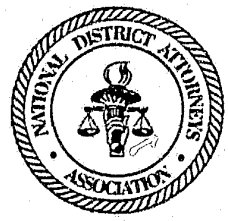

APRI American Prosecutors Research Institute

The research, technical assistance and program affiliate of the National District Attorneys Association

THE LOCAL PROSECUTION OF ENVIRONMENTAL CRIMES

A LITERATURE REVIEW

NDAA / APRI
AMERICAN PROSECUTORS RESEARCH INSTITUTE
NATIONAL ENVIRONMENTAL CRIME PROSECUTION CENTER
ALEXANDRIA, VIRGINIA

14-1800

NATIONAL ENVIRONMENTAL CRIME PROSECUTION CENTER

THE NATIONAL DISTRICT ATTORNEYS ASSOCIATION has responded to the concerns of prosecutors faced with the expanding need to enforce complex environmental laws by creating, through its affiliate, the American Prosecutors Research Institute (APRI), the National Environmental Crime Prosecution Center.

The Center is based on the model used successfully by APRI to create the National Center for the Prosecution of Child Abuse and the National Drug Prosecution Center. The objectives of the National Environmental Crime Prosecution Center are as follows:

- Review and utilize relevant environmental crime enforcement literature.
- Conduct a review and analysis of relevant statutes and case law not otherwise available through other sources such as the Environmental Protection Agency (EPA) and the National Association of Attorneys General (NAAG).
- Conduct a national survey of environmental crime prosecution at the local level.
- Conduct an organizational analysis of five promising approaches to the prosecution of environmental crime.
- Identify topics for possible development of model statutes on environmental crime as well as monitor and evaluate changes in legislation from various states from the prosecutors' perspective.
- Disseminate information of immediate and practical importance on environmental crime prosecution to local prosecutors through appropriate training and publications including newsletters, bulletins, alerts, monographs, articles and books based on the work of the center.

During its first year, the Center will survey the field of environmental law prosecution to 1) identify the needs of local prosecutors in regard to environmental offenses; 2) synthesize these needs into a report; 3) use this information to form the basis of a local environmental crime prosecution training curriculum; 4) develop a plan for the administration of this training; 5) design a technical assistance delivery process; 6) provide training technical assistance; and 7) schedule technical assistance and publications schedules for the second year of the program.

CREATION OF THE NATIONAL ENVIRONMENTAL CRIME PROSECUTION CENTER comes as the nation enters an era of expanding challenges for environmental enforcement and with recognition by the EPA that local prosecutors have an

increasingly important role to play. In fact, EPA's publication, *Enforcement in the 1990s*, encourages vigorous local prosecution of environmental offenses to meet the anticipated surge in small facility violations. EPA expects that the sheer numbers of these violations will be too large for EPA or even state enforcement agencies to deal with. At the same time, the authors of *Enforcement in the 1990's* indicate they understand that local prosecutors will need federal support if they are to make a substantial impact on the environmental crime problem. This requires enhanced training and technical resources.

Despite prosecutors' growing responsibility for and involvement in environmental crime enforcement, only a small number of prosecutors and their assistants have been trained in techniques and procedures required for successful prosecution of environmental crimes. Current training capacity is limited and access to courses often is difficult. There is also a severe shortage of adequate and technical resources. Private labs too often are prohibitively expensive and local health departments rarely have the forensic facilities and procedures to test and preserve evidence properly.

Finally, there is no present system for a nationwide exchange of information on local environmental prosecutions, nor is there currently any federal support for the dissemination of such information to provide assistance in local prosecutions of these crimes. Indeed, local convictions are not even systematically documented, catalogued or analyzed.

In an independent study of these problems, researchers found that the most frequently expressed prosecution-related problems in environmental law enforcement involve interpretations of complex criminal laws and regulations by judges as well as jurors. This was found to be particularly true in Ohio, Pennsylvania, Vermont and Virginia where juror and judicial uncertainty of interpretation of relevant laws and regulations was thought to have jeopardized prosecutors' chances of attaining guilty verdicts. "There have been some indications", the study says, "that local prosecutors have avoided the prosecution of clearly criminal environmental violations out of fear of losing the cases because of their highly technical nature".

It is because of all the reasons mentioned above that the National Environmental Crime Prosecution Center is being created and, it appears, none too soon.

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The Local Prosecution of Environmental Crime:

A Review of the Literature

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I. Introduction

The local prosecutor's role in the complex and expansive realm of environmental law is well expressed by the Environmental Protection Agency's Earth Day slogan: "think globally, act locally." This slogan captures the importance of perceiving environmental problems in manageable, realistic terms and taking common-sense action to solve them. The District Attorney, as a local elected official, is particularly responsive to pollution in his or her jurisdiction and so is often the most likely player to adopt pragmatic measures to clean it up.

Nonetheless, the breadth and complexity of environmental law can make the problem seem insurmountable. Ascertaining damage done to the environment through chemicals, toxic or radioactive metals, or medical contaminants in the air, soil, and water involves biology, chemistry, physics, geology, and medicine. The range of toxic substances alone includes pesticides, PCBs, asbestos, radon, lead, selenium, cadmium, zinc, arsenic, mercury, and biological[1] contaminants.[2] Further, protecting the environment entails the allotment and regulation of finite natural and human resources. This allotment, in turn, presupposes policy

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[1] *See generally* 42 U.S.C. § 6992(d) (1988) (Medical Waste Tracking Act, although expired as of June 1991, provided criminal penalties for willful violations of regulation of medical and biological wastes).

[2] THE CONSERVATION FOUNDATION, STATE OF THE ENVIRONMENT: A VIEW TOWARD THE NINETIES, 141-155 (1987).

decisions based on ethical[3], economic[4], commercial[5], political[6], and even international considerations.[7]

The debate over these policy issues also has a federalism component.[8] The state/EPA relationship has been contentious, changing from one administration to the next, and represents an evolving type of federalism.[9] Many prosecutors and private litigators who are experienced in the environmental field believe that state and local regulation and enforcement should have a stronger hand in the federalism scheme.[10]

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[3] *See generally* Willard F. Enteman, *Economics, Ethics, and the Environment*, 226 (M. Hoffman, et al. eds., THE CORPORATION, ETHICS, AND THE ENVIRONMENT 1990) (contending that economics is not value free, so that economists should join with ethicists to analyze environmental policy); Brian E. Brown, *From Environment to Biosphere*, 244 (M. Hoffman, et al. eds., THE CORPORATION, ETHICS, AND THE ENVIRONMENT 1990) (arguing that a utilitarian view of environmental policy wherein the goal is the efficient trading of pollution costs fails to account for the irreplaceable interdependence of life on earth).

[4] *See generally* DAVID W. PEARCE & R. KERRY TURNER, ECONOMICS OF NATURAL RESOURCES AND THE ENVIRONMENT, 27–28 (1990) (arguing that utilitarian economic valuations ignore intrinsic value of environment and that current economic models do not account for sustainable ecology); The Conservation Foundation, *supra* note 2, at 11–12 (recording the positive and negative impact of the 1980's recession on the state of the environment in the U.S. and the world).

[5] *See generally* BLUEPRINT FOR THE ENVIRONMENT, 43–55 (T. Allan Comp ed., 1989) (environmental groups advocating proposals for Commerce Department to adopt); Roger Strelow, *"Corporate Compliance with Environmental Regulation: Striking a Balance,"* at 7 (American Bar Association Division for Public Services Standing Committee on Environmental Law, *Environmental Compliance: Is the System Working?*, 1989) (General Electric executive argues that maintaining and building industrial base in U.S. entails a balancing of environmental costs and priorities).

[6] *See generally* BLUEPRINT FOR THE ENVIRONMENT, *supra* note 5 (environmental groups advocating specific environmental proposals for national agencies to adopt).

[7] *Id.* at 189 (advocating specific environmental proposals for Department of State and Agency for International Development to adopt).

[8] *See* Arthur D. Gunther, Comment, *Enforcement in your Backyard: Implementation of California's Hazardous Waste Control Act by Local Prosecutors*, 17 ECOLOGY L.Q. 803 (1990) (survey of local prosecutors revealing their strong belief in importance of local environmental prosecution within federal scheme).

[9] E. Donald Elliott, *Keynote Address: Making the Partnership Work*, 1 (American Bar Association Division for Public Services Standing Committee on Environmental Law, *Federal versus State Environmental Protection Standards: Can a National Policy be Implemented Locally?*, 1990).

[10] *See generally* Gilbert A. Jensen, *America's New Environmental Populism*, Prosecutor's Brief, 2nd Quarter 4–5 (1991) (urging local prosecutors to prosecute environmental crime aggressively and to participate in state and national associations aimed at federal cooperation); The Environmental Protection

The recent sting operation by Suffolk County, District Attorney, James Catterson exemplifies a practical, proactive role for the local prosecutor in the federal scheme. There, six men contracted with undercover detectives to dump illegally 58 drums of hazardous wastes, including cyanide and acetone. These chemicals were likely to have contaminated some of the drinking water on Long Island. The inability of the EPA, the Department of Justice, or New York State to prevent pollution of the drinking water on Long Island is evident since the contamination of Long Island drinking water was specifically noted at the EPA House Oversight Hearings back in 1980.[11]

As this sting operation illustrates, sometimes, the local prosecutor is the official best positioned to galvanize public support for concrete solutions that cut through some of the haziness of the environmental problem. Otherwise, considered from a national and global perspective, pollution appears to be an inevitable result of an array of irreconcilable policy goals. Thus, while it is important to see the environmental problem according to the big picture, it is essential that we act in the here and now.

II. Substantive Environmental Law

A. Issues Common to Federal and Local Environmental Laws

Environmental crimes fall into one of three broad categories.[12] The first category is comprised of those who are already within the regulatory scope of an environmental law, but who violate regulations such as permit stipulations. A paper manufacturing plant which

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Agency, *Enforcement in the 1990's Project: Report and Recommendations of the Local Government's Role in Environmental Enforcement Workgroup* (1990) (recommending that the EPA encourage local prosecutors to enforce environmental laws concerning underground storage tanks, pretreatment of hazardous wastes, small quantity hazardous waste generators (SQGs), and SARA Title III reporting requirements); Phillip F.W. Ahrens, III, *Regulating Solid and Hazardous Wastes*, 31 (American Bar Association Division for Public Services Standing Committee on Environmental Law, *Federal versus State Environmental Protection Standards: Can a national Policy be Implemented Locally?*, 1990) (experienced environmental litigator, contending that states are increasingly doing a better job in regulating hazardous waste).

[11] *Toxic Chemical Contamination of Ground Water, EPA Oversight: Hearings before a Subcomm. of the Comm. on Government Operations House of Cong., 96th Cong., 2nd Sess. 20 (1980)* (statement of Dr. Robert H. Harris, Member of the President's Council on Environmental Quality).

[12] THEODORE M. HAMMETT & JOEL EPSTEIN, LOCAL PROSECUTION OF ENVIRONMENTAL CRIME, 12 (1991).

discharges some waste water directly into a stream instead of processing it as required by the Clean Water Act (CWA) falls into this category. The second category includes those who act totally outside the scope of regulations by committing acts which are *malum prohibitum*. For example, the company operating as a treatment, storage, and disposal (TSD) facility without any Resource, Conservation, and Recovery Act (RCRA) permits violates the law even though it might otherwise have acted legally if it had the required permits. Finally, there are those acts which are *malum in se*. Thus, the activity of the "midnight dumper" is unacceptable regardless of whether or not the actor operated a legitimate licensed TSD facility.

Federal environmental laws allow states to regulate more stringently than the federal laws, and many states have.[13] Thus, familiarity with federal environmental laws is important, not only because they might be the applicable laws in a local prosecutor's jurisdiction, but also because the framework of many state and municipal laws is based on parallel federal laws.

B. Federal Criminal Environmental Law

1. Crucial Statutes and Issues Common to Them

Federal criminal enforcement relies primarily on eight federal statutes.[14] These are: (1) the Clean Air Act (CAA),[15] (2) the Federal Water Pollution Control Act or "Clean Water Act" (CWA),[16] (3) the Rivers and Harbors Act of 1899 (RHA),[17] (4) the Safe Drinking Water Act

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[13] *See generally* R.D. SPEER & GERALD A. BULANOWSKI, SPEER'S DIGEST OF TOXIC SUBSTANCES STATE LAW: 1983–84, (1983) (giving synopses of and trends in state environmental laws). *See also* Anthony J. Celebrezze, Jr., et al., *Criminal Enforcement of State Environmental Law: The Ohio Solution*, 14 HARV. ENVTL. L. REV. 217 (1990) (analyzing Ohio's change in mens rea standard from knowledge to recklessness and concluding that recklessness standard facilitates enforcement and deterrence in Ohio).

[14] Robin Weiner, et al., *Environmental Crimes*, 28 AM. CRIM. L. REV. 427, 427 (1991). *See also* National Enforcement Investigations Center, Office of Criminal Investigations, U.S. Environmental Protection Agency, *Summary of Criminal Prosecutions Resulting from Environmental Investigations* (March 1990); Enforcement and Compliance Monitoring, U.S. Environmental Protection Agency, *Enforcement Accomplishments Report: FY 1989* (February 1990) (giving civil and criminal actions, settlements, and court decisions).

[15] 42 U.S.C. §§ 7401–7642 (1988 & Supp. 1990). The CAA was amended and reauthorized by The Clean Air Act Amendments of 1990.

[16] 33 U.S.C. §§ 1251–1387 (1988 & Supp. 1990).

(SDWA),[18] (5) the Resource Conservation and Recovery Act (RCRA),[19] (6) the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA),[20] (7) the Toxic Substances Control Act (TSCA),[21] and finally, (8) the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA).[22]

These laws have several common characteristics. Generally, both corporations and individuals are subject to either criminal or civil liability or both for violating provisions of one of these statutes.[23] Furthermore, federal environmental laws hold corporate officers or employees responsible if they knew or should have known that their acts violated a federal statute.[24] Concerning the degree of knowledge that constitutes a violation, most courts require more than negligence, but less than specific intent.[25] Finally, the constitutionality of environmental laws has been consistently upheld.[26]

2. Specific Federal Statutes

a. The Clean Air Act

The EPA establishes ambient air quality standards and the CAA requires states to develop and implement regulations to bring air quality within the range of these standards. There are different standards for hazardous pollutants and for industrial sources of pollution. The CAA imposes criminal sanctions on those who knowingly tamper with EPA monitoring devices, who violate state requirements, or who knowingly make false statements in documents

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[17] 33 U.S.C. § 407 (1988).

[18] 42 U.S.C. §§ 300f to 300j-26 (1988).

[19] 42 U.S.C. §§ 6901-6992k (1988 & Supp. 1990).

[20] 42 U.S.C. §§ 9601-9675 (1988).

[21] 15 U.S.C. §§ 2601-2671 (1988 & Supp. 1990).

[22] 7 U.S.C. § 136-136y (1988 & Supp. 1990).

[23] Weiner et al., *supra* note 14, at 428.

[24] *Id.* at 432.

[25] *Id.* at 433.

[26] *Id.* at 434.

submitted to the EPA.[27] Finally, the CAA authorizes EPA representatives to require records and relevant compliance information, without probable or reasonable cause.[28]

b. The Clean Water Act and The Rivers and Harbor Act of 1899

i. The Clean Water Act

The purpose of the Federal Water Pollution Control Act (CWA) is to "restore and maintain the chemical, physical and biological integrity of the Nation's waters."[29] The EPA sets discharge standards for certain pollution sources,[30] regulates the discharge of hazardous wastes and petroleum,[31] assists and regulates waste treatment and management,[32] and ascertains that all sources of pollution into navigable waters are monitored.[33]

Criminal penalties of up to $50,000 a day and three years in prison result from knowing violations of permits,[34] and $25,000 a day and imprisonment up to one year can result from negligent violations of permit conditions.[35] A conviction of "knowing endangerment" subjects a person to a fine up to $250,000 and up to 15 years in prison.[36] The person in charge of a vessel or an onshore or offshore facility which discharges contaminants into navigable waters and who fails to notify state or federal environmental authorities is subject to a $10,000 fine and

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[27] 42 U.S.C. § 7413(c)(2) (1988 & Supp. 1990).

[28] 42 U.S.C. § 7414(a)(1) (1988 & Supp. 1990); Weiner et al., *supra* note 14, at 442-443.

[29] 33 U.S.C. § 1251(a) (1988).

[30] *Id.* at § 1311.

[31] *Id.* § at 1321.

[32] *Id.* at § 1281.

[33] *Id.* at § 1254.

[34] *Id.* at § 1319(c)(2).

[35] *Id.* at § 1319(c)(1).

[36] *Id.* at § 1319(c)(3).

up to one year in prison.[37] The new Oil Pollution Act, passed in response to the Exxon Valdez oil spill, authorizes much higher penalties.[38]

ii. The Rivers and Harbor Act of 1899

The Rivers and Harbor Act of 1899 offers the prosecutor two advantages that the Clean Water Act does not. First, the RHA regulates nonpoint discharges, which are those not associated with any discrete conveyances.[39] Examples of nonpoint discharges include seepage from underground oil tanks that could reach navigable water or waste deposited on a river bank.[40] Secondly, although the CWA imposes harsher penalties, the RHA has no scienter requirement.[41]

c. The Safe Drinking Water Act

The Safe Drinking Water Act (SDWA) is designed to ensure healthy drinking water by regulation of public water systems and of underground injection of contaminants into groundwater.[42] Like the Clean Air Act, the SDWA authorizes the EPA to set maximum contaminant levels which states are responsible for maintaining by implementing regulations.[43] Further, the EPA mandates a permit regulatory scheme for underground injections, which the states also must implement.[44]

The act has been strengthened by recent amendments. The 1988 amendments prohibit the sale or manufacture of water coolers which do not meet lead content standards for water.[45]

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[37] *Id.* § 1321(b)(5).

[38] 33 U.S.C. §§ 2701–2761 (1990).

[39] 33 U.S.C. § 407 (1988).

[40] Weiner et al., *supra* note 14, at 465.

[41] *Id.* at 464.

[42] 42 U.S.C. §§ 300f to 300j–26 (1988 & Supp. 1990).

[43] *Id.* at § 300g–2.

[44] *Id.* at § 300h.

[45] *Id.* at § 300j–23(b).

Violations of these amendments can result in up to five years in prison[46] as well as a civil fine of $5000.[47] In 1986 Congress strengthened the EPA's authority to enforce drinking water standards vis a vis the states.[48] Willful violations of these provisions subject a person to three years in prison and a criminal fine.[49]

d. The Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) regulates the generation, transfer, storage, treatment and disposal of all hazardous waste. The object of RCRA is to regulate hazardous waste from the time it is generated until it is legally disposed. To achieve this objective RCRA requires TSD facilities to operate with permits that track all hazardous waste from generation to storage, treatment or disposal. Frequently, this is referred to as cradle to grave liability.

RCRA requires TSD facilities to return a copy of a manifest to the generator after the waste is received. Generators are then required to check them and to report to the state if they do not receive a copy of the manifest from the TSD facility. Thus, even if the state does not identify a RCRA violation, the generator can report to the state instances where its waste did not reach the TSD facility.

RCRA was amended in 1984[50] and now is comprised of nine subchapters. Subchapter III specifies that hazardous waste characteristics identification criteria should "tak[e] into account toxicity, persistence, and degradability in nature, potential for accumulation in tissue, and other related factors such as flammability, corrosiveness, and other hazardous characteristics."[51]

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[46] *Id.* at § 300j-23(c).

[47] *Id.* at § 300j-23(d).

[48] *Id.* at § 300h-2.

[49] *Id.* at § 300h-2(b)(2).

[50] Hazardous and Solid Waste Amendments of 1984, Pub. L. No. 98-616, 98 Stat. 3221 (codified at §§ 6901-6992k (1988& Supp. 1990)).

[51] 42 U.S.C. § 6921 (1988).

A person or corporation who knowingly violates one of RCRA's provisions can be fined up to $50,000 a day, and individuals may be imprisoned for up to five years.[52] Felony convictions are possible for knowingly: (1) transporting or causing transport of any hazardous waste to an unpermitted facility; (2) treating, storing, or disposing of hazardous waste in violation of a permit, without a permit or in violation of a permit; (3) omitting material information or making a false material statement or representation on required documents; (4) destroying, altering, concealing, failing to file any required documents; and (5) transporting or causing transport without a manifest.[53] Federal courts have interpreted the "knowingly" provision as requiring the government to prove that the defendant knew he was violating a provision of RCRA.[54] The government may prove knowledge, however, by demonstrating scienter through circumstantial evidence such as a company's failure to follow regular waste disposal procedures.[55]

Stricter penalties are provided for when a person is convicted of knowing endangerment.[56] Individuals may be fined up to $250,00 or imprisoned for up to fifteen years, or both, and organizations may be fined up to $1,000,000.[57] This crime requires the following two elements: (1) the defendant violated one of the provisions of RCRA and (2) the defendant knew at the time of the offense that he was "plac[ing] another person in imminent danger of death or serious bodily injury."[58]

e. The Comprehensive Environmental Response, Compensation Liability Act

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[52] *Id.* at § 6928(d).

[53] *Id.*

[54] United States V. Hayes Int'l Corp., 786 F.2d 1499, 1502-04 (1986).

[55] *Id.* at 1504.

[56] 42 U.S.C. § 6928(e) (1988).

[57] *Id.*

[58] *Id.*

The purpose of CERCLA is "[t]o provide for liability, compensation, cleanup, and emergency response for hazardous substances released into the environment and the cleanup of inactive hazardous disposal sites.[59] The EPA is authorized to take immediate responsive action to actual or threatened releases of hazardous materials and to monitor and investigate actual or possible releases.[60] The act also established the "Superfund" which may be used by the EPA as well as state and local governments to clean up specified hazardous waste sites.[61] Generators and transporters as well as present and past operators and owners of sites, are jointly and severally liable for clean–up costs.[62] Individuals or corporations have no third–party defenses to criminal charges, unless the third party is solely responsible for the problems at the site.[63]

The act imposes varied penalties for violations of different provisions. First offenses carry three year prison sentences, with subsequent offenses resulting in up to five years in prison and fines[64]. Possible violations include: submitting false reimbursement claims, failing to notify the appropriate authority of the release of hazardous substances, or owning or operating an unlicensed facility.[65] Finally, the Superfund Amendments and Reauthorization Act of 1986, which amended RCRA, includes the Emergency Planning and Community Right–to–Know Act,[66] with information collection and reporting requirements and substantial liability for failing to meet them.[67]

f. The Toxic Substances Control Act

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[59] 94 Stat. 2767 (1980).

[60] *Id.* at § 9604.

[61] *Id.* at § 9611.

[62] *Id.* at § 9607.

[63] *Id.* at § 9607(b)(3).

[64] *Id.* at §§ 9603(b), 9612(b).

[65] *Id.*

[66] 42 U.S.C. §§ 11001–11050 (1988).

[67] *Id.* §§ 11045.

The purpose of the Toxic Substances Control Act is to "assure that ... innovation and commerce in ... chemical substances and mixtures do not present an unreasonable risk of injury to the health or the environment."[68] The act provides for criminal fines of up to $25,000 a day and imprisonment for up to one year, or both, for knowingly or willfully violating the act.[69] The violations include (1) failing or refusing to comply with rules, orders, or requirements; (2) commercially using a chemical substance or mixture which a person knew or had reason to know was manufactured, processed, or distributed in commerce; (3) failing to establish, submit, maintain, permit access to required documents; and (4) failing or refusing to permit entry or inspection.[70]

g. The Federal Insecticide, Fungicide and Rodenticide Act

FIFRA regulates pesticides by regulating their registration, transportation, sale, and use.[71] Although both private and commercial users of pesticides are subject to criminal penalties for knowingly violating the act, their penalties differ. Commercial violators are subject to maximum fines of $25,000 and one year in prison,[72] while private violators, who are not considered registrants, applicants for registration, or producers, are liable for fines up to $1000 and up to thirty days in prison.[73]

3. Partial Preemption of State Law

By virtue of the Commerce and Supremacy Clauses of the U.S. Constitution, states are preempted from legislating more lenient environmental standards than those that Congress has mandated through the above-mentioned federal environmental statutes. Thus, if, for example, Arizona passed a law imposing more lenient fines or less stringent pollution standards in an area within the scope of a federal statute, the law would be unconstitutional and void. If, however,

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[68] 15 U.S.C. § 2601(b)(3) (1988).

[69] *Id.* at § 2615(b).

[70] *Id.* § 2614.

[71] 7 U.S.C. § 136-136y (1988 & Supp. 1990).

[72] *Id.* at § 136l(b)(1)(B).

[73] *Id.* at § 136l(b)(2).

Arizona legislated more stringent standards, these standards would not be preempted by federal environmental statutes. Many states have imposed stricter laws, which are binding. Several other states, such as Arizona, have simply adopted federal standards as state law to be enforced by state and local prosecutors.

C. State and Local Criminal Environmental Law

1. State Legislative Trends

Along with the general resurgence of state legislatures since 1970, there has been a dramatic increase in the amount of state environmental legislation.[74] Between 1967 and 1983 the number of state environmental laws or amendments grew from 375 to 1425.[75] The diversity of laws has also grown dramatically during this time.[76] Provisions of state laws regulating the environment include administrative, tort, labeling, business confidentiality, liability, statute of limitations, and right–to–know provisions.

2. Critical Analysis of State Law

John DeCicco and Edward Bonnano conducted a comparative study of the environmental laws of all fifty states and concluded that the lack of state law uniformity hinders the enforcement of existing environmental laws.[77] DeCicco and Bonnano note several characteristics and shortcomings commonly found in state laws. Neither the states nor the federal government regulate the disposal of industrial wastes, therefore firms commonly mix hazardous wastes into this type of waste to avoid detection. Most states have weak air pollution laws, and most have adopted water pollution statutes that criminalize false statements.[78]

There is, perhaps, more variance among state laws than consistency. A person could be sentenced to several years in prison for a hazardous waste violation in one state, but could

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[74] Speer & Bulanowski, *supra* note 13, at 1–2.

[75] *Id.* at 3.

[76] *Id.* at 6.

[77] John DeCicco & Edward Bonnano, *A Comparative Analysis of the Criminal Environmental Laws of the Fifty States: The Need for Statutory Uniformity as a Catalyst for Effective Enforcement of Existing and Proposed Laws*, 5 J. LAND USE & ENVTL. L. 1 (1989).

[78] HAMMETT & EPSTEIN, *supra* note 12, at 75.

be exonerated in another state.[79] One result of this disparate treatment of similar conduct is that businesses will move to the more lenient jurisdictions, and the problem is displaced and the solution deferred.[80]

3. Prosecutors' Views of State Environmental Laws

Hammett and Epstein report several beliefs held by local enforcement officials. Most prosecutors believed that criminal fines were too low to deter future environmental crime.[81] Further, the relative lack of technical and drafting expertise of local legislators is reflected in inefficient or ineffective environmental laws and ordinances.[82] Local prosecutors who constantly contend with changes in environmental criminal practices often advocate innovative laws to forestall criminal developments. For example, Monmouth County prosecutors have discovered an increase in the commingling of hazardous waste with shredded construction and demolition waste believed to originate in New York City. To solve the problem they urged the New Jersey legislature to pass laws regulating the disposal of shredded construction and demolition waste after the model of the New York State law regulating such wastes.[83]

D. Sentencing and Penalties under Environmental Statutes

1. The Debate about Criminal Sanctions

With criminal sanctions becoming more commonplace for environmental offenses, some contend that environmental regulation is becoming "overcriminalized." One corporate analyst contends that criminal law fails to distinguish between willful misdeeds for personal gain and inadvertent or negligent violations for which there is strict or vicarious liability.[84] Before the advent of federal sentencing guidelines, judges and juries frequently would give lenient fines

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[79] *Id.* at 74.

[80] DeCicco & Bonnano, *supra* note 77, at 5.

[81] HAMMETT & EPSTEIN, *supra* note 12, at 77.

[82] *Id.*

[83] *Id.* at 78.

[84] Mark A. Cohen, *Environmental Crime and Punishment: Legal/Economic Theory and Empirical Evidence on Enforcement of Federal Environmental Statutes*, 82 J. CRIM. L. & CRIMINOLOGY 1054, 1103 (1992).

instead of punitive penalties for such strict liability crimes.[85] Some believe that the application of sentencing guidelines to environmental crime closes this loophole and results in overdeterrence.[86]

There are several other criticisms of this trend. Cohen believes that criminalizing public welfare laws diminishes the moral stigma of criminalization by making the criminal label commonplace.[87] Secondly, by focusing on criminal sanctions for corporate polluters, the law unfairly and inefficiently places the burden of a clean environment on business while technological constraints and consumer behavior play a larger role in pollution.[88] Further, according to the economic school of jurisprudence, the law should impose criminal sanctions only when tort law is inadequate to prevent people from bypassing the assignment of cost and liability via a voluntary market system.[89] Another economic consideration is that criminal sanctions cost society more than administrative ones since criminal trials and incarceration are more costly than administrative penalties.[90]

2. Theoretical Factors in Imposing Sanctions

Cohen argues that environmental crime sanctions should be based on harm, rather than on the gains illegally received.[91] This would help prevent overdeterrence. There are several difficulties with this approach, however. One potential drawback is that it will be more difficult and expensive to prosecute environmental crime since prosecutors will then have the burden

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[85] *Id.*

[86] *Id.*

[87] *Id.* at 1104.

[88] *Id.*

[89] Richard A. Posner, *An Economic Theory of the Criminal Law*, 85 COLUM. L. REV. 1193, 1195, 1204 (1985).

[90] TOM TIETENBERG, INNOVATION IN ENVIRONMENTAL POLICY 68 (1992).

[91] Cohen, *supra* note 84, at 1105. *But see infra* note 281 and accompanying text (discussing the Department of Justice's policy of charging criminally based on economic benefits, not on harm).

of proving the level of harm.[92] Another related problem is that some harms are inherently difficult to measure according to monetary values.[93]

Cohen also believes that the most effective deterrence results when sentences are inversely proportional to the probability of detection.[94] Offenses that are difficult to discover should receive the highest penalties. The rationale for this sentencing policy is that those offenses that are likely to be detected (such as oil spills) are also those which are most likely to be subject to private remedies.[95]

3. Nontraditional Sanctions

RCRA provides for disbarment sanctions prohibiting violators from applying for any future government contracts, and states have followed suit. Other sanctions require offenders to perform community service and even require them to publicize statements about their wrongdoing in local newspapers.

E. Common Law Actions

There are the following five traditional causes of action having an origin in either property or tort law: private nuisance, public nuisance, trespass, riparian rights, and negligence. Although these doctrines do not play as large a role in environmental enforcement as environmental statutes, their role is significant and often overlapping.[96]

Both private and public nuisance doctrines protect owners or users of land from unreasonable interference with the use and enjoyment of land. While private nuisance suits can be brought by owners or tenants, public nuisance suits must be brought by the state or by citizens whose special injuries give them standing to sue. Remedies for nuisance suits are damages and injunctive relief. One limitation of private nuisance suits is that damages usually

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[92] John C. Coffee, Jr., *Crime and Punishment in the Boardrooms: Let's Not Shield Corporations From Criminal Penalties*, LEGAL TIMES, Feb. 13, 1989, at 19.

[93] Cohen, *supra* note 84, at 1106.

[94] *Id.*

[95] *Id.*

[96] TIETENBERG, *supra* note 90, at 163.

are barred when the individual "comes to the nuisance," which could be pollution from a local factory that has been there for many years.

Civil courts struggle with theoretical difficulties in deciding where to impose the liability for the pollution. Notwithstanding the "Coase Theorem,"[97] issues of fairness and economic efficiency sometimes conflict when the local factory is the source of jobs to many in the community, but also a source of pollution, lowered property values, and reduced quality of life to those living nearby.

Marketable pollution permits are a recent variation of common law nuisance liability rules.[98] The following illustrates their operation: when company A pollutes less than it is allowed under relevant federal statutes, it is issued a voucher assigning a dollar value to the difference. This voucher can then be sold to company B, which exceeds pollution standards. Thus, the permits result in a self-operating regulatory system by rewarding company A and penalizing company B.

The common law trespass doctrine protects property from physical invasion. This doctrine has been extended to encompass environmental issues since the settling of dust particles and vapors is actionable.[99]

Riparian rights give shoreline property owners a degree of protection against diminished flow, water level, purity, or use of bodies of water. The extent of these protections varies by region. By a related doctrine, states hold all land under water in public trust, allowing them to regulate pollution affecting the navigation, swimming, fishing, and other uses of these waters.[100]

Finally, tort action is available for negligence when four elements are present: a duty protecting others from unreasonable risk, a breach of that duty, legal cause, and actual

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[97] R.H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1 (1960).

[98] PEARCE & TURNER, *supra* note 4, at 110.

[99] TIETENBERG, *supra* note 90, at 144.

[100] *Id.*

damages.[101] Where the cost of taking precautions would have been less than the probability and gravity of the accident, the risk is likely to be seen as unreasonable. Also, violation of statutes designed to protect the public from personal injury can give rise to negligence per se. The amount of environmental litigation relying on negligence theories has not been great.[102]

III. The Extent of Environmental Crime

A. Difficulties in Assessing the Extent of Non-compliance

In a 1988 study for the Environmental Protection Agency, James K. Hammitt and Peter Reuter found that the shortage of available data makes it difficult to estimate the extent of illegal disposal in the United States.[103] One proposed method is the "residual method," which estimates total quantities of waste generated and legally disposed and deduces the quantity illegally disposed from the difference between these figures. According to the authors, however, the residual method is unlikely to yield a reliable estimate since it presupposes an accurate estimate of the quantity of hazardous waste generated and legally disposed, and this is currently unavailable.

The best estimate seems to place the total amount of hazardous waste generated between 247 million and 1 billion metric tons per year.[104] In 1990 the EPA listed 211,000 hazardous waste generators in the United States within the scope of RCRA regulations.[105] This is nine times more than the amount regulated in 1980 mostly because in 1985 the scope of RCRA had been broadened to include an additional 118,000 SQGs.

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[101] *Id.* at 145.

[102] *Id.* at 146.

[103] James K. Hammitt & Peter Reuter, *Measuring and Deterring Illegal Disposal of Hazardous Waste*, 39 (Rand Corporation, October 1988). The report is based on a review of existing literature and on interviews with 40 local enforcement personnel and industry representatives in Los Angeles County, Massachusetts, and Pennsylvania.

[104] J.E. McCarthy & M.E.A. Reisch, *Hazardous Waste Fact Book*, Congressional Research Service, 5-7 (1987).

[105] United States Environmental Protection Agency, Office of Solid Waste and Emergency Response, *The Nation's Hazardous Waste Management Program at a Crossroads: The RCRA Implementation Study*, 7 (1990).

Hammitt and Reuter give four main reasons why no accurate estimate of total waste generated exists.[106] First, hazardous waste is an extremely diverse set of substances, including liquids and solids of varied chemical composition. Furthermore, when nonhazardous substances such as water are used to dilute certain hazardous chemicals, the mixture creates a greater volume of hazardous material. Second, definitions of hazardous waste have fluctuated over time and across jurisdictional boundaries. Third, because the universe of hazardous waste generators is diverse, it is difficult to define. Finally, conceptual distinctions are often blurred when reported through the registration system. Some data systems account for illegal disposal in estimates or denominate on-site disposal as generation, while others do not use these measurement procedures.

Another possible means of measuring the extent of environmental crime is simply to tabulate the number of criminal indictments and cases won. For example, at the federal level, according to former Attorney General, Richard Thornburgh, the Department of Justice achieved 761 indictments and 549 convictions since founding its Environmental Crimes Section, with a majority of the indictments coming between 1989 and 1990.[107] Similarly, Donald Rebovich analyzed all 71 criminal hazardous waste cases charged by the attorney general offices of Maine, Maryland, New Jersey, and Pennsylvania between 1977 and 1985.[108]

Hammitt and Reuter contend, however, that an analysis relying on data from prosecuted cases in several states may not accurately represent the universe of hazardous waste crime.[109] The estimates might have been colored by the intensity of prosecution since aggressive enforcement is likely to uncover a higher percentage of violations than lax enforcement. Similarly, they believe that surveys of generators are likely to result in skewed

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[106] *Id.* at 47-48.

[107] Richard Thornburgh, Our Blue Planet: A Law Enforcement Challenge, Keynote Address for the 1991 Environmental Law Enforcement Conference, (Jan. 1991).

[108] DONALD J. REBOVICH, DANGEROUS GROUND: THE WORLD OF HAZARDOUS WASTE CRIME (1992).

[109] Hammitt & Reuter, *supra* note 103, at 41.

estimates since the number of generators is not known with substantial certainty and respondents are likely to under-report.[110]

Hammitt and Reuter believe that a "random audit method" would give the best estimates.[111] It would use direct observation of sample firms to determine their compliance levels. If representative samples have been chosen, the data gathered through observation can be extrapolated to determine compliance in all firms.

B. Studies of Non-compliance Levels and Patterns

1. Large Quantity Generators

There are no definitive studies documenting the extent of illegal hazardous waste disposal.[112] The one available study of illegal disposal rates by Large Quantity Generators (LQG) is the 1983 study by Savant Associates.[113] Since enforcement during the two year period of that study was considerably weaker than it is today, their estimate that 10-15 percent of LQGs illegally disposed some hazardous wastes is probably too low.[114]

Notwithstanding the lack of systematic empirical evidence, there are compelling reasons to believe that the rate of illegal disposal is high.[115] Compliance costs can be very high, and regulations are often technically complex. Further, the number of affected firms are in the hundreds of thousands, so that the risk of being caught in many jurisdictions is minimal.

2. Small Quatity Generators

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[110] *Id.* at 42.

[111] *Id.*

[112] *Id.* at 39.

[113] Savant Associates, Inc. & Response Analysis Corp., *Experiences of Hazardous Waste Generators with EPA's Phase I RCRA C Program: A Survey and Assessment*, prepared for EPA, Wash. D.C., (1983).

[114] Hammitt & Reuter, *supra* note 103, at 39.

[115] *Id.* at 47.

According to Hammitt and Reuter, there is insufficient systematic data on the rate of non-compliance among Small Quatity Generators (SQG) to give a reliable estimate.[116] SQGs are believed to be more likely than LQGs to violate environmental laws.[117] Although SQGs are believed to generate less than 1 percent of all hazardous waste[118], their share of illegal disposal is likely to be substantial due to their high rate of non-compliance. Since SQGs are more frequently located in populous areas, there is a likelihood that they will cause significant health hazards.

There are several factors contributing to high non-compliance among small generators.[119] Although SQGs are not always small businesses, typically they face disproportionally high business costs for legal disposal. Due to the smaller amounts, SQG businessmen often perceive their pollution to be too insignificant to warrant the regulations and know that they can easily avoid detection in dumping their small amounts of hazardous wastes. Even when these businessmen are willing to comply, they are unlikely to have in-house counsel to interpret the regulations.

According to Hammitt and Reuter, some within industries observe differences in compliance levels between commercial and industrial SQGs.[120] Commercial firms, such as dry cleaners, painters and automobile repair shops, deal directly with the public. Industrial firms deal primarily with other businesses. Commercial firms are more likely than industrial firms to dispose of wastes illegally. Unlike industrial companies which perceive waste as a necessary

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[116] Id. *See generally*, B.L. Bozeman et al., *New Jersey Small Quantity Generator Survey and Analysis, prepared for the New Jersey Hazardous Waste Facilities Siting Commission, Project X-067*, (1986); Lorene J. Russell & Emy C. Meriorin, *The Disposal of Hazardous Waste by Small Quantity Generators: Magnitude of the Problem*, Association of Bay Area Governments, Oakland, California (June 1985); Seymour I. Schwartz et al., *Managing Hazardous Wastes Produced by Small Quantity Generators*, University of California, Davis, Division of Environmental Studies and State of California, Senate Office of Research, (April 1987).

[117] Bozeman et al., *supra* note 116.

[118] Hammitt & Reuter, *supra* note 103, at 16.

[119] *Id.* at 17.

[120] *Id.*

byproduct of their industrial processes, commercial firms are likely to see their waste as incidental to their commercial activities, and hence as less of a legitimate business cost.

Hammitt and Reuter discovered two typical non-compliance patterns among SQGs.[121] In Massachusetts SQGs, evaded compliance by legally disposing of only part of their hazardous waste and showing documentation to regulators to mask their illegal disposal of the remaining portion.[122] Similarly, when hazardous waste haulers increase their prices or change billing from a flat rate to a per unit rate, SQGs sometimes begin to dispose of only part of their waste through permitted haulers and simply discard the remaining hazardous waste illegally. When one hazardous waste hauler servicing automobile repair shops raised its rates, it lost 50 of its 500 customers.[123]

A survey of North Hollywood, California generators found that between 5 and 28 percent of SQG waste is illegally discarded.[124] Most was dumped in sewers, improper landfills, vaporized or buried on site. Another survey indicated that 57 percent of SQGs in San Francisco dispose of waste illegally.[125] Half the firms stated that they would be unwilling to pay anything to pay for legal disposal. The Santa Clara County District Attorney estimated that half the haulers and automobile shops dumped their wastes down storm drains or sewers.[126] Approximately 30-50 percent of SQGs in New Jersey do not use required manifests.[127] Forty-two Florida counties surveyed their SQGs who reported that they legally disposed of only half of their waste.[128]

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[121] *Id.*

[122] *Id.* at 18.

[123] Schwartz et al., *supra* note 116.

[124] SCS Engineers, Long Beach, California, *Hazardous Waste Management Plan for Small-Quantity Generators: North Hollywood Pilot Study,*, prepared for Southern California Association of Governments, Los Angeles, (May, 1985).

[125] Russell & Meriorin, *supra* note 116.

[126] Schwartz et al., *supra* note 116.

[127] Bozeman et al., *supra* note 116.

[128] Schwartz et al., *supra* note 116.

C. Reports from Prosecutors and Regulatory Inspectors

In their 1991 study for the National Institute of Justice, Local Prosecution of Environmental Crime, Hammett and Epstein discovered an increased sophistication among environmental crime prosecutors and defense attorneys representing those accused of perpetrating these crimes.[129] The District Attorney offices studied were believed to prosecute environmental crime in an exemplary way because they had established special environmental crime units or designated experienced groups of attorneys to handle environmental cases.[130] Also, each aimed to develop cooperative enforcement efforts with environmental regulatory agencies and police and had a substantial record of successful criminal prosecutions.

State and local prosecutors have reported an increasing number of businesses who knowingly violate environmental laws to increase profit margins or to stay in business.[131] For example, District Attorney James M. Catterson Jr. believes that small businesses in his jurisdiction, Suffolk County, New York, are illegally disposing deadly chemicals at alarmingly high rates in order to avoid paying higher legal disposal costs.[132] During a sting operation known as the "toxic avenger case" his investigators actually had to lower their offered prices several times to match the black market dumping rate. In fact, one company made inquiries whether the undercover officers would consider payment plans. The overall illegal rate was fourteen and a half times lower than the legal market rate. The differential was even greater to dispose of cyanide alone-- $450 as compared to $10,400 for the legal rate.

IV. Environmental Crime Factors

A. Studies of Environmental Crime Prosecutions

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[129] HAMMETT & EPSTEIN, *supra* note 12, at 2. (The authors interviewed prosecutors, investigators, and regulatory agency personnel in five district attorney offices believed to be leaders in the local prosecution of environmental crime: Alameda County and Los Angeles County, California; Cook County, Illinois; Jefferson and Gilpin Counties, Colorado; and Monmouth County, New Jersey.)

[130] *Id.*

[131] DeCicco & Bonnano, *supra* note 77, at 2.

[132] Josh Barbanel, *Elaborate Sting Operation Brings Arrests in Illegal Dumping of Toxic Wastes by Businesses*, N.Y. TIMES, May 13, 1992, (Long Island Metro Section) at 1.

Through his 1985 study of hazardous waste crime in ten Northeastern states, Rebovich shed light on a hidden world of hazardous waste crime.[133] His 1988 follow-up survey of law enforcement personnel from these and ten other Northeastern states enlarges the picture of environmental crime portrayed in Dangerous Ground and reveals probable future trends for state and local prosecutors.

Rebovich found seven factors in the commission of environmental crime within a given jurisdiction:[134] (1) the extent and duration of industrial growth, (2) the availability of legal and illegal disposal outlets, (3) law enforcement response, (4) the level of cooperation between regulators and those responsible for criminal prosecution, (5) the visibility of the types of offenses, (6) the maturation level of the workplace criminal group, and (7) syndicate crime complicity.

For instance, during the late 1970's and early 1980's Pennsylvania and Maryland industries generated more medical waste than the few state landfills and strict regulations would accommodate.[135] According to Rebovich, this allowed New Jersey TSD operators to name exorbitant prices, and many made enormous illegal profits by dumping the waste illegally. Furthermore, Rebovich found that task forces operating in conjunction with the expertise of prosecutors were crucial factors in successful prosecution and deterrence.[136] Rebovich's study also discovered that criminal conduct tends to pervade the workplace in these TSD facilities that operate illegally. As a consequence, prosecution of only a few offenders is unlikely to halt illegal dumping by the facility.[137]

Since Rebovich's first 1986 study, certain changes occurred affecting the commission of environmental crime. Companies in the final stages of bankruptcy began stockpiling wastes on

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[133] REBOVICH, *supra* note 108.

[134] *Id.* at 92.

[135] *Id.* at 94.

[136] *Id.* at 95.

[137] *Id.* at 100-02.

generator land.[138] Amendments to RCRA broadened the scope of the act.[139] For example, underground storage tanks, like those in gasoline stations, are now regulated for leakage. Most significantly, section 221 of RCRA brings more small-quantity generators into the coverage of the act.[140] Because the costs of compliance will be prohibitive, many small hazardous waste handlers are likely to commit more crimes in the future.[141]

B. Industrial Incentives to Illegal Disposal

Hammitt and Reuter identify several factors that make illegal disposal an enticing option for firms.[142] There are only a few possible ways to avoid the higher costs associated with legal disposal: (1) reducing quantities generated, (2) recycling wastes, (3) treating or disposing of wastes in legal on-site facilities, and (4) disposing of wastes illegally. Prohibitive costs or lack of knowledge among firms may make illegal disposal appear to be the most attractive option.

1. Knowledge of Regulations and Technical Expertise

According to Hammitt and Reuter, knowledge of regulations relates to compliance levels in several ways.[143] Since hazardous waste disposal frequently is viewed as peripheral to a firm's operations, it often does not receive adequate attention by senior managers, who are in the best position to formulate compliance decisions. Furthermore, personnel tend to misunderstand or discount the hazardous nature of the material they handle. Nonetheless, given the EPA campaign in 1985 and 1986 to educate SQGs about the new RCRA rules affecting them, fewer can realistically claim ignorance to escape culpability. Also, waste haulers who offer regular collection services recruit generators aggressively to build their customer list and tend to inform generators of their legal liability for illegal disposal. Finally, one survey indicated that

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[138] *Id.* at 108.

[139] Hazardous and Solid Waste Amendments of 1984, Pub. L. No. 98-616, 98 Stat. 3221 (codified at 42 U.S.C. §§6901-6992k (1998 & Supp. 1990).

[140] HAMMETT & EPSTEIN, *supra* note 12, at 111.

[141] *Id.* at 113.

[142] Hammitt & Reuter, *supra* note 103, at 7.

[143] *Id.* at 7-8.

compliance was more related to a firm's legal and environmental expertise than to cost factors.[144]

2. Disposal Cost Savings

The degree of savings from illegal disposal is a function of the toxicity and quantity of wastes and the cost and availability of legal disposal.[145] The price of illegal disposal has dramatically increased in response to tighter regulation of treatment and disposal facilities. For example, the Massachusetts Department of Environmental Management reported that the disposal price per ton of waste oil rose from $52 in 1978 to $600 in 1987. Dry cleaning disposal costs have risen from nearly nothing to between $8000 and $13,000 a year in 1987.[146]

Generators must pay other costs associated with legal disposal.[147] For instance, legal disposal is often taxed by state governments. In 1988 the California tax ranged between $2 and $150 a ton, depending on the type of waste. Legitimate hauling costs depend on the type of waste, the volume, form, and the distance between the point of origin and the treatment storage disposal (TSD) facility. According to the EPA, in 1987 the cost to ship one ton one mile was $.23. With average intrastate and interstate hauling distances of 250 and 500 miles respectively, the average costs of shipping one ton of hazardous waste in 1987 were $58 intrastate and $115 interstate. Finally, TSD facilities typically charged lab fees of $250 in 1988 to test waste in order to classify it for legal purposes prior to accepting it. Thus, in 1987 a garage had to pay approximately $708 per ton to dispose of hazardous waste oil legally at an intrastate TSD facility.

Compliance for firms with slim profit margins may be prohibitive.[148] For example, firms may gain a competitive business advantage by using illegal disposal methods, compounding the costs of compliance for other firms. In industries with small profit margins, this disadvantage can result in bankruptcy for legal disposers. Thus, in a given region for the dry cleaning industry,

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[144] Bozeman et al., *supra* note 116.

[145] Hammitt & Reuter, *supra* note 103, at 9.

[146] Kathleen Wolf & Frank Camm, *Policies for Chlorinated Solvent Waste--An Exploratory Application of a Model of Chemical Life Cycles and Interactions*, The RAND Corp., R-3506-JMO/RC (June, 1987).

[147] Hammitt & Reuter, *supra* note 103, at 9-10.

[148] *Id.* at 11-12.

all dry cleaners must comply with environmental regulations or the resulting unfair economic advantage gained by non-compliers may very well drive others to financial ruin. Similarly, many small businesses cannot afford the capital outlays required for on-site treatment or recycling equipment.

C. Industrial Disincentives to Illegal Disposal

Disincentives include either government imposed civil and criminal penalties or private civil suit damage awards.[149] Government imposed penalties might include imprisonment, fines, loss of permits or injunctions. Generally, private civil suits are too infrequent to provide significant deterrence. Government penalties can deter indirectly as well. For example, hazardous waste generators and insurance companies can influence others in the hazardous waste disposal industry.

1. Private-Sector Oversight by Generators

Generators are liable under both RCRA and Superfund for cleanup costs of sites where their wastes have been deposited. Just one firm can be liable for the entire cleanup cost of a disposal site, and often large firms, with "deep pockets" are particularly wary of such liability. Hammitt and Reuter believe that for this reason, large firms often actively investigate haulers and TSDFs to ensure their reliability for legal disposal.[150] Haulers and TSDFs with bad reputations will lose business.

The type of contract between the generator and hauler can determine the degree of influence the generator has over a hauler.[151] If the contract is only for transport to a TSD facility, the hauler's incentive for illegal disposal is much less than if the contract includes disposal as well as transportation. Then, the hauler can retain the entire disposal fee by dumping the waste illegally himself. To avoid detection, the hauler would have to forge the

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[149] *Id.* at 12.

[150] *Id.*

[151] *Id.* at 14.

manifest to give the appearance of legal disposal. Hammitt and Reuter believe that the probability of detection of such forgeries makes it unlikely that haulers will forge manifests.[152]

2. Private-Sector Oversight by Insurers

Hammitt and Reuter believe that liability insurers, in turn, may influence generators by imposing varied insurance costs depending on the perceived risk of non-compliance by the generator.[153] There are several significant limits on this influence. There is a long delay between any illegal activity by generators and the imposition of penalties. Further, since coverage extends only through a set period of the policy term, insurers have little incentive to oversee current activity. Also, insurers have failed to develop the technical expertise required to evaluate generator practices to assign risks accurately. Finally, insurers' attempts to ensure compliance by writing termination of coverage provisions into policies are often futile, given the inclination of courts to impose liability on them anyway.

D. Other Determinants of Corporate Behavior

1. Corporate Culture

Corporate culture is a significant factor in compliance. Some criminologists have argued that criminal stigmatization means little to an impersonal business entity.[154] However, at least one study indicates otherwise. According to a study of large firms by Fisse and Braithwaite (1983), while responses to legal sanctions varied among corporations, all the firms responded in some way.[155] It is impossible to relate this finding to small firms, however, since they are often much less likely to be influenced by adverse publicity.

There is evidence that business schools have recognized the lack of awareness of environmental responsibilities among corporate leaders. As a result, these schools are rising to the challenge. One Boston University professor reported that most management students in his environmental course were unfamiliar with the facts and dimension of environmental

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[152] *Id.*

[153] *Id.* at 13.

[154] *Id.* at 15.

[155] *Id.*

problems in industry.[156] A compendium of articles from the Eighth National Conference on Business Ethics indicates increasing interest and activity in environmental education.

2. Corporate Learning Theory

In four industrial case studies, Manik Roy studied the effect of federal regulations on corporate learning in the environmental area.[157] Roy found that corporate action may be explained in terms of organizational structures, symbolic languages, subgroup conflicts, and social network influence. An organization's values may differ sharply from the norms held by individuals and subgroups within the organization and from the surrounding society. These values are transmitted through corporate symbolic languages created by managers and subordinates purposely and inadvertently. The author concludes, however, that the EPA's regulation and enforcement policies are partially ineffective because they fail to take into account organizational learning processes.

3. Interpreting Legal Requirements

The complexity of environmental law may cause some firms to violate environmental regulations inadvertently.[158] For example, the status of certain wastes may be ambiguous under different laws. California law may consider infectious wastes discharged into waterways as hazardous, while this may be permissible under the Clean Water Act. Furthermore, RCRA regulations are very complex, and it is difficult for firms to keep abreast of regulatory changes and technical requirements.

V. Profile of the Typical Offender

A. The Likely Corporate Profile

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[156] James E. Post, *Environment into the Business School, in* THE CORPORATION, ETHICS AND THE ENVIRONMENT 263 (M. Hoffman et al. eds., 1990).

[157] Manik Roy, *Integrated Pollution Control: A symposium on Pollution Prevention, Organizational Culture, and Social Learning*, 22 ENVTL. L. 189 (1992).

[158] Hammitt & Reuter, *supra* note 103, at 28–29.

There have been no works specifically focused on the offender himself.[159] However, some of the offender's likely characteristics can be gleaned from various studies. Rebovich studied 71 cases prosecuted criminally.[160] Of these, 121 individual offenders were charged and 70 business firms were charged. His study revealed that typically the criminal dumper is an ordinary, profit–motivated businessman who operates a legitimate business uninfluenced by syndicate crime.[161] Offending firms tended to be small with simple organizational structures, usually occupying fewer than 50 employees.[162] According to Rebovich, however, larger firms may be under–represented since they are more likely to engage in less detectable behavior, such as illegal disposal on site, than to rely on other haulers or TSD facilities as small generators must.[163] While in Maine, Maryland, and Pennsylvania the largest category of offenders was generators, in New Jersey it was TSD facilities.[164] Rebovich found that the sources of waste tended to parallel the dominant industries in that jurisdiction.[165] The top five most frequent sources of illegally disposed hazardous waste were: paint dye, electroplating or metal treatment, petrochemical byproducts, chemical production or manufacture, and transformer/capacitors.[166]

Rebovich also found certain correlations between occupation and disposal methods.[167] In 12 instances of 13 it was generators who discharged hazardous wastes into sewers or bodies of water in Maine, Maryland, and Pennsylvania. By contrast, six of seven New Jersey sewer–

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[159] REBOVICH, *supra* note 108, at 15.

[160] *Id* at 30.

[161] *Id.* at 18.

[162] *Id.* at 31.

[163] *Id.* at 32.

[164] *Id.* at 30.

[165] *Id.* at 33.

[166] *Id.* at 34.

[167] *Id.* at 47.

discharge and water-discharge cases were conducted by treaters or haulers.[168] In all the nine water discharge cases, the offender was located near the body of water.[169] Although landfill operators were rarely charged, this may reflect enforcement difficulties rather than a lack of culpability.[170]

Hammitt and Reuter's analysis of incentives for and deterrents to illegal disposal offers the following profile of a firm likely to perpetrate environmental crime.[171] Costs of legal disposal will be high relative to otherwise legal profits. Small firms are more likely to break the law, but large firms, when in non-compliance, tend to do the most environmental damage. The generator will tend to contract with haulers both to transport and to dispose of the material. A large percentage of the offending firm's assets will be salvageable at a foreclosure resulting from non-compliance penalties. Thus, if most of the illegal hauler's assets are liquid, he will lose little if he is forced to close because of illegal activity. By contrast, TSD facilities' assets typically cannot be transferred cheaply or readily, making their potential violations more readily deterred.

B. Criminal Maturation System

The typical TSD operator does not set out to become a savvy racketeer planning to reap windfall profits through a criminal career.[172] Rather, the environmental field requires expensive technology which exerts pressure on him to cut corners. Eventually, he fully converts his business into a criminal enterprise. Gradually, he becomes increasingly sophisticated and develops criminal resourcefulness to maintain the criminal enterprise.[173] Hammitt and Epstein report that more and more firms have learned to shield their illegal activities through intermediaries and "front" corporations.[174]

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[168] *Id.* at 49.

[169] *Id.*

[170] *Id.*

[171] Hammitt & Reuter, *supra* note 103.

[172] REBOVICH, *supra* note 108, at 40.

[173] *Id.*

[174] HAMMETT & EPSTEIN, *supra* note 12, at 3.

Rebovich found that, in employing these techniques, the hazardous waste offender followed two tracks of criminal development through set stages.[175] The upper-stratum offender is an owner or operator, and the lower-stratum offender is a yard worker or truck driver. As financial costs rise, the upper-stratum offender gradually moves from the initial, total treatment stage through the intermediate, partial treatment stage to the final stage where no wastes are treated.[176] For the lower-stratum track, management deliberately hires drivers and yard workers with criminal backgrounds under the belief that these employees will be more compliant. Managers direct these employees to commit marginal regulatory daytime violations, which if done without complaint will result in reassignment to the night shift where overtly illegal disposal activities occur.[177] Employees who refuse to engage in illegal acts are fired; those who comply can graduate into the criminal core work group which actively attempts to elude detection.[178]

The hazardous waste offender also often cooperated with or co-opted others to assist in his deception. Offenders who had particularly good locations for concealing hazardous waste would accept wastes from other offenders as a "savior facility" in a network of facilities.[179] Further, the low pay and lack of advancement potential of state regulatory officials and attorneys made them easy targets for businesses to co-opt or recruit to aid in avoiding compliance with state regulations.[180] Surprisingly, only three cases of bribery were charged.[181]

The perpetrator of environmental crime also recruited rogue chemists and laboratories to certify substances falsely as nonhazardous and thus avoid mens rea proof requirements.[182]

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[175] REBOVICH, *supra* note 108, at 51.

[176] *Id.* at 52-53.

[177] *Id.* at 53-54.

[178] *Id.* at 54-55.

[179] *Id.* at 50.

[180] *Id.* at 38.

[181] *Id.* at 39.

[182] *Id.* at 40.

Such facility chemists were also instrumental in placating employee suspicions and in enabling TSD facilities to recruit business from waste generators by convincing them that their waste would be legitimately handled.[183]

C. Techniques Used to Evade Criminal Prosecution

Rebovich discovered cunning techniques that hazardous waste offenders mastered in order to elude prosecution. To avoid detection, one TSD company simply removed the deeper of two sets of waste separation blades from a clarifier tank.[184] Although this rendered the treatment process useless, the top blades still moved the waste material so that state inspectors were deceived. Other subterfuge included flushing water through pipes before inspectors came or dumping chlorine into sewers at just the right times to foil regularly operating municipal water purity monitoring devices.[185] Often, offenders relied on the regularity of state inspections to employ their detection avoidance tactics at "inspection" times.[186]

The offender will survey the physical characteristics of his region to determine where he can conceal his acts.[187] Sewers and other bodies of water were often used as well as relatively secluded areas.[188] These ranged from remote woods, railroad tracks, and farmlands to blighted urban areas and beneath overpasses. In Maryland and Pennsylvania, offenders used illegal landfills and abandoned mines for dumping.[189]

According to Rebovich, even if the offender is convicted, he is likely to utilize his criminal contacts to become a waste management broker for criminal haulers who undercut the prices of legitimate haulers.[190] Then he is shielded from prosecution since brokers are exempt from

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[183] *Id.* at 41.

[184] *Id.* at 36.

[185] *Id.* at 37.

[186] *Id.* at 36–37.

[187] *Id.* at 45.

[188] *Id.* at 46.

[189] *Id.* at 47.

[190] *Id.* at 42.

government licensing prohibitions against hazardous waste haulers and TSD operators who have prior criminal convictions.

Hammett and Epstein also uncovered some criminal evasion techniques.[191] For example, the Monmouth County Prosecutor uncovered a sophisticated waste management scheme wherein construction debris from New York City was shredded and laced with toxic chemicals. The indictment described a plan to mix the waste with top soil and sell it to people throughout the state for use on their lawns.

VI. Optimal Deterrence

A. Deterrent Theory in Environmental Crime

Hammitt and Reuter suggest that prosecutors can achieve a maximum level of environmental law enforcement efficiency by strategically targeting potential environmental criminals.[192] Prosecutors should aim to deter those whose violations represent the highest ratio of social damage measured against the cost of averting future violations. If one considers the probability of detection as a cost factor for averting future crime, the Hammitt and Reuter ratio can be reconciled with the basic conclusions of Gary Becker's seminal study of the economics of crime and punishment.[193]

Three factors determine this ratio: (1) the class of potential violators, (2) the social costs of different types of violations, and (3) the cost of deterring these violations.[194] Several factors, in turn, determine the social costs of violations: the toxicity of the chemicals used or generated, the duration of their toxicity, and their effect on health or the environment.[195]

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[191] HAMMETT & EPSTEIN, *supra* note 12, at 11.

[192] Hammitt & Reuter, *supra* note 103, at 31.

[193] Gary S. Becker, *Crime and Punishment: An Economic Approach*, 76 J. POL. ECON. 169 (1968).

[194] Hammitt & Reuter, *supra* note 103, at 32.

[195] *Id.* at 33.

According to Hammitt and Reuter, the nature of these factors is largely unknown; therefore, it is impossible to know with scientific certainty what levels of prosecution are optimal.[196] They theorize that the optimal level is achieved when prosecutors consistently impose sanctions on the highest social cost violators.[197] Then, as the state sanctions those who cause the greatest harm to society, the social harm from illegal disposal will decrease until reaching a level of equilibrium with the social costs of enforcement. The level of resources necessary to reach this equilibrium is the optimal level that society should allocate to environmental enforcement. Current illegal disposal levels appear to exceed those which would result from optimal enforcement.[198]

Optimal efficiency occurs as enforcement officials prosecute their way down the pyramid of offenders, with the most egregious ones concentrated at the top and the less harmful ones spread out at the bottom. Initially, it is most cost effective for prosecutors to catch the worst polluters concentrated at the top. Gradually, as prosecutors in a jurisdiction work their way down the pyramid, they uncover cases involving pollutants that are less dangerous and/or offenders who generate lower volumes of hazardous waste. At the same time, the word circulates among potential violators that others have been punished, causing the rate of compliance to increase in the industry. As compliance rates increase, so do the costs of catching the remaining offenders.

According to Hammitt and Reuter's model of optimal enforcement, "at some level, the marginal cost of enforcement is almost sure to exceed the damage from illegal disposal."[199] Hammitt and Reuter's model, however, fails to account for some important factors. First, dramatic increases in legal disposal costs present powerful incentives to dispose of hazardous material in a criminal manner, and legal disposal costs can operate independently of the level

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[196] *Id.* at 32.

[197] *Id.* at 33.

[198] *Id.* at 32.

[199] *Id.* at 33.

of deterrence resulting from enforcement.[200] Secondly, their prosecution/compliance cost equilibrium disregards non-financial costs such as the possible social and economic effects of enforcement on communities within a jurisdiction. For example, in a "company town" if strict enforcement would most likely force the plant to close, the community would probably regard such enforcement as socially prohibitive, even if the pollution was severe.[201]

Other economic analysts have theorized that the current trend to criminalize environmental violations poses a real danger of overdeterrence.[202] Overdeterrence is more apt to occur when legal standards are vague or when strict liability is imposed. Then, overdeterrence leads to excessive efforts and expenditures by companies, which result in unnecessarily high costs for consumers.

Regardless of whether a given prosecution/compliance equilibrium is desirable as a public policy matter, one of two stable ratios of enforcement to compliance are likely to result from any enforcement strategy.[203] On the one hand, if over-all compliance in the industry is low, prosecutors will have to expend a substantial level of resources to maintain even that low compliance level. On the other hand, if the over-all level of compliance is high, prosecutors should be able to maintain that high level with the same expenditure of resources and effort.

Hammitt and Reuter theorize several causes for this dual pattern.[204] If compliance is high, offenses will be conspicuous and will tend to be unacceptable to those within an industrial culture. Those aware of violations will tend to report them and cooperate with law enforcement personnel, making prosecution relatively easy. Conversely, if the level of compliance in an industry is low in a jurisdiction, it is unlikely that violations will be reported since the activity does

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[200] REBOVICH, *supra* note 108, at 94.

[201] *See* Michael L. Benson et al., *District Attorneys and Corporate Crime:Surveying the Prosecutorial Gatekeepers*, 26 CRIMINOLOGY 505, 507-10 (1988) (survey of California District Attorneys revealing that prosecutors in small district are more constrained by the potential impact that corporate prosecution might have on the local economy than their counterparts in large districts).

[202] Cohen, *supra* note 84, at 1066.

[203] Hammitt & Reuter, *supra* note 103, at 34.

[204] *Id.* at 35.

not seem abnormal. As a result, the prosecutor must expend greater resources to effect compliance. These reporting trends are reinforced by competition among firms in industries.

Hammitt and Reuter believe that, due to the relative recency of environmental regulation, the current equilibrium is likely to be a low-compliance one.[205]

This pattern of high and low stable prosecution/compliance equilibria suggests that prosecutors could intensify prosecution for a certain period of time as a type of legal shock therapy to their industrial community to prompt it to a higher compliance level.[206] High-visibility enforcement which includes prison terms for officers of offending firms is likely to jolt the industry in a jurisdiction into a high-compliance equilibrium.[207]

As an academic or intellectual exercise this notion of a prosecution/compliance cost equilibrium is quite interesting. It, however, presupposes that there are enough regulators, investigators and prosecutors available in our local jurisdictions to achieve a high compliance level. Unfortunately, most local jurisdictions' environmental crime units are understaffed. Consequently, prosecutors rarely have the luxury of targeting types or levels of offenders. In fact they generally have all they can do to keep up with the flow of referred cases.

Assuming arguendo, that prosecutors were able to impose sanctions consistently on the "highest social cost violators" another very serious problem might arise. With the environmental crime unit's attention focused on this one "strata" of violator others might recognize the resulting void of enforcement in other areas. This could quite possibly yield increases in environmental crime among those violators who are not the focus of the "highest social cost violators" investigations.

According to classic deterrent theory, maximal deterrence for minimal cost occurs when sanctions are sufficiently severe to deter potential offenders despite a low probability of prosecution. In fact, most studies of environmental-regulatory enforcement[208] and of criminal

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[205] *Id.*

[206] *Id.*

[207] *Id.*

[208] *Id.*

behavior more generally[209] indicate that a firm will violate only if the expected illegal disposal cost savings exceed the expected severity and certainty of legal sanctions. However, bankruptcy protections and equitable limits on penalties can hinder full implementation of this deterrence theory, making high visibility prosecutions even more important.[210]

B. Practical Considerations for Deterrence

Hammitt and Reuter also point out that appropriate allocation of enforcement resources will vary depending on the number, size, and industry of hazardous waste generators.[211] Population distribution and the soil and water conditions in the jurisdiction are other factors. Compliance data gleaned from systematic regulatory inspections should be utilized to target certain types of firms. One way to determine whether enforcement rates are high enough in a jurisdiction is to systematically monitor sewers and storm drains to determine types of wastes, timing and approximate location of the pollutants.[212]

C. Private Enforcement

Another factor in determining optimal criminal deterrence is the degree to which private groups in the jurisdiction use courts to secure compliance with environmental laws. There are three ways that private groups can use the law to bring about a cleaner environment: (1) by suing polluters to recover monetary damages caused by pollution, (2) by suing public officials responsible for implementing environmental laws, and (3) by suing polluters to force them into compliance with laws.[213] Citizen suits are more frequently used now than in the past, but use varies a great deal by region and state. Pennsylvania and New York had the highest

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[209] *Id.* at 37.

[210] *Id.*

[211] *Id.* at 44.

[212] *Id.* at 45.

[213] TIETENBERG, *supra* note 90, at 110.

percentages of these suits, and the following states ranked in descending order: New Jersey, Connecticut, Indiana, Texas, Massachusetts, Michigan, Louisiana, and California.[214]

VII. Local versus National Enforcement

A. The Federal Enforcement Controversy

In the opinion of many state and local prosecutors, federal enforcement during the Reagan and Bush administrations has been inadequate at best, and obstructionist at worst. Between 1986 and 1990 the EPA referred only 318 cases to the Justice Department for prosecution resulting in convictions of 351 defendants.[215] Of the 240 allegations that the EPA's National Enforcement Investigations Center received between 1982 and 1984, it could investigate only 70 cases due to an inadequate budget.[216] While the number of investigations has increased in the past few years, it still does not meet the need.[217] Only after Congress criticized the enforcement efforts of the EPA and the Justice Department was federal criminal enforcement emphasized.[218]

More recently, the Department of Justice has come under fire for bungling environmental cases by making sweetheart plea agreements sometimes behind the backs of state and local prosecutors who were pursuing criminal sanctions.[219] A prime example is the PureGro case where the pesticide manufacturer's alleged illegal storage, transportation and disposal of hazardous waste resulted in a serious injury and the death of one local resident. In this case the Justice Department settled the case for a $15,000 fine even though the company had agreed to plead guilty to a felony. The number of cases where the Justice Department has done "end runs" around state and local prosecutors has prompted Representative John Dingell, Chair of

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[214] *Id.* at 120.

[215] United States Environmental Protection Agency, *Enforcement Four-Year Strategic Plan: Enhanced Environmental Enforcement for the 1990's*, September 1990, at 3.

[216] Hammitt & Reuter, *supra* note 103, at 23.

[217] HAMMETT & EPSTEIN, *supra* note 12, at 19.

[218] DeCicco & Bonnano, *supra* note 77, at 9.

[219] Linda Himelstein, *DOJ's Environmental Mess*, LEGAL TIMES, July 20, 1992, at 1.

the House Energy and Commerce Subcommittee on Oversight and Investigations, to complain to Attorney General Barr. According to Dingell, the Justice Department policy was "seriously undermin[ing] and disrupt[ing] the effectiveness of the EPA's enforcement program."[220]

B. The Role of the Local Prosecutor

Local prosecutors have a crucial role to play in enforcing environmental laws.[221] Since they are the most visible law enforcement officials at the local level, they are best positioned to mobilize public support for the detection of environmental crime and to orchestrate an effective response to it via coordination of local agencies. The local prosecutor is the one most capable of utilizing the often formidable combined experiences and expertise of city police, county sheriffs, fire department personnel, and state highway patrol officers.

Local police, in particular, are well placed to act as the "eyes and ears" of the community.[222] A methamphetamine laboratory "bust" illustrates how local police can be instrumental in environmental crime prosecution. Aware of the environmental aspects of the situation, local police can avoid health risks to themselves and later notify the local environmental regulatory agency to test the site for clean-up.

The EPA now considers local prosecution vital for punishing and deterring environmental crime. In its Enforcement Four-Year Strategic Plan for the 1990s, the EPA advocates greater local involvement for local district attorneys.[223] This position is a logical outgrowth of the EPA's recognition that criminal penalties as well as civil fines are required to deter environmental crime.

It is yet to be determined if the EPA will actively support the role of local prosecutors in their efforts to stem the increasing volume of environmental violations. EPA claims to be

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[220] *Id.* at 23.

[221] HAMMETT & EPSTEIN, *supra* note 12, at 21-22; *See also* Gunther, *supra* note 8.

[222] HAMMETT & EPSTEIN, *supra* note 12, at 22.

[223] United States Environmental Protection Agency, *supra* note 215, at 6.

supportive through its four regional associations. Realistically, however, these groups (Northeast Environmental Enforcement Project, Midwest Environmental Enforcement Association, Southeast Environmental Enforcement Network and Western States Hazardous Waste Project) concern themselves more with those Attorneys General offices active in environmental crime prosecution. Since local prosecutors have seized this crucial role in prosecuting environmental violations they are far more deserving of greater assistance from the EPA than the scant, token recognition they have received heretofore from these regional associations.

VIII. Local Environmental Enforcement Structures

A. Elements of a Successful Environmental Prosecution Unit

Hammett and Epstein identified several elements that local prosecutors reported were crucial for the establishment of a successful environmental crime prosecution unit. One vital factor is the active support of the unit by the District Attorney.[224] Another is the recruitment of good, experienced attorneys.[225] Recruiters should emphasize that selected prosecutors will defend the community from dangerous pollution while working on complex criminal and civil cases.[226]

The decision of where to place a unit and how to structure it is also very important. If there are heavy caseloads involving environmental crime, a specialized unit can be sustained and should be implemented. For example, since Alameda County has an active caseload of 200 environmental cases, it has established a unit specializing in environmental crime.[227] Other jurisdictions with lighter caseloads will designate environmental prosecution along with the prosecution of similar crimes. For example, in Cook County, the environmental unit is part of the Public Interest Bureau which also enforces paternity, child support, public utilities, mental

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[224] HAMMETT & EPSTEIN, *supra* note 12, at 28.

[225] *Id.* at 31.

[226] *Id.*

[227] *Id.* at 33.

health and nursing home regulatory cases.[228] Typically, more experienced attorneys are assigned to more complex cases. Finally, vertical prosecution is the rule in most environmental prosecutions. This entails having one prosecutor involved early in the case and working it closely throughout its development.[229]

B. Inter-agency Cooperation

1. The Importance of Inter-agency Cooperation

Communication among agencies is crucial to ensure efficient criminal enforcement. Rebovich found that coordination between regulators and prosecutors was necessary for prosecutors to exercise discretion effectively so as to concentrate their resources on winning the most important cases.[230] Nonetheless, the level of cooperation varies greatly by jurisdiction.[231]

There are several ways that agencies can assist prosecutors. Regulatory agencies can provide the data necessary for targeting most likely offenders. Similarly, police, fire, and sanitation department personnel can provide vital tips. For example, the Los Angeles County strike force established spotters at all county landfills to report the dumping of suspicious materials to the California Highway Patrol (CHP). CHP would intercept the drivers and question them.[232] Hammett and Epstein reported an instance where effective coordination actually caused the Shell Oil Corporation to agree to a stipulated settlement on the day it was filed.[233] They also believe that regulators can be very effective witnesses due to their extended, systematic inspections of a defendant's facility.

2. Divergent Civil/Criminal Enforcement Agency Cultures

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[228] *Id.*

[229] *Id.* at 34.

[230] REBOVICH, *supra* note 108, at 96-97.

[231] Hammitt & Reuter, *supra* note 103, at 26-27.

[232] *Id.* at 65.

[233] HAMMETT & EPSTEIN, *supra* note 12, at 37.

The difference between regulatory cultures and criminal enforcement cultures often makes it difficult for prosecutors to utilize regulatory expertise and investigative information to further successful criminal prosecutions. Regulators are often more interested in obtaining compliance than penalties and are more sensitive to business pressures. They tend to focus forward on compliance, rather than tracing chains of evidence backwards as criminal law enforcement personnel tend to do.[234] For example, in one California case, the D.A. wanted to bring criminal charges for improper storage and transport of sodium cyanide, while the state Occupational Safety and Health Association (OSHA) wanted to levy only administrative penalties.[235]

The two cultures frequently differ in their levels of scientific backgrounds.[236] Criminal enforcement agencies might feel daunted by the complex laboratory analyses required to distinguish legal and illegal pollution levels, whereas regulators often have more training in chemistry and other technical backgrounds. Unfortunately, after being trained by the government, these regulators are often hired away by industries which offer higher salaries.

3. Forms of Interagency Cooperation

In their study of local prosecution of environmental crime, Hammett and Epstein discovered three forms of cooperation among the relevant local agencies, such as police and fire departments, state police, health departments, state and municipal environmental protection departments, and water and sewer utilities.[237] The first model is based on a written agreement. The second model is a temporary task force, and the third is a permanent task force.

As an example of the first model, Alameda County has written agreements between various departments. These departments operate independently but meet regularly to coordinate environmental cases.[238] The "Guidance Document on Hazardous Materials Incident

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[234] Hammitt & Reuter, *supra* note 103, at 27–28.

[235] HAMMETT & EPSTEIN, *supra* note 12, at 37–38.

[236] *Id.* at 28.

[237] *Id.* at 35.

[238] *Id.*

Investigation" provides for an "Incident Commander" and "Lead Investigator." The document details procedures for the follow-up of investigations, filling out incident reports, quarantining materials, site access and sample and evidence collection.

A second example of the first model is the Minnesota Environmental Crimes Team.[239] This investigative team is a state-wide organization that can call upon the entire resources of the state to conduct an investigation. However, in practice, composition of the team varies from case to case. County attorneys have primary jurisdiction over felonies, but may request assistance from the Minnesota Attorney General's Office. A coordinating committee is comprised of representatives from county attorney offices and agencies, various state agencies, the FBI and U.S. Attorney's Office.[240]

The next model, the temporary task force, was adopted in Florida. There, various agencies met for initial training and coordination of efforts. After the project was launched, the meetings became less frequent until they occurred only as required.[241]

4. Task Forces

Many local prosecutors have adopted the task force model to combat environmental crime. For example, Los Angeles County established an Environmental Crimes Strike Force headed by the County Prosecutor and comprised of representatives permanently assigned from over twenty local and state agencies.[242] The most active participation comes from the L.A. Police Department, the California Highway Patrol and the County Department of Health Services.

The Cook County District Attorney participates on a variation of the L.A. task force approach.[243] The Cook County environmental prosecution unit is part of a more expansive task force, CHEMHIT, comprised of the Illinois Environmental Protection Agency, the

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[239] Alan R. Mitchell, *The Minnesota Environmental Crimes Team,* NAT'L ENVTL. ENFORCEMENT J., July 1991, at 3-8.

[240] *Id.* at 7-8.

[241] HAMMETT & EPSTEIN, *supra* note 12, at 36.

[242] *Id.* at 35; see also Paul Harris, *Toxic Waste SWAT teams: Enforcement's Front Lines,* ENV'T TODAY, May 1991, at 3.

[243] HAMMETT & EPSTEIN, *supra* note 12, at 36.

Metropolitan Water Reclamation District of Greater Chicago and the Illinois Attorney General's Office. This task force coordinates prosecutions for the greater Chicago metropolitan area and is directed by the head of the State's Attorney's environmental unit.[244]

C. The Role of Investigative and Regulatory Agencies and Laboratories

1. Investigative Agencies

Most prosecutors believe that it is better to have in-house investigators than to have to rely on external agencies.[245] Monmouth County, for example, has found that police and other agencies are sometimes reluctant to investigate non-traditional, environmental crimes.[246]

Many who are unfamiliar with environmental crime believe that environmental cases require special investigative expertise. Those involved in local prosecution, however, maintain that what is required is a firm grasp of investigative basics: witness interviewing, warrant preparation and execution, gathering and analyzing documents, collecting evidence and maintaining chain of custody of all evidence.[247] There is no greater need for the environmental investigator to have a chemistry background than there is for the homicide detective to have a medical degree. The environmental investigator, like the homicide detective, will rely on specialized laboratory analysis of samples or other evidence.[248]

2. Regulatory Agencies

Regulatory structures differ widely from state to state.[249] Typically, local environmental agencies are delegated authority by the U.S. EPA or by the state EPA to investigate local violations of federal or state environmental laws.[250] Usually, the state EPA has authority over the implementation of all environmental regulation.

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[244] *Id.*

[245] *Id.* at 38.

[246] *Id.*

[247] *Id.*

[248] *Id.*

[249] Hammitt & Reuter, *supra* note 103, at 26-27.

[250] HAMMETT & EPSTEIN, *supra* note 12, at 40.

In many jurisdictions, such as Alameda and Los Angeles Counties, the county health department is the regulatory agency with whom prosecutors work most closely.[251] The Alameda County Health Department forwards violation notices directly to the District Attorney. After three notices and continued noncompliance, the prosecutor initiates civil or criminal action.[252]

Prosecutors from Cook County receive case referrals via the Chicago area task force from the Illinois EPA Environmental Response Unit and the Metropolitan Water Reclamation District of Greater Chicago.[253] The Monmouth County Prosecutor is attempting to monitor regulatory compliance records and hazardous waste manifests to have a proactive investigative capacity.[254] Hammitt and Epstein report that all five D.A. offices studied believed that this proactive approach was needed.[255]

3. The Role of Laboratories

Most local laboratories lack the expertise to perform the analysis required for environmental criminal cases.[256] To provide for expertise that will be admissible in courts, many states have established special environmental labs. This function, however, is often assigned to health departments which tend to be unfamiliar with forensic principles such as chain of custody.[257] Other sources of forensic analysis are local police labs as well as the FBI and the EPA National Investigative Unit laboratories.[258]

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[251] *Id.* at 41.

[252] *Id.*

[253] *Id.* at 42.

[254] *Id.*

[255] *Id.*

[256] *Id.* at 47.

[257] *Id.*

[258] *Id.* at 48.

Local prosecutors have expressed dissatisfaction with several areas of environmental laboratory analysis. Laboratories sometimes lose samples or complete the lab work slowly.[259] In one Colorado case, the analysis was so slow that the statute of limitations ran before the evidence could be presented in court.[260] Furthermore, laboratory analysis may be very expensive. The laboratory analysis for one Cook County case was $138,000.[261]

IX. Current Environmental Enforcement Practices

A. Stages that Environmental Prosecutions Go Through

In a 1991 study of five local prosecutor's offices, Hammett and Epstein found eight stages that the typical criminal environmental case proceeds through.[262] The first five stages center around the collection and analysis of evidence. The first stage is the detection of potential offenses. The second involves the gathering of background evidence on the suspect or firm. In stage three there is a preliminary surveillance of the suspect in the hopes of discovering direct evidence of criminal activity. At the next stage, the prosecutor directs the collection of further evidence to establish probable cause for obtaining a search warrant. The evidence usually consists of water or soil samples, documents such as manifests, and statements from witnesses. Stage five involves laboratory analysis of the materials and researching the chain of custody of these substances.

Stages six through eight center around legal actions. The indictment or information is the central part of stage six. The prosecutor may decide at this point that the evidence does not support any further action or that civil action would be better. Only some local prosecutors are empowered to bring civil actions as well as criminal. In that case, the prosecutor might have to turn over the case to the State Attorney General for civil litigation. In stage seven, the case is adjudicated or settled pursuant to a plea bargain. The prosecutor might also be involved in the

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[259] *Id.*

[260] *Id.*

[261] *Id.*

[262] *Id.* at 23.

final stage of the environmental crime case, the monitoring of compliance or other probationary orders associated with the judgement or settlement.

B. Discovery of Possible Offenses

Rebovich's study revealed four main ways that prosecutors discovered possible offenses.[263] Approximately a third of the tips came from citizens who complained to regulatory or law enforcement officials.[264] Several of these citizens' complaints were from business competitors of the targeted firms. One investigator cautioned against indiscriminate use of anonymous tips since they are sometimes made by offending firms to distract investigators. The second most common source of discovery was from state regulatory field inspections or document reviews.[265] Regulators reported that reviewing records and manifests was a fruitful proactive investigative approach. Routine investigations by local law enforcement or regulatory personnel produced the next highest number of tips.[266] Finally, one sixth of the remaining tips were equally likely to come from employees as from former employees.[267] These insider tips have become even more valuable since offenders increasingly dump hazardous waste inside warehouses and other enclosures in order to avoid detection.

Employees were found to be vital postdiscovery information sources in 43 of 71 cases.[268] Twenty-six of these cases involved current employees whom regulators had observed acting illegally. These employees were granted immunity in exchange for cooperation in five instances.

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[263] REBOVICH, *supra* note 108, at 77-80.

[264] *Id.* at 77.

[265] *Id.* at 79.

[266] *Id.*

[267] *Id.* at 79-80.

[268] *Id.* at 80.

Monmouth County Prosecutor, John A. Kaye, reports several ways that local prosecutors can obtain environmental cases.[269] According to Kaye, the D.A. should visit state and regional federal EPA offices to persuade them to give tips on cases suited for local prosecution. The D.A. should also establish an emergency response team in order to have immediate access to local sites where hazardous substances have created an emergency. Furthermore, the D.A. should build liaisons with environmental groups within his or her jurisdiction and establish tip lines.[270]

C. Building the Case

1. The Local Prosecutor's Investigative Methods

Rebovich found that investigators and prosecutors used an array of surveillance and investigative methods.[271] Visual surveillance ranged from observing and following trucks to helicopter observation and the use of infrared photography. Undercover investigations, sting operations, document inspections, the tracing of drum markings, and chemical matching were other techniques that prosecutors relied on.

An FBI report outlined several other factors in successful investigations.[272] The report adds four methods to those mentioned above: (1) remote monitoring devices, (2) closed-circuit television or videotaping, (3) use of on-site informants, and (4) subpoenas issued by grand juries to elicit compelled testimony and other evidence.[273] The report also emphasizes the importance, during the search, of relying on the assistance of: (1) a technical team comprised of scientists and lawyers to help analyze evidence on site, (2) back-up security personnel, and (3) fire and medical personnel.[274] Finally, to facilitate the exchange of investigative techniques

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[269] John A. Kaye, *Criminal Enforcement of Environmental Laws*, C496 ALI-ABA 51 (1990).

[270] *Id.* at 55.

[271] REBOVICH, *supra* note 108, at 81.

[272] William Imfeld & Martin Wright, *Environmental Crimes: Investigative Basics*, FBI LAW ENFORCEMENT BULLETIN, (April 1991).

[273] *Id.* at 4-5.

[274] *Id.*

and other information related to the prosecution of environmental crime, the FBI has established the "Environmental Protection Forum."[275]

2. Environmental Experts

Even when the most sophisticated technology is used, it must be interpreted by an expert witness to prove beyond a reasonable doubt that the chemical concentration or constitution of the substance makes it illegal. The role of environmental experts can be crucial in analyzing technical evidence and in presenting a favorable interpretation of evidence to juries.[276] The following are generally considered experts suitable for environmental testimony in the courtroom: (1) geologists, (2) physicists, (3) environmental engineers, (4) chemists, (5) forensic pathologists, and (6) medical doctors.[277] Their testimony should be prepared in anticipation of cross-examination to include the following: (1) background and training, (2) present knowledge and experience in the area, (3) possible biases, (4) any books or journals written, and (5) overall credibility.[278]

3. The Decision to Charge Criminally

The only study of the factors actually taken into account by local prosecutors is a mail survey of California environmental prosecutors.[279] The following were factors reportedly considered in deciding to charge criminally: (1) sufficiency of the evidence, (2) the gravity of the violation, (3) the type of waste, (4) the structural relationship of the business entity to the illegal activity (5) covertness (6) probable effect of prosecution on industrial compliance, and (7) available prosecutorial resources. The following are other possible factors that local prosecutors could take into account in the decision to charge criminally: (1) the complexity of the

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[275] Michael O'Brien, *The Environmental Protection Forum*, FBI LAW ENFORCEMENT BULLETIN, 9-13 (April 1991).

[276] *See generally*, Grover C. Wrenn, *Criminal Enforcement of Environmental Laws: The Role of Environmental Consultants in Criminal Environmental Enforcement Matters*, C496 ALI-ABA 159 (1990).

[277] Michael M. Mustokoff, *Hazardous Waste Violations: A Guide to Their Detection, Investigation, and Prosecution*, at 71 (1981) (U.S. Department of Justice's manual instructing how to prosecute hazardous waste crimes).

[278] *Id.* at 68.

[279] Gunther, *supra* note 8, at 818.

case, (2) the potential degree of harm involved, (3) the proximity of the pollutant to people, (4) the probability of detecting the violation, (5) the economic benefit received as a result of the wrongdoing, (6) the individual's or firm's history of non-compliance or recidivism.

The following federal charging factors have also been reported.[280] Currently, the Department of Justice considers the following factors in deciding to charge criminally: (1) deterrent effect, (2) the willfulness of the act, (3) evidence of attempts to conceal violations, (4) the likelihood of conviction, and (5) whether or not there was economic benefit as a result of the acts.[281] Similarly, the EPA considers three factors in its decisions to charge criminally: (1) the level of contamination, (2) the degree of harm to the EPA's regulatory scheme, and (3) the firm's history of non-compliance.[282]

D. Examples of Local Prosecutions

1. Three Local Cases

Hammett and Epstein reported that a big environmental case often was an important milestone which induced the D.A. to intensify environmental prosecution.[283] They gave three examples of this phenomenon.

People v. Film Recovery Systems, Inc., represented the first verdict of corporate homicide in history.[284] Jay Magnuson, the Assistant State's Attorney who prosecuted the case compared the danger of cyanide poisoning in the company's "gas chamber" used for film processing to recklessly firing a weapon into a crowd.[285] Although a retrial was ordered, this homicide conviction for corporate recklessness represents a striking precedent.

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[280] Seymour, *Civil and Criminal Liability of Corporate Officers Under Environmental Laws*, 4 TOXICS L. REP. (BNA) 337 (1989); *see also* Martin J. Littlefield, *Environmental Crimes: A Prosecutor's Perspective*, NAT'L ENVTL. ENFORCEMENT J., 1991, at 5 (discussing the prosecutor's methods and means of charging and prosecuting environmental crime).

[281] Seymour, *supra* note 280, at 343.

[282] *Id.*

[283] HAMMETT & EPSTEIN, *supra* note 12, at 30.

[284] People v. Film Recovery Systems, Inc., 84 C. 5064, 84 C. 11091 (Cook Cnty. Cir. 1985).

[285] HAMMETT & EPSTEIN, *supra* note 12, at 30.

Similarly, *Colorado Chemical* prompted the Jefferson County and Gilpin County D.A.'s office to institute improvements in its environmental prosecution program. From that case, a specialized case management approach for complex cases was developed.[286] It was the first Colorado felony conviction for an environmental crime.

Finally, in Monmouth County, New Jersey, the *International Flavors and Fragrances* case helped to heighten public awareness of the importance of criminal prosecution of environmental offenses.[287] After environmental groups reported that fish in the nearby stream smelled and tasted like blueberries and oranges, the Monmouth County Prosecutor executed a search warrant, seized documents and took soil samples. After three years, the case was settled for the cost of cleanup and a $75,000.00 fine.

2. A Sting Operation

In May of 1992, Suffolk County District Attorney, James Catterson, set up an elaborate sting known as "toxic avenger," which is widely believed to be among the first of its kind.[288] It took four detectives five months to set up the transaction to transport or dispose of hazardous waste illegally. The six men did not realize that when detectives picked up 58 drums of hazardous waste in exchange for $2,265 from the four companies, the transactions were being videotaped. Investigators made sure that the businessmen knew that they were operating without the required waste-disposal permits, telling the men that the barrels of hazardous waste would go "on a long trip."[289]

Catterson eventually snared six individuals representing four small companies who were involved in the plating industry, silicon transistor manufacturing and gasoline sales. As a result of the elaborate operation, which was one of the first of its kind, Catterson secured indictments for the six men for violating New York environmental laws by illegally attempting to dispose of lethal chemicals, including cyanide and acetone. The poisonous substances probably otherwise

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[286] *Id.*

[287] *Id.*

[288] Barbanel, *supra* note 132, at 1.

[289] *Id.*

would have been abandoned on county highways or vacant lots to seep into the water table, the sole source of drinking water on Long Island.

E. Local Prosecution Obstacles

Even when employing the best investigative techniques, prosecutors face significant obstacles to successful prosecution. Prosecutors were forced to contend with greater defense resources in the use of expensive visual aids and experts to present scientific evidence of regulatory violations.[290] In fact, local prosecutors report that their lack of resources sometimes curtails their level of prosecution.[291] Perhaps most dismaying, prosecutors also find that many of their own former colleagues have turned to defending corporations and so are adroit in frustrating successful prosecutions.[292]

Other problems compound this disparity in resources. One additional difficulty is the inconsistency between state and municipal regulations and the granting of municipal exemptions to criminally targeted TSD facilities. One judge dismissed charges on the grounds that there had not been sufficient notification of changes in the regulations.[293] Prosecutors also confront the lack of interstate coordination and regulatory oversight of the manifest system.[294] Further, many District Attorneys must contend with federal prosecutors who sometimes cut deals while they seek to prosecute cases for local harms.[295]

Environmental cases also pose inherent difficulties for the prosecutor. While illegally disposed hazardous waste can seriously threaten the lives of many individuals via the ground water, air pollution, fires, explosions, the food chain, or direct human contact, these health

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[290] *Id.* at 85–86; *see also* Benson et al., *supra* note 201, at 510–19 (mail survey of California district attorneys revealing that the substantial disparity between the legal resources of corporations and local prosecutors presents a formidable obstacle to the prosecution of corporate crime).

[291] Gunther, *supra* note 8, at 826.

[292] HAMMETT & EPSTEIN, *supra* note 12, at 3.

[293] REBOVICH, *supra* note 108, at 88.

[294] *Id.* at 89.

[295] Himelstein, *supra* note 219, at 1.

hazards are latent, and usually not apparent at the time of prosecution.[296] The ensuing harms --whether explosions, birth defects, cancer or other injuries-- will occur later, making proof of actual harm and causation very difficult.

Further, juries and judges are often reluctant to convict individuals of environmental crimes. For many jurors, the crimes appear to be too technically obscure to warrant criminal sanctions. Jurors also tend to sympathize with business executives who are major employers in the community.[297]

Hammitt and Epstein cataloged seven serious obstacles that local prosecutors reported to them: (1) pressures from business leaders not to prosecute, (2) technical problems in establishing the dangerousness of disposed wastes, (3) limited resources with which to compete against corporate defense attorneys, (4) inconsistent standards regarding sewer discharge, (5) deficiencies in the manifest tracking system, (6) the failure of environmental regulators to collect evidence useful for criminal prosecutions, and (7) public pressure to bring hasty conclusions to criminal cases.[298]

Finally, the local prosecutor must contend with defendants whose operations extend into other jurisdictions outside his own. To prosecute this type of defendant successfully, cooperation with other prosecutors is important. Attempting to solve this problem, the EPA established four regional environmental enforcement groups to facilitate communication and cooperation. The National District Attorney's Association also established the National Environmental Crime Center to provide communication training and other forms of technical support for local prosecutors.

F. Trends

According to Rebovich, successful prosecution in the future will require a progressive response to developments in environmental law and the criminal responses to them. Law enforcement must keep abreast of the hazardous waste disposal/treatment industry to predict

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[296] Donald E. Mielke, "Remarks of Donald E. Mielke to the Subcommittee on Toxic Substances, Environmental Oversight, Research and Development of the Committee on Environmental and Public Works of the United States Senate," at 2 (November 15, 1989).

[297] HAMMETT & EPSTEIN, *supra* note 12, at 10; *see also* Kaye, *supra* note 269, at 55.

[298] HAMMETT & EPSTEIN, *supra* note 12, at 9-10.

future crime areas and forestall their development. For instance, by monitoring economic trends affecting the industry, the prosecutor might be able to prevent financially faltering facilities from committing crimes.[299] Similarly, keeping statistics on the commission of these crimes and perceiving trends will allow law enforcement officials to stay a step ahead of offenders.

X. Legal Issues Related to Local Enforcement

A. Search and Seizure

1. General Constitutional Issues

In many environmental cases, evidence may be obtained without search warrants by consensual inspections, subpoena, statutorily mandated inspections, or by inspections conducted from outside the premises.[300] Although it is possible for prosecutors to obtain subpoenas from a grand jury, a search warrant is easier to obtain and, therefore, usually preferred.[301] Examples of statutory inspections would be routine inspections for fire, sanitary, or building code violations.[302] Evidence obtained in the normal course of these inspections would be admissible to establish an environmental crime. Further, visual inspections conducted from outside the property pass muster under the Fourth Amendment only when there is not a reasonable expectation of privacy. Consequently, evidence obtained by photographing areas open to public view is admissible. Some states have even allowed evidence obtained by trespassing onto the property which is in public view.[303] Finally, sufficient evidence may be available off the property where the targeted facility is located.

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[299] REBOVICH, *supra* note 108, at 115.

[300] HAMMETT & EPSTEIN, *supra* note 12, at 63.

[301] *See* Littlefield, *supra* note 280, at 10–11.

[302] HAMMETT & EPSTEIN, *supra* note 12, at 63.

[303] *Id.* at 63.

In most cases, however, it is necessary to search a facility and to take samples, documents or other evidence. Then, it is crucial that prosecutors comply with constitutional search and seizure provisions in order to obtain evidence that will be admissible in court.

Search warrants are issued only when probable cause is shown by a supporting affidavit. The affidavit must name and describe, with reasonable specificity, the person or place and location to be searched. The U.S. Supreme Court held in *Zucker v. Stanford* that "probable cause" exists when the facts are sufficient to establish a reasonable and prudent belief that evidence related to criminal activity will be discovered on the property when searched.[304] The prosecutor must show that there is probable and reasonable cause to believe that the property is (1) stolen or embezzled, (2) a means of committing a felony, (3) property in the possession of a person who intended it as a means for committing a public offense, or (4) evidence that tends to establish that a felony has been committed.[305]

2. "Object of Search" in Civil vs. Criminal Inspections

The U.S. Supreme Court drew a distinction between administrative inspection warrants and search warrants in *Camera v. Municipal Court*.[306] While an administrative inspection warrant may be granted by showing less than criminal probable cause, the ensuing search is more circumscribed in scope than that available through a search warrant. A search warrant authorizes the search and seizure of items anywhere on the suspect's property where there is probable cause to believe the evidence named in the warrant is located.[307]

The U.S. Supreme Court clarified the showing required for administrative inspections in *Marshall v. Barlow's, Inc.*.[308] The Court established a two-pronged test for administrative probable cause: first, whether there is specific evidence of a violation, and secondly, whether

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[304] Zucker v. Stanford, 436 U.S. 547 (1978).

[305] *Id.*

[306] Camera v. Municipal Court, 387 U.S. 523 (1966).

[307] HAMMETT & EPSTEIN, *supra* note 12, at 67.

[308] Marshall v. Barlow's, Inc., 436 U.S. 307 (1978).

the evidence was gained based on a neutral inspection scheme.[309] It is unclear exactly what quantum of evidence will satisfy the first prong of the test.[310]

Further, when the industry is so pervasively regulated that frequent, unannounced inspections and reduced privacy expectations justify warrantless inspections, these need not be based on a neutral inspection scheme but can be based on specific evidence of a violation.[311] When evidence is gained through the pervasively regulated industry exception, however, the courts must decide whether to apply criminal or administrative probable cause standards.[312] One commentator has suggested that criminal probable cause should be limited to instances where the inspected facility is a target of a criminal investigation.[313]

B. Criminal vs. Civil Enforcement

1. The Need for Criminal Sanctions

Until recently, federal enforcement of environmental laws was based mostly on administrative procedures and civil actions such as injunctions. This would appear to be the most effective method of enforcement. The burden of proof is usually established by a preponderance of the evidence, rather than the beyond a reasonable doubt standard. Also, injunctions can be obtained quickly so that pollution could be halted more readily. These benefits, however, are illusory. The injunctions often are only temporary, and civil trials can be delayed for several years by companies with considerable resources. Further, any penalty awards may simply be absorbed as business costs passed on to the consumer without the company or any of its officers being hurt in a significant way.[314] For these reasons, most

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[309] Donna Mussio, *Drawing the Line Between Administrative and Criminal Searches: Defining the "Object of the Search" in Environmental Inspections*, 18 B.C. ENVTL. AFF. L. REV. 185, 187 (1990).

[310] *Id.*

[311] *Id.* at 188.

[312] *Id.*

[313] *Id.* at 191.

[314] HAMMETT & EPSTEIN, *supra* note 12, at 16.

environmental regulators now believe that criminal sanctions are essential to bring about compliance with environmental regulations.[315]

2. The Decision to Charge Criminally or Civilly

Many prosecutors have the authority to pursue either criminal or civil action, or both simultaneously. The U.S. Supreme Court's ruling in *United States v. Halpern*[316] places a limit on prosecutorial discretion in this area. According to that ruling, the double jeopardy doctrine barred a civil suit after an offense had already been prosecuted criminally. Parallel prosecutions, however, are permissible.

Local prosecutors reported several factors that influenced their decisions to bring criminal or civil actions.[317] According to Gunther, since most local prosecutors surveyed preferred criminal prosecution, the decision to charge in a civil suit usually turned on practical considerations.[318] For example, if evidence is not strong, the lighter burden of proof for civil action is more likely to be met than the criminal standard of beyond a reasonable doubt. Sometimes the speed of bringing actions is the determining factor. Other times the need to effectuate site remediation is more important than traditional criminal sanctions.

Local prosecutors use varying decision-making rules to decide whether to bring civil or criminal action. Cook County will pursue criminal sanctions only if the defendant is unwilling to cooperate to rectify the pollution.[319] Alameda County, on the other hand, prepares all cases for criminal prosecutions, usually pursuing civil actions when evidence is too weak to meet criminal burdens of proof.[320] Similarly, the Los Angeles D.A. has ordered his prosecutors to turn down all civil settlement offers from defense attorneys.[321]

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[315] *Id.*

[316] United States v. Halpern, U.S. (19).

[317] Gunther, *supra* note 8, at 819-20.

[318] *Id.* at 819.

[319] HAMMETT & EPSTEIN, *supra* note 12, at 56.

[320] *Id.*

[321] *Id.*

3. Constitutional Limits on Using Civil Proceedings and Remedies

The Constitution, common law and statutory law draw a fundamental distinction between civil and criminal proceedings by using different rules of procedure, burdens of proof, discovery rules, investigatory practices and types of punishment.[322] Nonetheless, environmental crime prosecutors often have concurrent civil and criminal jurisdiction over regulatory offenses and so are faced with a blurred line between the civil and criminal realms of law. This is part of an overall trend in which the government punishes antisocial behavior with civil remedies.[323]

While it is unclear how the civil/criminal line should be drawn, there certainly are instances in which the use of civil remedies and proceedings for antisocial behavior is unconstitutional.[324] The drafters of the constitution did not intend that the lighter burden of proof, lack of jury trial, absence of right to appointed counsel, and less stringent discovery rules associated with civil proceedings should be grafted to criminal culpability and criminal penalties.

Concurrent civil and criminal actions can raise these constitutional issues. For example, if a defendant is forced to admit ownership of contaminated realty in order to resist forfeiture in a civil proceeding, he may thereby waive his constitutional right against self-incrimination in a concurrent criminal environmental action.[325] To prevent the government from obtaining civil discovery for use in criminal proceedings courts frequently issue protective orders.[326]

C. State Mens Rea Requirements

State environmental laws will specify one of three possible mens rea requirements: knowingly, recklessly or negligently. Mens rea requirements vary by state and by the categories of pollutants proscribed.

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[322] Mary M. Cheh, *Constitutional Limits on Using Civil Remedies to Achieve Criminal Law Objectives: Understanding and Transcending the Criminal-Civil Law Distinction*, 42 HASTINGS L.J. 1325 (1991).

[323] *Id.*

[324] *Id.* at 1449.

[325] *Id.*

[326] Daniel Riesel, *The Impact of Environmental Criminal Prosecution Upon Civil Litigation*, C427 ALI-ABA 877, 890 (1989).

The *Colorado Chemical* case illustrates some of the local prosecutor's difficulties in proving a "knowledge" mens rea element of an environmental crime. Because the adjacent Coors plant was being accused by some of polluting, the Coors company conducted a study which showed that Colorado Chemical was the polluter, rather than itself.[327] The D.A. introduced the report as evidence that Colorado Chemical knowingly violated environmental laws by continuing its impermissible practices after it had received the report from Coors.[328] Colorado, along with many other states, adopts the Model Penal Code approach that knowledge is established when it is shown that the defendant's conduct was practically certain to cause the result proscribed by the substantive offense.

While many prosecutors view a knowledge mens rea requirement as too rigorous a standard, not surprisingly, some defense attorney's view it as too easy.[329] Some believe that the "willful blindness" doctrine unfairly allows a defendant to be convicted of an environmental crime when the prosecutor shows that the defendant deliberately shut his eyes to the offense in order not to know. Similarly, prosecutors can establish corporate guilt through the "collective knowledge" doctrine. Relying on this doctrine, the prosecutor can achieve a conviction by establishing aggregate or collective knowledge by a group of employees, rather than actual knowledge by one individual.[330]

Many states stipulate recklessness as the mens rea requirement for environmental crimes, while a few have a negligence standard. At the request of the Ohio Attorney General, the Ohio General Assembly reduced the mens rea standard from "knowingly" to "recklessly" in

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[327] HAMMETT & EPSTEIN, *supra* note 12, at 65.

[328] *Id.*

[329] Ty Cobb, *Criminal Enforcement of Environmental Statutes: Strict Criminal Liability for Reporting Violations?*, 36-37.

[330] HAMMETT & EPSTEIN, *supra* note 12, at 67.

Ohio in 1984.[331] Also in 1984, California lowered its knowledge mens rea requirement to negligence.[332]

D. The Use of Secondary Environmental Statutes

1. Forfeiture Statutes

Since fines are typically too low to provide either specific or general deterrence, many local prosecutors have begun to use forfeiture laws to bring about a more punitive economic loss for the offending firm. An environmental case in Jefferson and Gilpin Counties provides an illustration of how the local prosecutor can use a forfeiture statute.[333] There, the prosecutor was authorized to seize the truck used to dump pesticides into a stream after showing video tape which proved that the pesticide had been stored in the truck. Thus, because the vehicle had been the instrumentality of a crime, the defendant suffered the loss of his truck as well as a $10,000 misdemeanor fine.[334]

2. Cost Recovery Laws

Cost recovery statutes are under-utilized by many local prosecutors because they frequently fail to recognize that the laws impose strict liability for clean-up on companies both individually and severally.[335] The Monmouth County Prosecutor reported that he routinely utilized New Jersey cost recovery laws.[336] By making payment of cleanup costs a condition of probation, the Monmouth County Prosecutor is able to supervise remediation of the site.[337]

3. Consumer Protection and Unfair Competition Laws

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[331] *Id.* at 66; *see also* Celebrezze et al., *supra* note 13. (analyzing Ohio's change in mens rea standard from knowledge to recklessness).

[332] HAMMETT & EPSTEIN, *supra* note 12, at 66.

[333] *Id.* at 79.

[334] *Id.*

[335] *Id.* at 81.

[336] *Id.*

[337] *Id.*

Of the local prosecutors that Hammett and Epstein studied, only Alameda County relied on consumer protection laws.[338] California has two laws that Alameda County prosecutors can rely on. Prosecutors have used the first, an "unfair competition" law, to prosecute individuals or companies that repeatedly violate environmental laws.[339] The second law aims to protect consumers and the public generally from carcinogens. Alameda prosecutors, however, dislike this "consumer protection" law because it creates the impression that the office is soft on environmental crime when it does not have enough evidence to charge under this law.[340] The reason for this is that the law authorizes private environmental groups to pursue civil actions only after the D.A. has decided not to prosecute.

4. RICO as an Environmental Crime Weapon

Although local prosecutors have not reported using federal or state Racketeer Influenced and Corrupt Organizations Acts (RICO) to pursue environmental crime,[341] federal prosecutors have used the federal RICO act to prosecute environmental offenders.[342] Although environmental crime does not count as one of the predicate acts required for prosecution under the federal RICO act, prosecutors and civil litigants have used mail and fraud statutes to serve as the requisite predicate acts.[343] For example, a federal judge for the Southern District of New York held that Congress, by excluding environmental offenses from the list of predicate acts, had not intended to preclude the use of RICO for environmental crime prosecution.[344]

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[338] *Id.*

[339] *Id.*

[340] *Id.*

[341] *Id.* at 80.

[342] *See generally* Elizabeth E. Mack, *Another Weapon: The RICO Statute and the Prosecution of Environmental Offenses* 45 SW. L.J. 1145, 1249 (1991) (analyzing the federal RICO act and its application in specific cases brought civilly or criminally); Alfred L. Buchanan, *Evolving RICO Issues for the Environmental/Natural Resources Practitioner*, 6 J. MIN. L. & POL'Y 185 (1991) (tracking increased use of RICO for civil litigation and criminal prosecution).

[343] *See, e.g.*, United States v. Paccione, 738 F. Supp. 691, 699 (S.D.N.Y. 1990); Standard Equipment, Inc. v. Boeing Co., 23 Env't Rep. Cas. (BNA) 2112 (W.D. Wash. 1985).

[344] *Paccione*, 738 F. Supp. at 699.

Similarly, the court rejected the defendant's argument that RCRA preempted the use of RICO.[345]

Despite its complications, RICO offers considerable practical advantages to the prosecutor. The disadvantage of a RICO prosecution is that it requires the prosecutor to prove an "offense within an offense" by proving that two or more criminal acts occurred.[346] This disadvantage can be offset by the enhanced punishment value under RICO. Not only does the offender risk being labeled a "racketeer," but he risks treble damages which are almost certain to be higher than what he faces under environmental statutes.[347]

5. Traditional Criminal Laws as Environmental Crime Weapons

The local prosecutor has several traditional criminal statutes to use against environmental crime. As *Film Recovery* illustrates, corporate defendants can be charged with negligent homicide, manslaughter or murder for egregious violations of environmental regulations in the workplace that result in the death of a worker. Even if there is no death that results, prosecutors can charge defendants with reckless endangerment, as they did in Cook County.[348] In some instances, prosecutors might be able to prove assault charges.

Other possible traditional criminal charges are theft by deception, false documentation, conspiracy, complicity, and solicitation. Monmouth County prosecutors use false documentation charges when environmental charges cannot be proven.[349] They also reported that they occasionally use conspiracy and theft-by-deception statutes. The latter law is typically used when waste haulers charge generators for legal disposal, but subsequently dump the waste illegally.[350]

6. State and Federal Occupational Safety and Health Laws

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[345] *Id.*

[346] Mack, *supra* note 342, at 1241.

[347] *Id.* at 1240-1241.

[348] HAMMETT & EPSTEIN, *supra* note 12, at 80.

[349] *Id.*

[350] *Id.*

Congress passed the Occupational Safety and Health Act[351] and created the Occupational Safety and Health Agency in 1970. The basic structure of the act is regulatory, and its penalties are civil.[352] For willful violations, only misdemeanor penalties are available.[353] The key issue for the local prosecutor is whether or not the act preempts criminal prosecution for gross violations resulting in serious injury or death. Although the law is by no means settled concerning this question, the following rule seems to have gained some acceptance: where the breach of an OSHA standard is not the only evidence against the defendant, but rather is one link in a chain of other evidence proving a reckless disregard of a threatening situation, then local criminal prosecution is not preempted.[354]

In an environmental criminal prosecution of a workplace incident, RCRA's "knowing endangerment" provision is likely to be the basis of the criminal charge against the employer.[355] Clearly, Congress intended the use of the "knowing endangerment" provision of RCRA for criminal prosecution of workplace incidents.[356] Otherwise, it would have expressly exempted endangerment of all workers from the scope of RCRA's "knowing endangerment" provision.

E. Corporate Tactics and Defenses

1. Defense Tactics and Pitfalls

One experienced defense attorney discussed several tactics he used to defend corporations targeted or prosecuted for environmental offenses.[357] He attempted to thwart both civil discovery and criminal investigation concerning prior regulatory offenses by claiming

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[351] 29 U.S.C. § 652 (1988 & Supp. 1990).

[352] Clive I. Morrick, *The Prosecutor in the Workplace: Killing two Birds with One Stone*, C452 ALI-ABA 151, 154 (1989) (member of N.Y. State Environmental Crimes Unit discussing historical development of OSHA law and criminal prosecution for workplace injuries and deaths).

[353] *Id.*

[354] *Id.* at 156.

[355] *Id.* at 157.

[356] *Id.* at 158.

[357] Riesel, *supra* note 326.

that attorney–client privilege and the related work product doctrine precluded the surrender of information surrounding prior regulatory non–compliance. However, the law generally construes these doctrines too narrowly for these defenses to be ultimately successful.[358]

Furthermore, prosecutors have been successful in securing the disqualification of defense counsel in certain instances. For example, prosecutors have been able to show a conflict of interest when defense counsel represented targeted employees and non–targeted employees simultaneously.[359] Similarly, prosecutors have successfully argued that a company's practice of paying for the defense of its employees represents a conflict of interest under the theory that counsel will represent the company's interests over the targeted employee.[360]

2. Corporations as Defendants

The common law doctrine that corporations were ephemeral entities that could not be held liable for wrongdoing was abolished long ago.[361] The decision to charge a corporation is most appropriate when the statute in question requires no criminal intent but rather specifies recklessness, negligence or strict liability. Nonetheless, corporations now may incur criminal liability even for knowing violations of environmental laws.[362]

The Model Penal Code's corporate provision holds corporations criminally liable for omissions where there is a specific duty to act and for the conduct of agents working on its behalf.[363] To convict a corporation of environmental crime, the prosecutor must prove: (1) that an individual violated an environmental law, (2) while acting as an agent for the corporation, and (3) while intending the violation to benefit the corporation.

Two of the possible defenses that corporations can put forward are a "due diligence" defense and a "corporate veil" defense. Agency is established when the corporate manager

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[358] *Id.* at 888.

[359] *Id.* at 889.

[360] *Id.* at 890.

[361] New York Cent. & Hudson River R.R v. United States, 212 U.S. 481 (1909) (holding that corporations had criminal liability).

[362] *See, e.g.*, United States v. Hayes Int'l Corp., 786 F.2d 1499, 1504 (11th Cir. 1986).

[363] *See* MODEL PENAL CODE § 2.07.

having supervisory responsibility over the subject matter of the offense fails to exercise due diligence to prevent its commission.[364] When a corporation merges with another or is a subsidiary of another, the corporate veil of the first corporation which committed an environmental crime must be pierced before the larger corporation can be held liable for it. Prosecutors are increasingly successful in their attempts to pierce corporate veils in environmental crime cases.[365]

3. Responsible Corporate Officer Doctrine

Environmental statutes are hybrid public welfare statutes.[366] The law has recently developed more stringent, vicarious liability for corporate officers who violate public welfare laws than what they had under traditional corporate liability principles. Thus, corporations are likely to face greater liability for environmental offenses under recent precedents establishing corporate officer liability for violations of public welfare laws.

Traditionally, corporate officers were not liable under the doctrine of *respondeat superior* even when the organization could be liable.[367] To be liable, the officers must have either personally directed or performed the criminal activity.[368]

Public welfare statutes, however, extend liability to corporate officers who, even if unaware of the violation, are considered vicariously responsible due to their high degree of authority and responsibility over that class of behavior.[369] In *United States v. Dotterweich* the Supreme Court limited liability to those employees who have a "responsible share in the

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[364] *Id.* at § 2.07(5).

[365] *See, e.g.*, Mobay Corp. v. Allied-Signal Inc., 761 F. Supp. 345 (D.N.J. 1991); United States v. Kayser-Roth Corp., 910 F.2d 24 (1st Cir. 1990); City of New York v. Exxon Corp., 20 Chem. Waste Lit. Rep. 62 (S.D.N.Y. March 30, 1990).

[366] James E. Calve, *Environmental Crimes: Upping the Ante for Noncompliance with Environmental Laws*, 133 MIL. L. REV. 279, 287 (1991).

[367] *Id.*

[368] *Id.*

[369] *Id.*

furtherance of the transaction which the statute outlaws."[370] The Court elaborated that "responsible share" was present when the employee had the responsibility and authority to prevent violations of public welfare statutes.[371] Although *United States v. Park* did not involve a hybrid public welfare statute such as an environmental law, its holding probably extends to environmental crime prosecution.[372]

F. Second Party Liability for Contaminated Realty

Environmental laws have increased the liability of those associated with contaminated realty to include "second parties." These "second parties" fall into three classes: (1) investors, fiduciaries and employees of potentially liable parties, (2) successors–in–interest after property is contaminated, and (3) professionals who render services during real estate transactions or during hazardous waste site clean–up.[373] Both federal and state legislation and case law increasingly hold these second parties liable for environmental offenses.[374] The following factors can determine the second party's liability: (1) the second party's ability to obtain accurate information, (2) the scope of its duties to employers or clients, (3) its ability to control environmental policy concerning the property, (4) its size and financial condition, and (5) the extent of its contractually allocated risk.[375]

Perhaps of most interest currently to the local prosecutor is the development of second party liability for those successors–in–interest who take title as a result of bankruptcy or foreclosure. For example, the Supreme Court held in *United States v. Mirabile* that when an officer of a lending institution becomes involved in managing a facility, the lender incurs liability

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[370] United States v. Dotterweich, 320 U.S. 277 (1943).

[371] United States v. Park, 421 U.S. 658, 660 (1975).

[372] Calve, *supra* note 366, at 288.

[373] J. Bruce Ehrenhaft, *Caught in the Web – As Hazardous Waste Liability Expands, "Second Parties" Face Liability in Association with Contaminated Realty*, FLA. B.J., April 1989, at 21.

[374] *Id.* at 22.

[375] *Id.* at 28.

for clean-up costs.[376] Thus, if officers of banks, loan companies, pension funds, and real estate trusts exercise significant control over the property, these institutions become liable. Similarly, in *United States v. Maryland Bank & Trust Co.*, the bank was held liable after it foreclosed and took title to the property.[377]

G. Federal Pre-emption and Federal Facilities

The local prosecutor may confront pollution on or from a federal facility within its jurisdiction. Recently, the Supreme Court effectively precluded the local prosecutor from taking any criminal action against the facility by holding that the federal government has a valid sovereign immunity defense against any punitive actions by state or county prosecutors or regulators.[378] The Court interpreted RCRA's and CWA's federal facilities sections as authorizing injunctive relief and sanctions to enforce future compliance, but not to authorize punitive sanctions for past violations.[379]

XI. Conclusion

District attorneys have an essential role in an emerging federal scheme of environmental crime enforcement as a result of their unique accountability to their constituency for local pollution. State and local environmental laws tend to parallel federal environmental statutes, which allow more stringent, concurrent regulation at the local level. Also, with the public calling for stricter pollution control, federal and local law enforcement officials are prosecuting more criminal cases each year. While this emphasis on criminal enforcement is relatively new, it can be seen as a development of common law nuisance and negligence doctrines that originated in preindustrial English and American societies. Unfortunately, to meet the public's demand for a cleaner environment today, more cooperation between local and federal prosecutors is needed to achieve optimal deterrence of environmental crime.

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[376] United States v. Mirabile, 15 Envtl. L. Rep. (Envtl. L. Inst.) 20,992 (E.D. Pa. Sept. 4, 1985).

[377] United States v. Maryland Bank & Trust Co., 632 F. Supp. 573 (D. Md. 1986).

[378] United States Dept. of Energy v. Ohio, 112 S. Ct. 1627 (1992).

[379] *Id.*

Actually, the public often has conflicting feelings about the enforcement of environmental laws. At a global and even a national level, pollution can seem to be an unsolvable problem. At a local level, however, problems seem more manageable. Thus, the local prosecutor may have the strongest public mandate and motive to prosecute environmental offenders. However, when jobs are seriously threatened, this mandate often vanishes. The public's sometimes conflicting desires to have a strong economy and a cleaner environment play out at the national level as well.

As the picture of environmental crime becomes clearer, perhaps many of these counterproductive political conflicts will recede and a more cooperative and effective federal scheme will emerge. Current research reveals only part of the picture. Ongoing study is required to track changes in local and national enforcement and their interrelation and to remain abreast of non-compliance patterns and evasive criminal techniques. Further study is necessary to achieve optimal deterrence. For example, currently, there are no accurate estimates of the volumes of hazardous wastes generated. By contrast, studies of local environmental units and task forces revealed the vital importance of inter-agency cooperation for effective prosecution.

Similarly, there is a need to facilitate communication among prosecutors and to disseminate information about state of the art prosection techniques and uses of legal doctrines. Information should be shared on the following issues: the means of discovering possible offenses, investigative methods, the use of environmental experts, the decision to charge criminally, new prosecution obstacles, and criminal trends. Training should cover legal topics such as: search and seizure, the use of criminal versus civil sanctions, constitutional limits, the use of secondary environmental statutes, and the various corporate tactics and defenses used to defend against prosecution. Due to their diversity and lack of central coordination, local prosecutors in particular will benefit from on-going collection and dissemination of this information.