Wielding the Big Stick: Deterrence and the Criminal Enforcement of Environmental Laws

Bradley C. Howard
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Recent environmental disasters have focused public attention on the effectiveness of environmental laws. As a result, legislators and administrators have looked increasingly to the criminal enforcement provisions of the major environmental laws to deter destructive behavior. The Exxon Valdez disaster in 1989 brought environmental enforcement to the forefront of public debate. In response to the Valdez spill, Congress considered the Environmental Crimes Act, which sought to criminalize actions that cause catastrophic environmental disasters. Repeated discoveries of medical waste on East Coast beaches in 1988 also outraged the public and prompted a congressional response.

Statistics published by the National Survey of Crime Severity have indicated that the public considers environmental crimes to be as serious as many violent crimes. For example, the crime of


2. The Environmental Crimes Act was introduced by Charles Schumer (D-NY) and George Gekas (R-PA) in 1989 and was approved by the House Judiciary Subcommittee on Criminal Justice on March 29, 1990. H.R. 3641, 101st Cong., 1st Sess., 135 Cong. Rec. D1338-1402 (1989). The bill would have made it a felony to knowingly create a risk of death by polluting and would have imposed serious criminal sanctions for knowingly or recklessly causing an environmental catastrophe. Id.

3. Representative Schumer (D-NY) claimed that "we need a law that makes a connection between the size of the environmental crime and the size of the punishment." 48 Cong. Q. 990, 990 (Jan.- June 1990). The controversial legislation died in the House Committee on the Judiciary in October 1990. See 21 Envtl Rep. (BNA) 1375 (Nov. 16, 1990).


5. The National Survey of Crime Severity, conducted over a six-month period in 1977 as a supplement to the National Crime Survey, ranked 204 specific criminal events in order of severity as chosen by 60,000 persons participating in the survey.
knowingly discharging waste into a water supply causing the illness (but not hospitalization) of twenty people was ranked as more severe than heroin smuggling, armed robbery and an intentional stabbing where the victim required hospitalization.6

The developing federal enforcement strategy emphasizes more criminal prosecutions and harsher punishments for environmental law offenders. Sentencing guidelines have alerted the business community that environmental defendants may serve significant jail terms. This article examines criminal enforcement of environmental laws at the federal level and discusses the deterrent effect of sentencing guidelines. It also discusses the enforcement of environmental laws in Virginia and proposes changes to strengthen the deterrent effect of these laws in Virginia.

THE CRIMINALIZATION OF ENVIRONMENTAL LAW

During the 1980s, Congress enacted several measures strengthening the criminal penalties for violations of environmental laws.7 These enactments established a statutory framework that

The survey was created and conducted by the Center for Studies in Criminology and Criminal Law, Wharton School, University of Pennsylvania. BUREAU OF JUST. STATISTICS, DEPT OF JUST., NATIONAL SURVEY OF CRIME SEVERITY (1985).

6. Id. at vi-vii.

enabled enforcement agencies to prosecute serious polluters.⁸

In the early 1970s, major environmental legislation such as the Clean Air Act⁹ and the Clean Water Act¹⁰ introduced complex standards and regulations for controlling pollution. Conforming to these new statutory mandates required the creation of a complex administrative scheme¹¹ and a federal environmental enforcement strategy which, prior to 1981, relied almost exclusively on civil remedies.¹² Since the Environmental Protection Agency (EPA) was a newly created agency in the 1970s,¹³ criminal enforcement of new and complex environmental statutes under its direction was perceived as impractical and unfair.¹⁴ The business community, therefore, was given a chance to adjust to the new regulatory climate.¹⁵

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8. Congress criminalized the polluting of rivers and harbors as early as 1899 when it enacted the Rivers and Harbors Appropriations Act of 1899, Ch. 425, 30 Stat. 1121, 1151-55 (codified as amended at 33 U.S.C. §§ 401-467(e) (1988)), but violation of the act was only deemed a misdemeanor.


12. Id.

13. The EPA was created by consolidating into one regulatory agency duties that had previously been performed by other agencies. Reorg. Plan No. 3 of 1970, 35 Fed. Reg. 15,623 (1970).


15. Id.
By the late 1970s, however, civil penalties did not appear to effectively deter corporate environmental damage. Some businesses could absorb the imposition of civil penalties as a cost of doing environmentally damaging business. In addition, some activities resulted in such egregious environmental damage that a response much stronger than civil penalties was deemed necessary. Widely publicized environmental disasters such as Love Canal and Times Beach further fueled the push towards a stronger enforcement strategy.

The EPA and the Department of Justice (DOJ) made stricter criminal enforcement possible by adopting new priorities and readjusting their organizational structures. In 1981, the EPA established the Office of Criminal Enforcement. In the same year, the DOJ created a special Environmental Crimes Unit within its Land and Natural Resources Division. In 1982, the EPA and the FBI

16. A key element of deterrence as defined by the EPA is the "serious consequences of detection." U.S. EPA OFFICE OF ENFORCEMENT, ENVIRONMENTAL ENFORCEMENT: A CITIZEN'S GUIDE 26 (Mar. 1990) (informational pamphlet published by the Office of Enforcement and available at the Office of Public Information). Detection has no serious consequences for a company that is able to absorb significant civil penalties and continue to be financially successful.


18. For example, in United States v. Distler, 9 Envtl. L. Rep. (Envtl. L. Inst.) 20,700 (W.D. Ky. 1979), aff'd, 671 F.2d 954 (6th Cir.), cert. denied, 454 U.S. 827 (1981), the defendant company discharged toxic organic pollutants into Louisville sewers in quantities that ultimately caused serious damage to the Ohio River. The sentencing judge held that the seriousness of the offense required criminal penalties of two years in prison and a $50,000 fine. See Celebrezze, Criminal Enforcement of State Environmental Laws: The Ohio Solution, 14 HARV. ENVTL. L. REV. 217, 221 (quoting Transcript of Sentencing at 10, United States v. Distler, Crim No. 77-00108 (W.D. Ky. Sept. 14, 1979)).

19. Celebrezze, supra note 18, at 221.


21. Habicht, supra note 4, at 10,479.

22. Id.
signed a Memorandum of Understanding that allowed the EPA to refer a maximum of thirty cases a year to the FBI for investigation.\textsuperscript{23} The EPA began to hire full-time criminal investigators in the early 1980s, and in 1984, these investigators were given full law enforcement powers as Special Deputy U.S. Marshals.\textsuperscript{24} The Environmental Crimes Unit was elevated to the status of a section within the DOJ's Land and Natural Resources Division in 1987.\textsuperscript{25}

Interstate cooperation in the criminal enforcement of environmental laws was encouraged in the 1980s by the creation of regional enforcement projects. The first of these, the Northeast Hazardous Waste Project,\textsuperscript{26} was created in 1980 and sought to combine the resources of eleven charter member states in an attempt to increase deterrence through improved enforcement efforts.\textsuperscript{27} The EPA began funding this program in 1982.\textsuperscript{28} Over the next six years, other states formed the Western States Hazardous Waste Project, the Midwestern Hazardous Waste Associates, and the Southern Environmental Enforcement Network.\textsuperscript{29}

The four regional environmental enforcement organizations

\textsuperscript{23} Id. at 10,479 n.12.

\textsuperscript{24} Id. at 10,479 n.11. From 1984 to 1988, the criminal investigators were redeputized annually. In 1988, they were given permanent law enforcement powers when Congress enacted the Medical Waste Tracking Act of 1988, Pub. L. No. 100-582, § 4(a), 102 Stat. 2950, 2958 (codified at 18 U.S.C.A. § 3063 (West Supp. 1989)).

\textsuperscript{25} Habicht, \textit{supra} note 11, at 10,479.

\textsuperscript{26} The project was initially created as the Northeast Hazardous Waste Coordination Committee in 1980 as a result of a proposal by representatives from the State of New Jersey. It was funded originally by the DOJ's Law Enforcement Assistance Administration. See Wills & Murray, \textit{State Environmental Enforcement Organizations}, \textit{NAT'L ENVTL. ENFORCEMENT J.}, Aug. 1989, at 3.

\textsuperscript{27} Id. The project now has 14 members.

\textsuperscript{28} Id.

\textsuperscript{29} Id. The four organizations cover the entire continental United States. Currently, 40 states belong to one of the four projects. Virginia belongs to the Northeast Hazardous Waste Project. \textit{Id.}
work closely with the EPA's National Enforcement Investigations Center and the Office of Waste Program Enforcement.\textsuperscript{30} The programs emphasize involvement by local prosecutors in criminal enforcement efforts, strong communication between the different states, close cooperation between state and federal enforcement programs, and cooperative enforcement training among the states, the EPA and the National Association of Attorneys General.\textsuperscript{31}

\textbf{Federal Prosecutorial Efforts}

The evolution of environmental enforcement strategy is demonstrated by EPA and DOJ enforcement statistics. Between 1970 and 1980, only twenty-five criminal environmental cases were prosecuted.\textsuperscript{32} In contrast, between 1983 and 1987, the DOJ secured 339 criminal environmental indictments.\textsuperscript{33} EPA case referrals increased throughout the 1980s.\textsuperscript{34} The number of defendants charged and convicted, the length of time sentenced and served, and the length of probations all increased sharply from 1982 to 1990.\textsuperscript{35}

\textit{Title 18 Enforcement}

The deterrent effect of a national criminal enforcement program was furthered by the creative reliance on several traditional

\begin{flushright}
30. \textit{Id.} \\
31. \textit{Id.} at 4-5. \\
32. Habicht, \textit{supra} note 11, at 10,479. \\
33. \textit{Id.} \\
\end{flushright}
criminal statutes found in Title 18 of the United States Code. These provisions include the Racketeer Influences Corrupt Organizations Act (RICO), conspiracy, aiding and abetting, and mail fraud, all of which help prosecutors secure longer sentences for environmental crimes, and thus, foster deterrence.

In United States v. Arcangelo, the EPA joined forces for the first time with the DOJ Organized Strike Force and secured significant prison sentences for two brothers under RICO and the Resource Conservation and Recovery Act (RCRA). Their disposal of mercury at a demolition and salvage plant in North Haven, Connecticut, resulted in a ten-year sentence for one brother and a five-year sentence for the other.

In United States v. Hoflin, the defendant was convicted of aiding and abetting the disposal of paint waste in violation of RCRA and 18 U.S.C. § 2, which states that one who aids and abets a crime may be prosecuted as a principal. Hoflin was prosecuted as a principal for telling an employee to bury drums containing paint
In *United States v. Import Certification Laboratories, Inc.*, three defendants were charged with conspiracy to defraud the United States because they filed false statements certifying that inspected vehicles complied with air pollution control laws. Conviction under the conspiracy statute allowed the imposition of a sentence much more severe than allowable under the Clean Air Act before it was amended in 1990.

**Criminal Enforcement in the 1990s**

Increasingly severe views on environmentally damaging conduct are forcing environmental regulatory agencies to strengthen their criminal enforcement strategies. Although the presumption against jailing first time offenders was once strong, a more aggressive criminal enforcement strategy for environmental violations is becoming more acceptable to judges and juries.

Prosecutors around the country have recognized that criminal prosecution is one of the best ways to encourage corporations to comply with environmental laws.

At the end of 1990, environmental regulators proudly announced record increases in criminal prosecutions and civil and

46. *Id.* at 1035.

47. 18 Env't Rep. (BNA) 1993 (Jan. 8, 1988).

48. *Id.*

49. 18 U.S.C. § 371 provides criminal penalties for conviction of conspiracy of up to five years. Before amendment, 42 U.S.C. § 701 provided for a maximum of two years imprisonment for knowing violations of the Clean Air Act.


51. 19 Env't Rep. (BNA) 1474 (Nov. 18, 1988). A panel of attorneys active in criminal enforcement of environmental laws concluded that "although it is often difficult to get juries to convict and sentence corporate executives who have violated environmental laws, criminal prosecution is still the most cost-effective method for reaching 'hard core' violators because penalties cannot be passed on to the consumer." *Id.* at 1474.
They also predicted that the number of criminal enforcement cases prosecuted by the DOJ would grow.\textsuperscript{53} Congress responded by passing the Pollution Prosecution Act, which increases the number of civil and criminal investigators at EPA.\textsuperscript{54}

Public of global environmental degradation may encourage increased criminal enforcement efforts domestically. A recent United Nations poll measuring public opinion and leadership attitudes in fourteen nations on four continents revealed an alarming pessimism about the future of the world environment.\textsuperscript{55} Increased debate over the United States' responsibility for controlling environmental deterioration should keep attention focused on criminal sanctions and their role in deterring illegal pollution.

**Federal Sentencing Guidelines**

The deterrent effect of criminal enforcement of environmental statutes was increased greatly when the U.S. Sentencing Commission promulgated general sentencing guidelines in 1987.\textsuperscript{56} The guidelines were established to promote uniformity in federal sentencing so that individuals convicted of similar crimes in similar circumstances would

\begin{itemize}
  \item \textsuperscript{52} See Strock, \textit{supra} note 34, at 10,327.
  \item \textsuperscript{53} 20 Env't Rep. (BNA) 1714 (Feb. 2, 1990).
  \item \textsuperscript{55} The United Nations Environment Programme, Public and Leadership Attitudes to the Environment in Four Continents, May, 1989, \textit{reported in} 10 Cong. Res. Serv. R. 7, 26 (1989). Respondents from all of the countries expressed an overwhelming belief that the condition of the world's environment will continue to deteriorate over the next decade.
  \item \textsuperscript{56} See U.S. SENTENCING COMM'N GUIDELINES MANUAL [hereinafter GUIDELINES MANUAL]. The eight member commission was established by the Comprehensive Crime Control Act of 1984, 18 U.S.C. §§ 3551-3586 (1988), 28 U.S.C. §§ 991-998 (1988), and the Commission's rules became effective on November 1, 1987. The constitutionality of these guidelines was upheld by the U.S. Supreme Court in Mistretta v. United States, 488 U.S. 361 (1989).
\end{itemize}
be sentenced similarly. The Commission included environmental violations in its catalog of crimes requiring application of the guidelines. This elevates environmental offenses to the status of the more traditional "serious crimes" and forces judges to sentence such violations accordingly.

The Sentencing Guidelines require a federal judge to impose a sentence within a prescribed range depending on the level of the crime for which the defendant has been convicted and the presence of any "departure" factors. The judge looks to the Guidelines' Sentencing Table to determine the range of sentences recommended for that level of crime. The judge also considers factors that raise or lower the level number before a range is applied. For example,

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58. GUIDELINES MANUAL, supra note 56 § 2Q (Offenses Involving the Environment). Section 2Q consists of three main environmental enforcement sections and four environmentally related sections: § 2Q1.1 (Knowing Endangerment Resulting from Mishandling Hazardous or Toxic Substances, Pesticides or Other Pollutants); § 2Q1.2 (Mishandling of Hazardous or Toxic Substances or Pesticides: Record keeping, Tampering, and Falsification); § 2Q1.3 (Mishandling of Other Environmental Pollutants: Record keeping, Tampering and Falsification); § 2Q1.4 (Tampering or Attempted Tampering with Public Water System); § 2Q1.5 (Threatened Tampering with Public Water System); § 2Q1.6 (Hazardous or Injurious Devices on Federal Lands); and § 2Q2.1 (Specially Protected Fish, Wildlife and Plants: Smuggling and Otherwise Unlawfully Dealing in Fish, Wildlife, and Plants).


60. GUIDELINES MANUAL, supra note 56 § 5K2.0 (Grounds for Departure). Each offense categorized by the Commission is given a base offense level number. Id.

61. Id. § 5A (Sentencing Table).

62. Id. § 1B1.1(c)-(f) (Application Instructions).
if the defendant willfully obstructed the criminal enforcement proceedings giving rise to the trial, an upward adjustment of two levels could be imposed during sentence calculation. On the other hand, if the defendant demonstrated "a recognition and affirmative acceptance of personal responsibility for his criminal conduct," then a two-level downward adjustment could be made.

Under the Guidelines, the sentencing judge retains discretion as to the application of the "departure" factor adjustments. The judge also has discretion to depart completely from the suggested range if the Guidelines fail to account for factors which exist in the specific case.

When sentencing an environmental offender, a federal judge must first apply the Guidelines section under which the convicted offense falls, which requires an analysis of the underlying acts giving rise to the criminal enforcement action. The Sentencing Guidelines address environmental crimes in three sections: first, violating the knowing endangerment provisions of RCRA and the Clean Water Act; second, mishandling hazardous or toxic substances; and third, mishandling "other pollutants."

63. Id. § 3C1.1 (Willfully Obstructing or Impeding Proceedings).
64. Id. § 3E1.1 (Acceptance of Responsibility).
65. Id. § 5K2.0 (Grounds for Departure). This discretion was considered by the court in United States v. Bogas, 731 F. Supp 242, 245 (N.D. Ohio 1990).
66. See, e.g., United States v. Silverman, 889 F.2d 1531, 1537 (6th Cir. 1989) (applying Guidelines Application Instructions, § 1B1.2(a)).
67. See GUIDELINES MANUAL, supra note 56, pt. Q (Offenses Involving the Environment).
70. GUIDELINES MANUAL, supra note 56, § 2Q1.2.
71. Id. § 2Q1.3.
Each section contains a base offense level, as well as specific offense characteristics with designated level adjustment values. If applicable, these values are added or subtracted to the base level. For example, mishandling of toxic waste requires a base offense level of eight. If the mishandled waste resulted in a "substantial likelihood of death or serious bodily injury," the base level would be increased by nine levels, which then would put the sentencing range at level seventeen. Adjustments are also allowed for offenses involving continuous, repetitive discharges or permit violations. Other adjustments are based upon the potential seriousness of the environmental harm or the actual consequences of the offense.

After these characteristics are utilized to modify the base offense level, further adjustments are made according to departure rules that apply to all crimes listed in the Guidelines. These rules include departures based upon a defendant's acceptance of responsibility, a defendant's behavior during the environmental investigation, and a defendant's culpability or level of participation in the specific crime. Finally, the criminal history of the defendant is considered. The resulting offense number is plugged into the Sentencing Table to determine the range that will direct the judge's eventual sentence.

72. Id. § 2Q1.2(a).
73. Id. § 2Q1.2(b)(2).
74. Id. § 2Q1.2(b)(1)(A), .3(b)(1)(A).
75. Id. § 2Q1.2(b)(4), .3(b)(4).
76. Id. § 2Q1.2(b)(2), .3(b)(2).
77. Id. § 2Q1.2(b)(3), .3(b)(3).
78. Id. § 3E1.1 (Acceptance of Responsibility).
79. Id. § 3C1.1 (Willfully Obstructing or Impeding Proceedings).
80. Id. § 3B1.1 (Aggravating Role).
81. Id. § 1B1.1(f) (Application Instructions).
82. Id. § 5A.
Application of the Guidelines

In a recent criminal prosecution under the Clean Water Act, William B. Ellen of Mathews, Virginia, was convicted for illegally filling federally protected wetlands in Maryland with material considered a pollutant.\(^83\) Ellen was convicted of mishandling environmental pollutants other than toxic wastes,\(^84\) which offense starts with a base level of six.\(^85\)

Because Ellen's offense resulted in an "ongoing, continuous or repetitive discharge, release or emission" of the pollutant into the environment, the base level was adjusted upward by six levels.\(^86\) The offense also involved a discharge without a permit, requiring an additional increase of four more levels.\(^87\) Ellen, therefore, is saddled with an offense level of sixteen, which requires incarceration for twenty-one to twenty-seven months without the possibility of parole.\(^88\)

Recent sentences imposed by judges using the guidelines indicate a trend towards harsher penalties and increased jail time for violations of environmental laws. In a Missouri case,\(^89\) Walter Carolan pled guilty to charges of falsifying records required under the Toxic Substances Control Act (TSCA).\(^90\) The false records pertained to the disposal of PCB transformers and capacitators by Carolan's


\(^{84}\) GUIDELINES MANUAL, supra note 56, § 2Q1.3. This section was used to determine a sentence for Ocie Mills and his son in 1989. The Mills had also illegally filled protected wetlands and were the first environmental polluters subjected to the Sentencing Guidelines. United States v. Mills, 88 Crim. 03100 (N.D. Fla. Apr. 17, 1989).

\(^{85}\) GUIDELINES MANUAL, supra note 56, § 2Q1.3(a).

\(^{86}\) Id. § 2Q1.3(b)(1)(A).

\(^{87}\) Id. § 2Q1.3(b)(4).

\(^{88}\) Id. § 5A (Sentencing Table).


In a recent Massachusetts case, the defendants, John Wells and his company, were charged with knowingly discharging hazardous wastewater into a city sewer system in violation of Clean Water Act Wastewater Pretreatment Standards. Wells was ordered to pay $60,000 to the city of Lowell, and was sentenced to fifteen months in prison.

In a similar case, John Borowski was convicted of violating the knowing endangerment provisions of the Clean Water Act by illegally discharging toxic materials into a sewer system. Borowski was sentenced to twenty-six months imprisonment and was ordered to pay personally a fine of $400,000. His company, Burjohn Optical, also was assessed a $50,000 fine and ordered to pay $15,000 to two employees for medical health insurance.

Guidelines as a Deterrent

Because parole has been abolished, environmental criminals likely will spend more time in jail due to the Sentencing Guidelines. Also, judges may no longer impose a sentence on a convicted environmental criminal and then suspend it. Commentators have

91. See Star & Kelly, supra note 59, at 12.
92. Carolan was also subjected to a Title 18 enforcement action. He was charged and convicted of conspiracy to defraud the EPA in violation of 18 U.S.C. § 371. He was given a $10,000 fine and sentenced to two years imprisonment (to be served concurrently with the two years received for the TSCA violation).
94. Star & Kelly, supra note 59, at 12.
97. Id.
98. Star & Kelly, supra note 59, at 4.
99. Id.
warned environmental practitioners that compliance constitutes the best counsel. 100 Because recent enforcement efforts have enhanced detection, "[s]laps on the wrist . . . may soon be replaced by several years of imprisonment,"101 and many potential environmental criminals may be deterred.

ENVIRONMENTAL ENFORCEMENT IN VIRGINIA

Administration and enforcement of environmental law in Virginia is accomplished through a complex state regulatory system with significant direction from federal regulatory agencies.102 Every major state environmental program is supervised by a board of seven to nine individuals appointed by the Governor.103 These boards promulgate regulations, decide specific cases, and direct activities of the state agencies.104 The state agencies105 implement board directives, perform formal and informal rulemaking, promote broad environmental goals and monitor compliance with media-specific environmental laws.106 The state's Secretary of Natural Resources


103. Virginia has four citizen boards that oversee major environmental programs: The State Water Control Board, the Virginia Waste Management Board, the State Air Pollution Control Board, and the Virginia Board of Health.

104. VIRGINIA HANDBOOK, supra note 102, at 1.6-1.7.

105. The major state environmental agencies are the Virginia Department of Air Pollution Control, the Department of Waste Management, the Virginia Water Control Board, and the Virginia Department of Health.

106. For example, the statute establishing the Virginia Water Control Board provides that the agency is to "promote water resource conservation . . . to provide for the health, safety, and welfare of the present and future citizens of the
oversees all of the citizen boards and agencies and reports directly to the Governor as a cabinet-level officer.\textsuperscript{107}

The Virginia Council on the Environment is an administrative body whose function is to develop uniform management policies for all environmental agencies.\textsuperscript{108} The Council is composed of chairmen from the citizen boards and directors of these agencies.\textsuperscript{109} The Council reports to the Governor and the General Assembly biennially on the state of environmental program management in Virginia.\textsuperscript{110}

Methods of environmental law enforcement vary depending on the particular agency involved. Air pollution control and hazardous waste management are accomplished by agencies with the statutory power to force compliance through administrative compliance orders.\textsuperscript{111} The agencies may also initiate judicial proceedings through the Attorney General in an attempt to secure civil penalties, declaratory judgments or other appropriate relief.\textsuperscript{112}

Criminal enforcement of state environmental laws has been given greater emphasis in recognition of the federal trend and growing public concern about the environment.\textsuperscript{113} In 1990, the

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Virginia Code was amended to increase criminal penalties for knowing violations of hazardous waste laws and water control laws.\footnote{114}

**Proposals for Increased Deterrence**

Environmental degradation in Virginia might be deterred significantly if criminal sanctions for environmental violations are increased. Knowing violations of the state air pollution control law,\footnote{115} safe drinking water law,\footnote{116} and wetlands protection law\footnote{117} now constitute only misdemeanor offenses.

Increased effectiveness of enforcement efforts also could promote deterrence. In Virginia, each agency currently promotes and implements its own enforcement strategies.\footnote{118} An administrative reorganization that consolidates environmental enforcement resources and personnel could enhance the quality of environmental protection.\footnote{119} Although all agencies now answer to the Secretary of Natural Resources, they perform daily activities independently of central guidance and implement enforcement priorities without regard...
Finally, lowering the requisite criminal mental state from "knowing" to "reckless" could increase deterrence by subjecting a broader range of environmentally damaging behavior to serious criminal punishment, by increasing the incentive to responsible parties to abide by environmental laws and by lessening the confusion caused by differing interpretations of the "knowing" standard.

Conclusion

Legislators and administrators have responded to environmental degradation by focusing on the criminal penalties for environmental law violations. Congress has strengthened the criminal sanctions of environmental laws and federal administrators have increased their pursuit of environmental criminals. Adoption of sentencing guidelines has also added strength to the criminal enforcement regime. The United States Sentencing Commission's specific treatment of environmental crimes lent credibility to the contention that crimes which damage the environment are serious and warrant significant punishment. Proper application of the guidelines ensures that criminal polluters will serve real jail time.

The trend towards harsher penalties and stricter criminal enforcement is fueled by the hope that strict and predictable punishment will deter future environmental crime. Further protection of the environment may be achieved if states toughen environmental statutes and structure effective criminal enforcement programs.

120. The fact that the General Assembly has created the Council on Environmental Quality indicates a recognition that uniformity in management is desirable.

121. One solution to the problem of confused interpretations of the "knowing" standard is to adopt a different requisite mental state. In Ohio, the General Assembly modified state law so that a "reckless" mental state satisfied the mens rea requirement for felony conviction under state environmental laws. Ohio Rev. Code Ann. § 3734.99 (Baldwin 1988). This change was defended by the Ohio State Attorney General. See Celebrezze, supra note 18, at 227.