Criminal Enforcement of Environmental Laws

Introduction

When should a defendant face criminal sanctions for an environmental violation? For over thirty years, numerous scholars, prosecutors, and investigators have tried to answer this question. Given that every environmental case is different, there is not always one clear solution. When Congress wrote the major environmental statutes, it "did not distinguish criminal violations of the environmental laws from violations warranting only civil or administrative enforcement" (Uhlmann, 2014). As a result, a vast array of environmental violations, from major permit offenses to simple filing errors, may be subject to criminal enforcement under federal law; the vague statutory language leaves a wide range of discretion for environmental prosecutors (2014). Although the state must prove beyond a reasonable doubt that the defendant committed each element of a crime, many critics of environmental criminal enforcement argue that prosecutorial discretion leads to the overcriminalization of environmental violations. Overcriminalization is defined as "the act of imposing unbalanced penalties with no relation to the gravity of the offense committed or the culpability of the wrongdoer [and] the imposition of excessive punishment or sentences without adequate justification" ("Overcriminalization," 2016). The concept of overcriminalization stems from the expanding role of the federal government and its increased regulatory authority (Uhlmann, 2009). On the one hand, critics of environmental criminal enforcement assert that a wide range prosecutorial discretion and a lack of legal controls promotes overcriminalization and undermines both the legitimacy and moral underpinnings of criminal sanctions (Uhlmann, 2009). On the other hand, the supporters argue that environmental criminal enforcement is a necessary deterrent, and assure that prosecutorial discretion, a lack of resources, and other legal controls ultimately prevent the overcriminalization of environmental violations.

This research paper will discuss the history of environmental criminal enforcement, the principles of criminal law and enforcement, the nuances of environmental law, prosecutorial discretion and other controls, the aggravating factors influencing prosecutorial discretion, and the most commonly charged environmental crimes. After providing a comprehensive overview of criminal environmental law, this

paper will ultimately decide whether or not prosecutorial discretion and other legal constraints prevent the overcriminalization of environmental violations.

History of Environmental Criminal Enforcement

Although the first criminal environmental statute, the Rivers and Harbors Act, was passed by Congress in 1899, criminal enforcement of environmental laws did not fully develop until recently. Until the second half of the twentieth century, environmental regulation was considered a "narrow patchwork of laws" (Barrett, Hamel, & Solow, 2009). The environmental movement of the 1960s and 1970s inspired new legislation and built the foundation for environmental law today, including integral statutes such as the Clean Air Act, Clean Water Act, and the Resource Conservation and Recovery Act. Later in the 1980s, Congress upgraded the criminal violations of these laws from misdemeanors to felonies (Uhlmann, 2009). For the first time in America, "storage or disposal of hazardous waste without a permit or the discharge of pollutants into waters of the United States without a permit was [considered] a felony under federal law" (2009).

In order to properly handle the new range of environmental cases, a national criminal enforcement program was created to include both investigators and prosecutors at the federal, state, and local levels. Today, the EPA's Criminal Investigation Division [EPA CID] coordinates the initial investigation with a number of different federal law enforcement agencies (e.g., U.S. Fish and Wildlife Service, U.S. Coast Guard, U.S. Customs Service) (Barrett, Hamel, & Solow, 2009). The EPA CID agents work to build the case, collecting the necessary evidence for criminal enforcement. Approximately 45 Regional Criminal Enforcement Counsels also work in tandem with EPA investigators throughout the country (2009). In 1982, the Department of Justice established the Environmental Crimes Section "to prosecute environmental criminal cases around the country, including pollution and offenses involving protected species" (2009). Over the last few decades, the unit has grown from four attorneys to over 40 specialized prosecutors, possessing the necessary expertise "to both prosecute environmental cases themselves and to assist federal prosecutors in the offices of the United States Attorney" (Lazarus, 1994). Although many cases are settled through plea agreements, for the cases that do go to trial, the ECS has an

excellent conviction rate (U.S. Department of Justice, 2015). The ECS has won criminal cases against more than "1,083 individuals and 404 defendants, leading to 774 years of incarceration and $825 million in criminal fines and restitution," including 903 years with incarceration, halfway house, and home detentions (2015). However, it should be noted that criminal prosecutions of environmental violations comprise a relatively small section of enforcement. As the enforcement pyramid (see *Figure 1*) shows, most regulatory action occurs at the base of the pyramid where attempts are initially made to coax compliance through persuasion or warning letters (Ayres & Braithwaite, 1995). If this does not work, the government may use civil monetary penalties (1995). Finally, if all other regulatory actions fail, a relatively small section of the cases are reserved for criminal prosecution (1995). In short, the enforcement pyramid illustrates that administrative and civil penalties are the most frequently used regulatory actions, while criminal sanctions are generally reserved for a few, select amount cases.

Principles of Criminal Law & Enforcement

Given that environmental crime is a relatively new area of law enforcement, many scholars wonder if environmental protection can be effectively integrated into the field of criminal law. According to Uhlmann (2009), "a crime occurs when a prohibited act (*actus reus*) is committed with the requisite mental state (*mens rea*)." While the act requirement for criminal, civil and administrative cases is the same, the mental requirement sets criminal enforcement apart from the rest (2009). The mental state behind an act determines the defendant's level of culpability. Enforcement usually depends on the provisions of the environmental statute, but can be based on "strict liability, simple negligence, knowing conduct, or willful conduct" (Barrett, Hamel, & Solow, 2009). The EPA also recognizes "repetitive violations, deliberate misconduct, and acts of concealment or falsification" as indicators of culpability (Uhlmann, 2009). The mental state and level of culpability are ultimately used to determine the defendant's level of guilt.

Although generally reserved for the most serious offenses, criminal sanctions are used to prevent harm for several reasons. First, corporations that violate environmental regulations tend to view civil fines and injunctions as a "cost of doing business" (McMurry & Ramsey, 1986). Civil enforcement may not

always provide the necessary sanctions to incentivize compliance. On the other hand, the "coercive power of the state to impose criminal punishments," creates several costs of business that cannot be passed on to the consumer (Brickey, 1996). According to David Uhlmann (2009), corporations facing criminal prosecution "may lose lucrative government contracts, incur damage to their public (and commercial) images, in addition to paying criminal fines, serving probationary terms, and facing other sanctions." Moreover, under the responsible corporate officer doctrine, corporate officials, who stand in a responsible relationship to the violation, may face criminal sanctions (e.g., jail time) for knowingly failing to prevent a violation of the law (Uhlmann, 2009). The numerous personal, financial, and social costs associated with the threat of criminal sanctions promote compliance and deterrence in a way that civil sanctions cannot.

Nuances of Environmental Law

The opponents of criminal environmental enforcement argue that the nuances of environmental law make criminal enforcement inherently unfair. First, environmental law is constantly evolving due to new advancements, which creates scientific uncertainty. Lazarus (1994) argues that the science of environmental law is often "very uncertain, and the regulations constantly change in response to new information, court challenges, and sweeping statutory amendments." Thus, the evolutionary nature of environmental law creates uncertainty in what is considered criminal; full compliance is usually the exception rather than the norm (1994). Second, critics also argue that environmental law is too aspirational. The major environmental statutes demand radical changes in human behavior, unrealistic technology mandates, and infeasible deadlines (Brickey, 1996). For example, the Clean Water Act called for the elimination of "*all* discharges of pollutants into the nation's waters by 1985" (1996). The unrealistic goals of environmental law impose "extraordinarily high standards" on the regulated community, which makes criminal sanctions seem less appropriate in enforcement (1996). Finally, the complexities of environmental law also complicate prosecution. Many statutes are ambiguous and openended, so it is difficult to determine when "a violation of the regulatory regime becomes subject to criminal sanction" (Barrett, Hamel, & Solow, 2009). Given the evolutionary, ambitious, and complex

nature of environmental law, critics of enforcement tend to argue that criminal sanctions against the regulated community are unfair and promote overcriminalization.

Prosecutorial Discretion & Other Controls

On the other hand, proponents of criminal enforcement of environmental laws contend that prosecutorial discretion, the void for vagueness doctrine, and the rule of lenity control for overcriminalization. When writing the environmental laws, Congress used broad statutory language and imposed few limits on criminal enforcement. As a result, prosecutors now have a wide range of "unbounded discretion" when prosecuting environmental cases (McMurry & Ramsey, 1986). Technically, prosecutors could charge almost any violation criminally because many actions fall within the criminal provisions of federal statutes (Uhlmann, 2014). However, Congress continues to rely "on the good sense of prosecutors, the wisdom of judges, and the judgment of juries to determine when violators of the environmental laws should be convicted of criminal activity" (2014). As the next section will describe, prosecutors tend to pursue criminal cases only when one or more aggravating factors are present in a case (2014). The level of evidence also plays a role in prosecutorial discretion; the government must prove beyond a reasonable doubt that the defendant committed each element of the criminal offense (2014). Furthermore, prosecutors and investigators have limited time, money, and resources. For example, the EPA-CID recently experienced budgetary and staffing cuts, leaving the agency with only 159 special agents, despite a congressional mandate for 200 working cops (Bravender, 2016). Thus, the investigators and prosecutors must work together to choose cases with the largest impact, greatest jury appeal, and ability to "do justice" (Uhlmann, 2014). However, not all prosecutors are completely altruistic; in some cases, prosecutorial discretion may be unfairly influenced by personal or political interests (Lazarus, 1994). Nevertheless, the various aggravating factors, burden of proof, and lack of resources all act as constraints to control prosecutorial discretion.

The void for vagueness doctrine also controls for overcriminalization of environmental violations. Regulatory and statutory requirements are void for vagueness "if a reasonable person in the defendant's position would be unable to determine what conduct is forbidden" (Uhlmann, 2009). In short, due

process prohibits criminal prosecution when the law is unclear. Given the complexity of environmental law, the regulated community frequently tries to use the void-for-vagueness argument. However, the regulated community is traditionally held to a higher standard of knowledge, so few of these arguments have been upheld in court (2009). This may also suggest that prosecutorial discretion is working because the attorneys are focusing on "cases where the meaning of the law is clear" (2009).

Finally, the rule of lenity serves as another defense against overcriminalization. According to the rule of lenity, if there is ambiguity in the meaning of the law, the courts in criminal cases must resolve the dispute in favor of the defendant (Uhlmann, 2009). To clarify the major difference, under the void for vagueness doctrine, the law is rendered invalid, or unconstitutional, for its ambiguity; on the other hand, the rule of lenity does not completely discredit the law, but rather, it requires that the prohibition and penalty be resolved in favor of the defendant, as long as the legislative intent of the law is not violated ("Rule of Lenity," 2016). The rule of lenity was most famously used in the *U.S. v. Plaza Health Laboratories* case; given that it was unclear whether or not a human could be considered a point source under the Clean Water Act, the court ruled in favor of the defendant and vacated the convictions (2009). However, the rule of lenity argument rarely prevails in environmental cases, which may also indicate that prosecutors avoid cases with unclear or ambiguous laws (2009). In summary, prosecutorial discretion, the void for vagueness doctrine, and the rule of lenity tend to prevent overcriminalization of environmental cases where the law may be too complex, uncertain, or unclear.

Aggravating Factors

When deciding whether or not an environmental case should be considered criminal, prosecutors generally take into account several different aggravating factors. Before discussing these factors, it should be noted that prosecutors are not required "to state publicly what factors prompted them to pursue criminal charges" (Uhlmann, 2014). As a result, academia's understanding of prosecutorial discretion is generally limited, broad, and mostly unreviewable (2014). In order to research the factors that influence prosecutorial discretion, the former Chief of the Environmental Crimes Section, David Uhlmann (2014)

founded the Environmental Crimes Project at the University of Michigan Law. For three years, Uhlmann (2014) and a large team of research assistants reviewed all of the cases investigated by the EPA from 2005 to 2010, which included over "600 cases involving nearly 900 defendants." Uhlmann (2014) and his team reviewed court documents to search for the presence of four aggravating factors that he believes should be considered by the government: (1) significant environmental harm or public health effects, (2) deceptive or misleading conduct, (3) operating outside the regulatory system, and (4) repetitive violations. Before examining each one in detail, it should be noted that Uhlmann's (2014) research incorporates most of the ideas suggested by other legal scholars (e.g., McMurry & Ramsey (1986) and Cohen (1992)); there is a significant amount of overlap in each of the authors' suggested factors. However, Uhlmann's (2014) research provides the most comprehensive, recent, and empirical data on environmental crime and will be used for the purposes of this paper.

The first factor, significant environmental harm or public health effects, implies that the defendant's actions created actual harm, including serious injury or death, expensive cleanups, emergency responses, animal mortalities, or extensive ecological harm (2014). Classic examples of significant harm include the Exxon Valdez oil spill case and the *U.S. v. Elias*, in which the defendant was sentenced to prison for 17 years for "sending his workers into a tank of cyanide waste," causing severe, permanent brain damage for one of the employees (Uhlmann, 2009). The second factor, deceptive or misleading conduct, includes filing false statements with the government as well as the other criminal provisions found under Title 18 of the U.S. Code (e.g., conspiracy, fraud, false statements, concealment, obstruction of justice, and perjury) (2009). Cases with deceptive conduct tend to have greater jury appeal because the prosecutor can tell a "compelling story showing the lying, cheating and stealing that usually form the heart of white collar crime" (Harrell, Lisa, & Votaw, 2009). The third factor, operating outside the regulatory system, focuses on violators that "completely and deliberately avoid regulatory compliance, thereby gaining an unfair competitive advantage and undermining the effectiveness of the regulatory system" (2014). Without honest, voluntary compliance from the regulated community, environmental protection would not be possible. In order to track this factor, Uhlmann (2014) flagged cases with

defendants that failed to acquire or renew permits, failed to keep or maintain records, failed to monitor, or failed to report. Finally, the fourth factor, repetitive violations, examines the duration of the crime. In most cases, environmental violations are not isolated events, but rather, a part of a longer pattern of wrongdoing (2014). When civil and administrative violations are repeatedly ignored, criminal sanctions may be warranted (Uhlmann, 2009).

After coding all of the EPA cases using the four aggravating factors, Uhlmann (2014) found that 96% of the criminal environmental prosecutions had at least one aggravating factor present. As *Figure 2* shows, nearly three quarters of the cases had at least two factors present at the same time (2014). Overall, repetitive violations was the most common factor with 78% of all cases, followed by deceptive or misleading conduct (63%), operating outside the regulatory system (33%), and significant harm (17%), respectively (2014). See *Figure 3* for more details. The data suggests that prosecutors take these factors seriously; it is unlikely that criminal charges will be filed without one of the four factors present. Uhlmann (2014) believes that the data should mitigate fears of overcriminalization because the prosecutors are not targeting technical violations or defendants who act in good faith.

Most Common Crimes

Although environmental prosecutors charge defendants with a wide variety of crimes, this section will focus on the Clean Water Act [CWA], Clean Air Act [CAA], Resource Conservation Recovery Act [RCRA], Act to Prevent Pollution from Ships [APPS], Title 18 offenses, and briefly mention other areas of the law. This section will also explain each type of environmental crime and then draw relative comparisons using the data from Uhlmann's (2014) Environmental Crimes Project.

Clean Water Act

Congress passed the Clean Water Act [CWA] in 1972 with the purpose of restoring and maintaining "the chemical, physical, and biological integrity of the Nation's waters" (33 U.S.C. § 1251(a)). In order to convict a defendant of knowingly violating the CWA, the government must prove that a "person knowingly discharged a pollutant from a point source into the waters of the United States without a permit or in violation of a permit" (Barrett, Hamel, & Solow, 2009). According to Uhlmann

(2014), the CWA is the most frequently charged environmental statute because it authorizes criminal prosecution based on simple negligence, which has heightened concerns about overcriminalization under the CWA. See *Figure 4* for reference. However, Uhlmann's (2014) research shows that most of the defendants (96.1%) charged with negligence committed serious violations, amplified by the aggravating factors. They also generally accepted negligence charges as a part of a plea deal, even though their conduct was intentional (2014). The most common violations prosecuted under the CWA are the discharge of a pollutant without a permit and discharge in violation of a permit; together these crimes constitute 73% of all criminal CWA cases (2014).

Clean Air Act

Although the next statute, the Clean Air Act [CAA], is the second most frequently charged environmental statute (see *Figure 4*), historically, the majority of prosecutions tend to involve asbestos violations rather than violations of air emissions permits (Uhlmann, 2014; Barrett, Hamel, & Solow, 2009). Congress enacted the CAA in order to "protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare" (42 U.S.C. §7401(b)(1)). Given that asbestos is a hazardous air pollutant under the CAA, the National Emission Standards for Hazardous Air Pollutants govern the removal and disposal of asbestos from any facility (Barrett, Hamel, & Solow, 2009). However, safely removing asbestos is costly, so many disposals are done illegally (Uhlmann, 2014). Because these violations are generally easier to identify and try, asbestos prosecutions have dominated CAA prosecutions for the past three decades (Barrett, Hamel, & Solow, 2009). However, according to Uhlmann (2014), there has been a push by the EPA in recent years to focus its limited resources on "more toxic pollution from large stationary sources such as factories, refineries, and power plants, which may have more far-reaching effects." Non-asbestos CAA prosecutions accounted for 50% of all CAA charges between 2005 and 2010, and generally involve false statements in a permit applications or monitoring reports (Uhlmann, 2014; Barrett, Hamel, & Solow, 2009).

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act of 1976, the third most charged environmental statute (see *Figure 4*), "establishes a cradle-to-grave regulatory regime governing the storage, transportation, treatment, and disposal of hazardous waste" (Uhlmann, 2014; Barrett, Hamel, & Solow, 2009). In order to convict a defendant of knowingly violating RCRA, the government must prove that "a person knowingly treated, stored, transported or disposed of a hazardous waste without a permit or in violation of a permit" (2009). Uhlmann (2014) found that most of the charges under RCRA are "substantive violations of the law" and not technical, obscure violations as many critics purport. Defendants were most frequently charged with illegally storing, disposing, and transporting hazardous wastes, respectively (2014).

Act to Prevent Pollution from Ships

The fourth most frequently charged statute (see *Figure 4*), the Act to Prevent Pollution from Ships [APPS], requires that ships have operable pollution control equipment and accurate records of waste management to enter U.S. waters (Uhlmann, 2014). Many vessel pollution cases involve the intentional discharge of oil as well as the discharge of oil as a result of a grounding or collision (Barrett, Hamel, & Solow, 2009). However, defendants may also be charged for presenting false records to the Coast Guard (Uhlmann, 2014). In total, APPS charges comprised 10% of all cases in the Environmental Crimes Project (2014).

Title 18 Offenses

The most frequently charged crimes in environmental cases are the Title 18 offenses: conspiracy, fraud, false statements, concealment, obstruction of justice, and perjury (see *Figure 4*). These crimes are generally "committed to facilitate successful evasion of environmental violations" (Brickey, 1998). Consequently, most cases are a combination of both charges from environmental statutes and the Title 18 crimes, which Brickey (1998) refers to as "hybrid prosecutions." By charging defendants with the Title 18 offenses, prosecutors are able to effectively demonstrate the criminal intent behind a violator's actions. Highlighting the traditional "badges of criminality" makes it easier for judges and juries to understand "why a violation is criminal when the defendant is dishonest, conceals misconduct, or destroys evidence"

(Uhlmann, 2014). Conspiracy and false statements are the most commonly charged Title 18 offenses (74%), followed by obstruction, fraud, and smuggling, respectively (2014).

Other Environmental Crimes

Although the Environmental Crimes Project provides a comprehensive analysis of the major environmental crimes, it does not address all areas of the law. Natural resources crimes prosecuted under the Lacey Act, Migratory Bird Treaty Act, and the Endangered Species Act are another integral part of criminal environmental prosecutions (Barrett, Hamel, & Solow, 2009). These statutes ban the import, export, take, sale, purchase, or reception of endangered, threatened, or CITES listed species (2009). Defendants may also be charged criminally for worker safety violations under the Violations of the Occupational Safety and Health Act, hazardous waste violations under CERCLA, pesticide violations under the Federal Insecticide, Fungicide, and Rodenticide Act, as well as many other environmental and public health related statutes (2009).

Does Prosecutorial Discretion Prevent Overcriminalization?

After considering the nuances of environmental law, the various controls for overcriminalization, the four aggravating factors influencing prosecutorial discretion, and the most common environmental crimes, it can be concluded that environmental crimes are *not* overcriminalized by the justice system. Although critics may argue that criminal enforcement is unfair because of the nuances of environmental law, the evolutionary, ambitious, and complex nature of environmental law cannot be changed or avoided. The intricacies of environmental regulation should not be used as an excuse to avoid the necessary punishment of severe environmental crimes. Prosecutorial discretion, the void for vagueness doctrine, and the rule of lenity all control for the overcriminalization of environmental crimes in the court of law. In cases where the statute or regulation may be unclear, defendants have the right to appeal the charges against them. However, as Uhlmann (2009) notes, few of these arguments have been upheld in court, which may suggest that prosecutors are aptly using their discretion to pursue cases where the law is clear. The necessary burden of proof (i.e., proof beyond a reasonable doubt), limited resources, and the incentive to serve justice also heavily influence prosecutors' decisions and prevent overcriminalization.

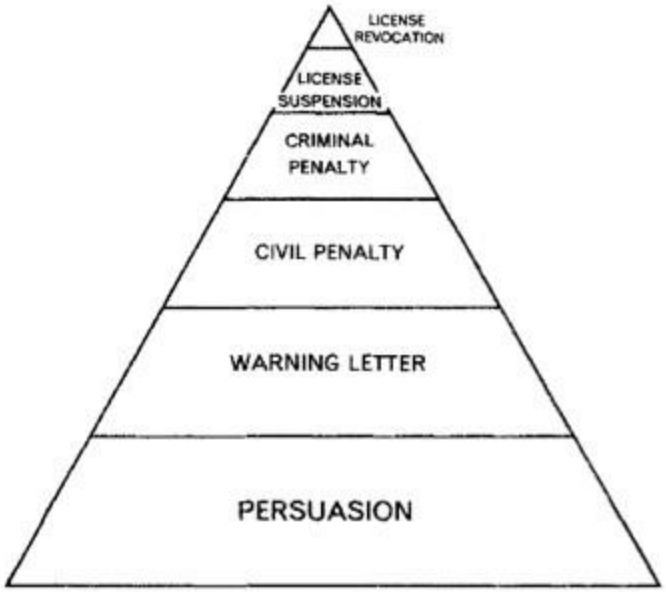
The most compelling evidence in favor of prosecutorial discretion is derived from the Environmental Crimes Project (Uhlmann, 2014). The data unequivocally shows that prosecutors pursue cases with one or more aggravating factors (2014). The defendants facing criminal sanctions did not commit minor or technical infractions; these violators caused serious harm, engaged in deceptive conduct, operated outside of the regulatory system, and repeatedly broke the law (2014). In many cases, administrative and civil sanctions will not effectively deter perpetrators from committing severe environmental crimes. Sometimes, the added threat of criminal sanctions, such as jail time, heightened fines, forfeited government contracts, and damaged public image, is the only way to prevent and forcefully punish the most egregious environmental violations (Uhlmann, 2009). Although criminal enforcement of environmental crimes may not be appropriate for every situation, prosecutorial discretion and other factors carefully control for overcriminalization and continue to ensure environmental protection.

Conclusion

In the relatively new field of environmental criminal enforcement, it is not always clear when a defendant should face criminal charges for an environmental violation. Although prosecutors may use their discretion to pursue cases with the most aggravating factors, many critics argue that environmental violations are overcriminalized within the regulatory system. Although critics of environmental criminal enforcement may raise some valid concerns about the nuances of environmental law and the risks of overcriminalization, the evidence clearly shows that prosecutorial discretion, the lack of resources, the rule of lenity, the void for vagueness doctrine, and other legal controls prevent the overcriminalization of environmental violations. Even though only a small subset of defendants are charged criminally, the punitive power of jail time and other criminal sanctions serve as a valuable deterrent used to prevent future environmental harm and maintain the legitimacy of the current regulatory system.

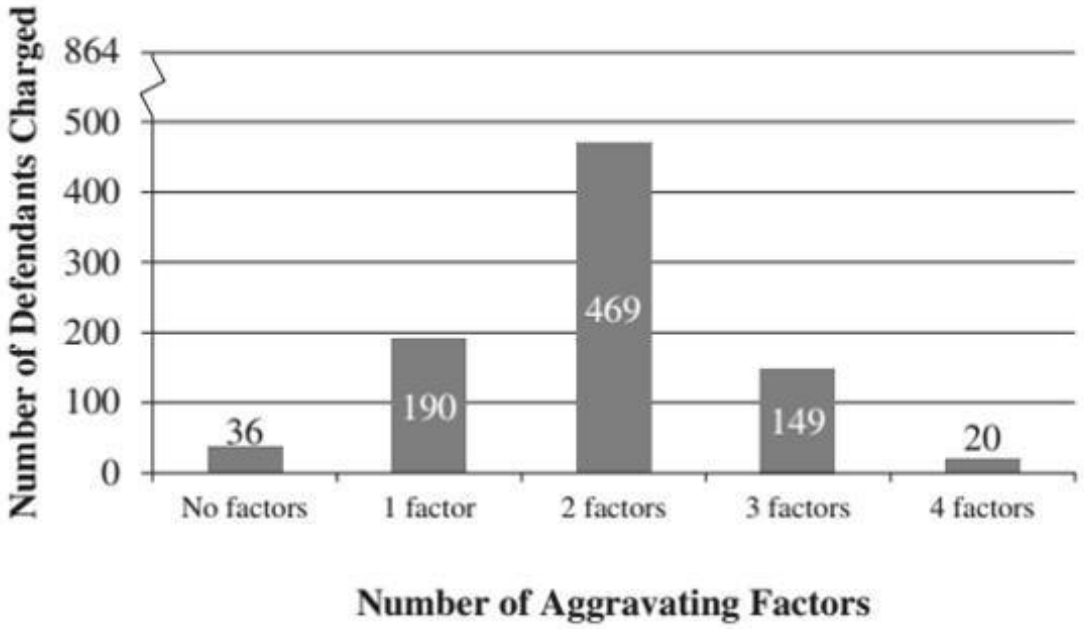
Appendix

FIGURE 1. THE ENFORCEMENT PYRAMID



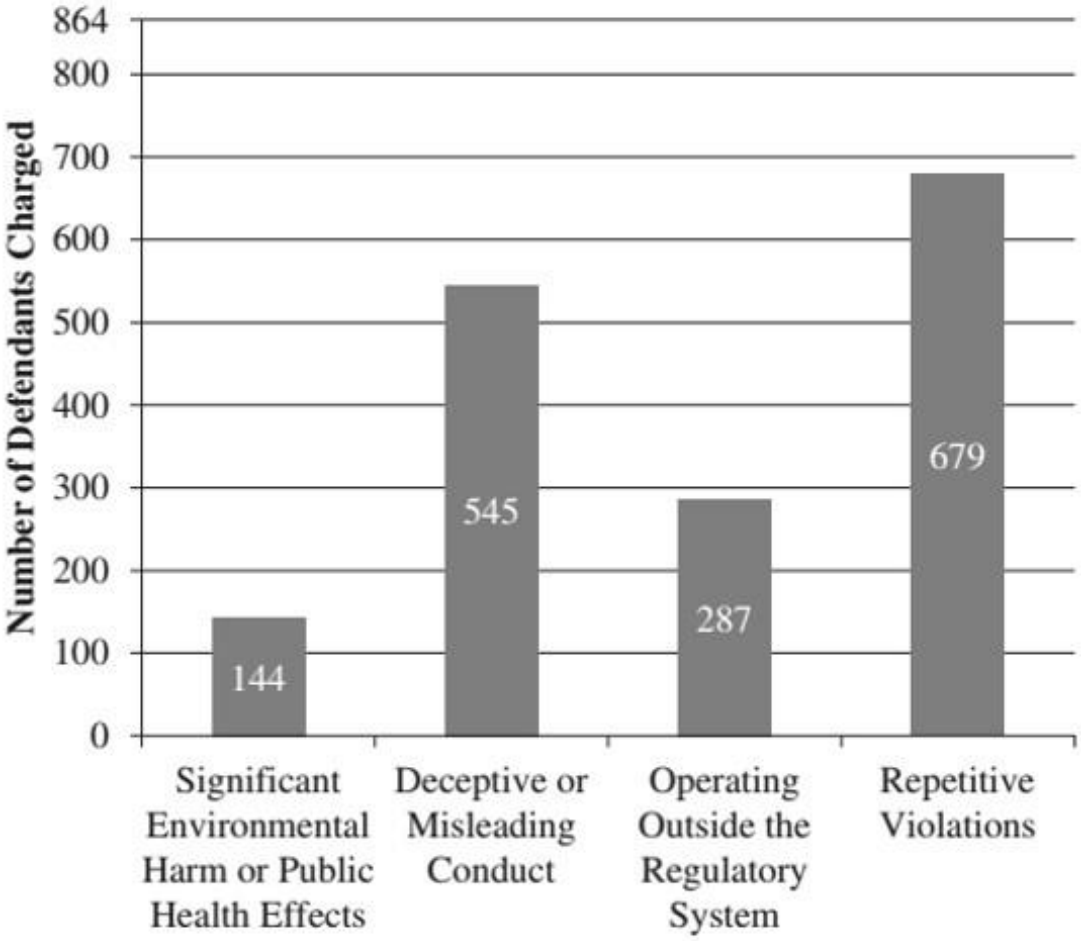
This pyramid illustrates the relative frequency of each government regulatory action. The bottom of the pyramid (i.e., persuasion and warning letter) shows the vast amount of administrative actions. The middle of the pyramid show the next step, civil penalty, followed by criminal penalty, license suspension, and license revocation. As the pyramid shows, only a relatively small group of cases are addressed using criminal sanctions. (Ayers & Braithwaite, 1995).

FIGURE 2. DEFENDANTS CHARGED BY NUMBER OF AGGRAVATING FACTORS



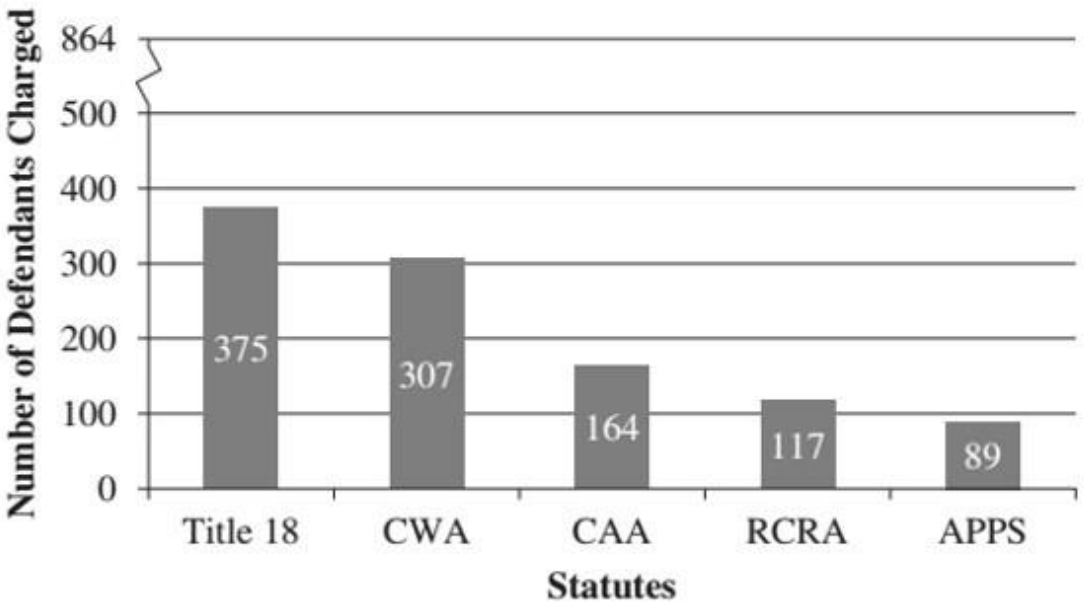
This bar graph illustrates the total frequency of the aggravating factors for the cases analyzed by the Environmental Crimes Project. The graph shows the number of defendants charged by the number of aggravating factors. Two factors is the most common number, followed by 1 factor, 3 factors, 4 factors, and no factors, respectively (Uhlmann, 2014).

FIGURE 3. PROSECUTORIAL DISCRETION FACTORS



This bar graph illustrates the frequency of each aggravating factor for the cases analyzed by the Environmental Crimes Project. The graph shows the number of defendants charged in terms of the four different aggravating factors. Repetitive violations is the most common, followed by deceptive or misleading conduct, operating outside the regulatory system, and significant environmental harm, respectively (Uhlmann, 2014).

FIGURE 3. MOST FREQUENTLY CHARGED STATUTES FOR ENVIRONMENTAL CRIME (BY DEFENDANT)



This bar graph indicates the most frequently charged statutes for the cases analyzed by the Environmental Crimes Project. The most commonly charge statute is Title 18 crimes, followed by the Clean Water Act, the Clean Air Act, the Resource Conservation and Recovery Act, and the Act to Prevent Pollution from Ships, respectively (Uhlmann, 2014).

Annotated Bibliography

Ayres, I. & Braithwaite, J. (1995). *Responsive Regulation: Transcending the Deregulation Debate*. New York, NY: Oxford University Press.

This book discusses the structure of the enforcement pyramid for regulatory actions. It illustrates how the vast amount of actions are either administrative or civil penalties. A select group of cases are reserved for criminal sanctions. I use the author's image of the pyramid to explain the relative frequency of criminal environmental cases in *Figure 1*.

Barrett, J., Hamel, W., & Solow, S. (2009). Environmental Criminal Enforcement. Perlman, C. P., *Environmental Litigation: Law and Strategy*. Chicago, IL: American Bar Association.

This chapter within a larger book focuses on environmental criminal enforcement. The authors explain the major stakeholders, the elements of proof in environmental criminal cases, and the steps of a trial. I predominantly use this source to describe the history of criminal environmental enforcement and explain the most commonly charged environmental statutes.

Bravender, R. (2016). *Gumshoes' depleted rans worry former enforcers*. http://www.eenews.net/greenwire/stories/1060035465/search?keyword=gumshoes

This Greenwire news article discusses how budgetary and staffing cuts have affected the EPA's environmental crimes investigators. I use this resource to discuss how limited resources affects the investigation and prosecution of environmental crimes.

Brickey, K. F. (1998). The rhetoric of environmental crime: Culpability, discretion, and Structural reform. *Iowa Law Review*, *84*(115), 125-135.

This peer-reviewed journal article addresses the myths of environmental crime. The author argues in favor of criminal environmental enforcement and increased prosecutorial discretion. Specifically, I use this source to explain Title 18 offenses in the Most Common Crimes section.

Brickey, K. F. (1996). Environmental crime at the crossroads: The intersection of environmental and criminal law theory. *Tulane Law Review*, *71*, 487-521.

This peer-reviewed journal article addresses the nuances of environmental law and how they can be overcome by prosecutorial discretion. I use this source to explain both the critiques and advantages of criminal enforcement and in my paper.

Clean Air Act of 1970. 42 U.S.C. § 7401 *et seq.*

This federal statute is the Clean Air Act. I use this source to describe the CAA's original purpose, which is to protect the quality of the air and promote the public health and welfare. I refer to this law as a primary source in the Most Common Crimes section.

Cohen, M. A. (1992). Environmental crime and punishment: Legal/economic theory and empirical evidence on enforcement of federal environmental statutes. The Journal of Criminal Law and Criminology, 92(4), 1054-1108.

This peer-reviewed journal article summarizes the theories of criminal enforcement and the sanctions for environmental crimes. Although the author provides a great theoretical analysis, I did not want to use his sentencing data because it was not as recent as other sources. Thus, I used this source to corroborate the work and information of latter scholars.

Federal Water Pollution Control Act of 1972. 33 U.S.C. § 1251-1387.

This federal statute is referred to in my paper as the Clean Water Act. I use this source to describe the CWA's purpose and ambitious environmental goals. I refer to this law as a primary source in the Most Common Crimes section.

Harrell, M. H., Lisa, J.J., & Votaw, C. L. (2009). Federal environmental crime: A different kind of "white collar" prosecution. *Natural Resources & Environment*, 23(3), 3-6, 28.

This peer-reviewed journal article summarizes the last three decades of criminal environmental law. The authors draw comparisons between traditional white collar crime and criminal environmental law. I refer to this resource to explain how Title 18 offenses can be used to illustrate the deceptive conduct.

Lazarus, R. J. (1994). Assimilating environmental protection into legal rules and the problem with environmental crime. *Loyola of Los Angeles Law Review, 27*(3): 867-892.

This peer-reviewed journal article criticizes the pitfalls of criminal environmental law. The author explains the controversy and prosecutorial power struggle among the DOJ, ECS, and EPA and argues that the nuances of environmental law make criminal enforcement inherently unfair. I use this source to clarify the views of criminal enforcement opponents in the Nuances of Environmental Law section of my paper.

McMurry, R. I., & Ramsey, S. D. (1986). Environmental crime: The use of criminal sanctions in enforcing environmental laws. *Loyola of Los Angeles Law Review*, 19, 1133-1170.

This peer-reviewed journal article describes the purpose and development of criminal environmental enforcement. The author argues that the complexity of environmental laws and government over-reach will lead to overcriminalization. I use this source to provide information about prosecutorial discretion, aggravating factors, and the penalties of criminal environmental violations.

O'Hear, M. M. (2004). Sentencing the Green-Collar Offender: Punishment, Culpability, and Environmental Crime. *Journal of Criminal Law and Criminology, 95*(1), 133-276.

This peer-reviewed journal article analyzes the role of sentencing in the prosecution of environmental crime. The author studies federal environmental sentencing and argues that the severity of the sentencing should be directly influenced by the offender's level of culpability. Although I did not directly quote this source, it provided a solid foundation for my research and corroborated the ideas of other scholars.

"Overcriminalization Law & Legal Definition." (2016). *U.S. Legal*. http://definitions.uslegal.com/o/over-criminalization/

This webpage provides the legal definition of overcriminalization. It explains the reasoning behind the concept and describes its impact in the criminal justice system. I use this source to define overcriminalization in the introduction of my paper.

"Rule of Lenity Law & Legal Definition." (2016). *U.S. Legal*. http://definitions.uslegal.com/r/rule-of-lenity/

This webpage provides the legal definition of the rule of lenity. It explains the major characteristics of the principle and describes when it should be used in legal practice. I use this source when comparing the rule of lenity and the void for vagueness doctrine.

Uhlmann, D. M. (2013). Prosecutorial Discretion and Environmental Crime. *Harvard Environmental Law Review*, *37*(1), 159-216.

This peer-reviewed journal article defines environmental crime and discusses the distinction between criminal, civil, and administrative violations. The author uses empirical evidence to study the aggravating factors that affect prosecutorial discretion in environmental cases. The author also analyzes which environmental statutes are charged most frequently. Although I use this source throughout my entire paper, I base the Aggravating Factor and Most Common Crimes section on the results of this study.

Uhlmann, D. M. (2009). Environmental crime comes of age: The evolution of criminal enforcement in the environmental regulatory scheme. *Utah Law Review*, *4*(1), 1223-1252.

This peer-reviewed journal article describes the history of the investigation and prosecution of environmental crimes. The author argues that prosecutors should focus on cases that include four aggravating factors: significant harm or risk of harm, deceptive conduct, operating outside the regulatory system, and repetitive violations. Although I use this source throughout my entire research paper, I found it most useful when explaining the principles of environmental law and the four aggravating factors.

U.S. Department of Justice. (2015). *Environmental Crimes Section*. https://www.justice.gov/enrd/environmental-crimes-section.

This government website discusses the role of the Environmental Crimes Section within the Environment and Natural Resources Division of the Department of Justice. The website provides useful information about the section's history, role, and conviction rates. I use this resource to discuss the role of ECS in criminal environmental enforcement in the History of Environmental Crime section of my paper.