered in the analysis.

One of the more important findings is the overall infrequency of prosecutions. The 123 prosecutions from 1983 to 2019 entails an average of 3.3 across the United States in any given federal fiscal year. In many states, such as Alaska, Delaware, Iowa, Maine, North Dakota, New Mexico, Oregon, South Carolina, Wisconsin, and West Virginia, new cases were closed since Ronald Reagan was president. While the vast majority of enforcement actions are civil in nature and there could be cases settled by other agencies not in our dataset, this number is quite small given the regulatory environment, and calls into question the deterrent value of criminal enforcement of FIFRA in the United States, generally.

The second major theme our findings is that prosecutions disproportionally target off-label use of registered pesticides. In over 59% of cases, the primary crime, both committed by individuals and companies, was the use of a registered pesticide in a manner inconsistent with its labeling. Even in many other cases that

illegal importation scheme to import chlorine from China to avoid anti-dumping duties); United States v. Craven Laboratories, Inc., No. A-92-CR-152 (W.D. Tex. 1993) (EPA Prosecutors Database) (defendant was prosecuted for fraudulent pesticide residue testing); United States v. Harrison Rsch. Lab'y, No. 00-CR-58 (D. N.J. 2000) (EPA Prosecutors Database) (Harrison Research Laboratory tested DEET on research participants without proper informed consent).

186. United States v. Smith Logistics Int'l, Inc., No. 09-CR-20659-JLK (S.D. Fla. 2009) (EPA Prosecutions Database).

187. *Id.*

188. *Id.* (Smith was sentenced to a 36 month probation and ordered to pay a $125 special assessment, and a $10,000 fine). *See also* United States v. Gutierrez, No. 09-CR-20661-CMA (S.D. Fla. 2009) (EPA Prosecutions Database) (EPA Prosecutions Database) (Co-defendant George Gutierrez was sentenced to 12 months probation and ordered to pay a $50 special assessment, and a $10,000 fine).

focused on other key issues, prosecutors typically used this as a strategy in most cases in the dataset. For individuals, the off-label use focused on using pesticides to kill nuisance animals in rural areas or in agricultural situations, or substituting one pesticide for use in fumigating homes, businesses, or other commercial applications. For companies, the typical crime was applying the wrong pesticide in commercial applications, likely for convenience and to reduce costs.

The third major theme that emerged from the data was prosecutors used FIFRA to punish individuals and companies for illegal production and distribution of registered pesticides. In 30% of prosecutions in our dataset, producing, distributing, or smuggling of registered pesticides, or selling counterfeit pesticides was the focus of the case. We found these cases split fairly evenly among individuals and companies. The final 13 cases focused on illegal disposal or fraudulent testing and documentation. These cases made up about 11% of the data. The overall trend in the data was very clear—federal prosecutors have historically targeted off-label use and production and distribution when using FIFRA to prosecute federal crimes related to registered pesticides. However, about 31% of cases contained charges, such as false statements, conspiracy, fraud, and obstruction, showing a good number of these defendants engaged in willful criminal acts to obscure their environmental crimes.