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ACTUAL CONTAMINATION IN THE FEDERAL SENTENCING GUIDELINES: TO PROVE OR NOT TO PROVE?

Joan Tagliareni*

[B]eneath every criminal sentence in this country—whether drafted by legislators or imposed by judges—lie so many unexamined and untested assumptions that they lurk like the cores of icebergs, their darkness exceeded only by their density.¹

I. INTRODUCTION

Federal sentencing prior to 1987 was somewhat of a haphazard process. Federal judges had little or no guidance on what sentence to impose on a given defendant, which resulted in wide disparity of sentences for similar crimes and similar defendants.² To reform the system of federal sentencing in this country, Congress created the Federal Sentencing Guidelines ("the Guidelines").³ The Guidelines are the result of a major effort to cure some of the ills that plagued the previous methods of sentencing and to provide some cohesion in sentencing law.⁴ The transition to a Guideline system, however, has not been entirely smooth; many of the nuances and subtleties of the Guidelines still require interpretation by the courts. This need for interpretation is inevitable with any large-scale reform movement that attempts to reach the length and breadth of an entire area of the law.

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¹ ARTHUR W. CAMPBELL, LAW OF SENTENCING ix (2d ed. 1991).
² See infra notes 10–22 and accompanying text.
³ See infra notes 33–43 and accompanying text.
⁴ See infra notes 33–43 and accompanying text.
Although the Guidelines strive to guide a judge throughout the entire sentencing process, the evolving case law in the federal courts reveals areas where the Guidelines are insufficient or unclear. One such area is that of environmental crimes, specifically the burden of proof that the government assumes when it seeks to increase the sentence of an environmental criminal. Prosecution of environmental crimes has been on the rise over the past ten years due to a heightened awareness of environmental dangers and their future consequences. The public cares now more than ever before that environmental criminals be treated seriously, in an effort to deter others from committing similar assaults on the environment. The complex nature of environmental harms, however, has led to a number of difficulties in sentencing individuals convicted of these crimes.

This Comment focuses on one particular characteristic of the Guidelines that address environmental offenses: the necessity of proving actual contamination when increasing a sentence. Section II of this Comment reviews the relevant sentencing history before the creation of the Guidelines, as a foundation for later sentencing law. Section III examines the Federal Sentencing Guidelines in general and discusses how courts apply the Guidelines when passing sentences. Section IV narrows the focus to the environmental Guidelines in particular, and illustrates the difficulties the application of these Guidelines engenders. Section V discusses the recent case law that has addressed the issue of proof of actual contamination when increasing a sentence. Section VI considers the policy underpinnings for rejecting the proof of actual contamination requirement. Section VII urges that proof of

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5 See infra notes 74–132 and accompanying text.
6 See infra notes 51–73 and accompanying text.
8 See infra notes 148–50 and accompanying text.
9 See infra notes 59–73 and accompanying text.
actual contamination should be required to comply with the spirit and goals of the Guidelines themselves. This section refutes the arguments against requiring actual contamination, offers policy reasons for the proof of actual contamination requirement, and posits that requiring proof will bring sentence increases under the Guidelines in line with the procedures for increasing penalties in other criminal contexts. Section VIII posits possible methods of proof that would satisfy the actual contamination requirement. Finally, this Comment recommends that the burden of proof issue be resolved by Congress or the Supreme Court to end the debate and disparity among the circuit courts.

II. HISTORY OF SENTENCING DISCRETION

Prior to the passage of any comprehensive sentencing law, federal district court judges had little or no guidance on how to select the appropriate sentence for a given federal defendant.10 The prominent use of "not more than" standards illustrates this lack of guiding principles.11 These standards require only that a judge sentence below a certain level, subject solely to his or her own conscience.12 "Not more than" standards give absolutely no guidance on what prison term below that maximum would be justified for a given defendant.13

Given this paucity of direction and advice, each judge had an extraordinary amount of discretion in sentencing criminals convicted of

10 Comprehensive Crime Control Act of 1984, Pub. L. No. 98-473, tit. II, 1984 U.S.C.C.A.N. 3182, 3224 (legislative history) [hereinafter 1984 Crime Control Act]. One possible reason that the sentencing powers of judges were so unconstrained is that judges have traditionally been viewed as somewhat calmer, more dispassionate, more scholarly, and maybe even more noble than the average person. See Marvin E. Frankel, Criminal Sentences: Law Without Order 22-23 (1973). This characterization and position of honor afforded them more deference in their decisionmaking and, subsequently, portrayed them as less in need of guidance and direction. See id. at 16, 19, 22. Another possible reason for such broad sentencing power is, in the words of Marvin Frankel, that "we have chosen, or permitted ourselves, to stop thinking about the criminal process after the drama of apprehension, trial, and conviction... has ended." Id. at ix. In other words, by the time the sentencing stage arrives, the whole criminal procedure seems somehow less important, anti-climactic. See id. at ix, 14. Since the sentencing process is somewhat of a second-class citizen as compared to the trial and the finding of guilt or innocence, there was a concomitant lack of concern for giving judges directions on what sentence to impose. See id. at ix, 12-14. A third possible reason for broad sentencing powers is that many judges are immune from organizational controls: their salaries are fixed by law, their terms are often long, and impeachment rarely occurs. 1 Research on Sentencing: The Search for Reform 54 (Alfred Blumstein et al. eds., 1983) [hereinafter Research on Sentencing]. As a result, judges value their independence and are not easily regulated. Id. at 54.

11 Frankel, supra note 10, at 5-7.

12 See id. at 6.

13 See id. at 5-6.
federal crimes. This widespread discretion often led to extreme disparity in sentences imposed on defendants whose criminal acts and criminal histories were similar. This lack of uniformity was largely due to disagreement among judges about the purposes of sentencing. Initially, criminal sentencing was premised on the rehabilitation model, where the sentence reflected what was appropriate to restore the prisoner to a state of good repute. This view fell out of favor, however, when experts began to doubt whether rehabilitation could really occur in a prison setting, or whether anyone could ever really detect when a prisoner was rehabilitated. Consequently, each judge applied his or her own notions of the purposes of sentencing. Some judges retained the rehabilitation model, while others viewed sentencing as the conduit for serving the defendant his "just deserts" for his criminal behavior. Sentences varied considerably depending on whether the judge viewed the goal as one of rehabilitating the criminal or of gaining retribution for the harm done to society. While the first goal seeks, in a sense, to "cure" the criminal and return him to society as a functioning, productive member, the second goal seeks simply to punish the criminal for his socially-unacceptable behavior. Given this difference in ideologies, it is no wonder that sentences varied widely, even for similar criminal actions committed by similarly-situated defendants.

The policies and practices of the United States Parole Commission further confused the system of sentencing by altering how much of the original sentence the offender would actually serve in prison. The Parole Commission released prisoners according to its view of the appropriate term of imprisonment. In determining that term

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15 See 1984 Crime Control Act, supra note 10, at 3224. Studies reviewed in the committee hearings on the Comprehensive Crime Control Act of 1983 give numerous examples of such disparity. In one sample extortion case, for example, the range of sentences varied from 20 years imprisonment and a $65,000 fine to three years imprisonment and no fine. Id. at 3227. Another study indicated substantial variation in the length of recommended prison terms—in one fraud case, the mean prison term was 8.5 years, the longest term was life in prison. Id.
16 Id. at 3224 n.18.
17 Id. at 3221, 3223.
18 Id. at 3221.
19 Id.
20 See id. at 3224 n.18.
21 See id. at 3224; RESEARCH ON SENTENCING, supra note 10, at 44.
amount, the Parole Commission would attempt to compensate for what were perceived as disparities in the sentencing practices of individual judges and to increase certainty in prison release dates by setting a “presumptive release date.”25 These actions by the Parole Commission gave rise to the same dangers of unfettered discretion that arose in the initial judicial sentencing procedure.26

This division of sentencing authority between two essentially un­
guided bodies served only to enhance the confusion and disparity in sentences.27 Not only did discretion run unchecked, but the existence of the Parole Commission invited judicial fluctuation by permitting judges to keep the possibility of parole in mind when they imposed sentences.28 Further, a judge may have sentenced a defendant based on what he or she thought the Parole Commission would do, rather than on the true sentence he or she believed the defendant deserved.29

This constant second-guessing of the judiciary and of the Parole Commission by each other served merely to compound sentencing ambiguity.30 This procedural process obscured the purpose of the punishment and heightened a defendant's uncertainty about the length of incarceration.31 The law of sentencing at this time was a complex and confusing system with too many unguided variables, resulting in a substantial degree of inconsistency.32

III. THE FEDERAL SENTENCING GUIDELINES

In 1984, pursuant to the Sentencing Reform Act of 1984,33 Congress established the United States Sentencing Commission (“the Commis­

sion”) to address these problems and to promote honesty, uniformity, and proportionality in the criminal justice sentencing system.34 The goal of honesty requires that defendants serve the full sentence im-

25 Id.  
26 Id.; see Frankel, supra note 10, at 23–25.  
27 See 1984 Crime Control Act, supra note 10, at 3229. Arguably, this division of sentencing authority compromises the integrity and efficacy of punishment as well, given Congress’s goals of sentencing. Congress recognizes four primary purposes of sentencing: (1) the need to reflect the seriousness of the offense, to promote respect for the law, and to provide just punishment; (2) the need to afford adequate deterrence to criminal conditions; (3) the need to protect the public from further crimes of the defendant; and (4) the need to provide the defendant with needed educational or vocational training, medical care, or other correctional treatment. 18 U.S.C. § 3553(a)(2) (1985).  
29 Id. at 3229–30.  
30 Id. at 3221–22.  
31 See id. at 3221, 3232–33; Research on Sentencing, supra note 10, at 44.  
posed by the court, less an appropriate amount of time for good behavior. Uniformity seeks to narrow the "wide disparity in sentences imposed for similar criminal offenses committed by similar offenders." The third objective, proportionality, mandates that a sentence fit the level of severity of the particular criminal conduct.

The Commission's primary goal was to draft guidelines detailing the appropriate types and length of sentences for over 2000 federal crimes. At the outset, the Commission analyzed 10,500 actual criminal cases to determine existing sentencing practices. The Commission then engaged in a series of policy determinations to integrate those practices into a coherent, comprehensive sentencing law. These Guidelines, which apply to all federal criminal offenses, became effective on November 1, 1987. Due to constitutional challenges to their validity, however, the Guidelines did not become fully operational nationwide until January, 1989.

The Guidelines use a "point" system, where each characteristic of the applicable crime receives a numerical value. The "base offense level" reflects the simplest form of an offense in a group of generally related criminal activities, all related to specific federal criminal statutes. The base level is increased or decreased by "specific offense characteristics" of the individual's conduct. The sum of the numerical values of the base offense level and the aggravating and mitigating specific offense characteristics of a defendant's crime is the "total offense level" for that specific criminal conduct. For example, kidnapping has a base offense level of 24, which would be increased by six
level, in conjunction with a number reflecting the defendant's criminal history,\textsuperscript{48} determines the appropriate sentencing range.\textsuperscript{49} The sentencing judge may impose a sentence anywhere within this range.\textsuperscript{50}

IV. THE ENVIRONMENTAL GUIDELINES

Part Q of the Guidelines applies to criminal offenses involving the environment.\textsuperscript{51} Although environmental offenses often raise civil law issues, many environmental statutes contain criminal penalty provisions in addition to civil penalty remedies.\textsuperscript{52} The criminal penalty provisions have long been a part of environmental statutes, yet criminal prosecutions remained rare until the 1960s and 1970s, when prosecutors began to respond to the mounting environmental consciousness in the media and from the public.\textsuperscript{53} In the last few years, prosecutors have become increasingly willing to pursue punishment for environmental crimes.\textsuperscript{54} Thus, the criminal provisions of these statutes frequently are utilized today.\textsuperscript{55}

Over ninety percent of environmental cases fall within § 2Q1.2 (mishandling of \textit{hazardous} or \textit{toxic} substances) or § 2Q1.3 (mishan-
dling of other environmental pollutants) of the Guidelines. The base offense level for a crime covered by § 2Q1.2 is eight, while for § 2Q1.3 the base offense level is six. At the lowest level of prior criminal history, the base minimum sentence for a violation of one of these sections, with no adjustments for specific offense characteristics, is up to six months of imprisonment.

Both environmental Guidelines sections also list specific offense characteristics that further classify offenses according to the specific facts involved. These characteristics can raise the sentence to more than ten years for a serious violation. This tailoring stage is especially significant in terms of environmental crimes, because many different types of environmental crimes must fit into the two very broad categories of § 2Q1.2 and § 2Q1.3.

A troubling issue arises with the specific offense characteristic explained in subsection (b)(1) of both § 2Q1.2 and § 2Q1.3. Those subsections provide that the base offense level increases by four levels if the offense resulted in a “discharge, release, or emission of a pollutant into the environment” and by six levels if the discharge is continuous. The application notes accompanying this specific offense characteristic attempt to explain what constitutes a discharge, stat-

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56 Lincenberg, supra note 51, at 1241; Guidelines Manual, supra note 23, §§ 2Q1.2, 2Q1.3.
57 Guidelines Manual, supra note 23, §§ 2Q1.2, 2Q1.3.
58 See id. § 2Q1.2, § 2Q1.3, ch. 5 pt. A.
59 See id. §§ 2Q1.2, 2Q1.3.
60 For example, take a case where a toxic substance was released into the ground (base offense level of eight). Id. § 2Q1.2(a). If the discharge was proven to be continuous, add six levels. Id. § 2Q1.2(b)(1)(A). If the offense resulted in a substantial likelihood of death, add nine levels. Id. § 2Q1.2(b)(2). If the discharge required a cleanup of substantial expenditure, add four levels. Id. § 2Q1.2(b)(3). If the offense involved storage of pollutants without a permit, add four levels. Id. § 2Q1.2(b)(4). This gives a total offense level of 31. At a Criminal History Category of I (the lowest), a crime with a total offense level of 31 mandates a sentence range of 108–35 months. See id. ch. 5 pt. A.
62 Guidelines Manual, supra note 23, §§ 2Q1.2(b)(1), 2Q1.3(b)(1) (hereinafter referred to as subsection (b)(1)). The full text of the subsection reads:

(A) If the offense resulted in an ongoing, continuous, or repetitive discharge, release, or emission of a ["pollutant" or "hazardous or toxic substance or pesticide"] into the environment, increase by 6 levels; or

(B) if the offense otherwise involved a discharge, release, or emission of a ["pollutant" or "hazardous or toxic substance or pesticide"], increase by 4 levels.

Id. §§ 2Q1.2(b)(1), 2Q1.3(b)(1).
63 "The application notes are part of the Sentencing Commission's commentary on the Guidelines. As such, they may shed light on how the Guidelines should be applied to particular fact situations, [although they cannot] alter the very meaning of the Guidelines." United States v. McGlockin, 8 F.3d 1037, 1060 (6th Cir. 1993), cert. denied, 114 S. Ct. 1614 (1994).
The statutory language—"assumes a discharge . . . resulting in actual environmental contamination"—is subject to dual interpretations, thereby lending itself to uneven interpretation by courts. Specifically, the language does not clarify the burden of proof the government bears with respect to actual environmental contamination when the government seeks to have a sentence increased under subsection (b)(1). One interpretation presumes that actual contamination has resulted any time a discharge occurs. Under this position, the government, in seeking to increase a sentence under subsection (b)(1), need only prove that a discharge occurred to invoke the actual contamination provision. The second interpretation merely clarifies when subsection (b)(1) is applicable. In other words, if actual environmental contamination occurred, this subsection could then be invoked to increase a penalty. If no actual contamination occurred, this subsection would not be available. This interpretation speaks only to the applicability of subsection (b)(1) and does not reduce the government's burden of proving that actual contamination did occur.
This interpretation merely says that once the government has proven actual contamination, a judge can increase the penalty as described in subsection (b)(1).

V. APPLICATION OF THE ENVIRONMENTAL GUIDELINES BY COURTS

A. Cases Rejecting the Proof of Actual Contamination Required

A few circuit courts have addressed this statutory interpretation issue in an effort to find answers to the questions of what burden will suffice to increase a sentence under subsection (b)(1). Although somewhat vague in their reasoning, most courts until recently have held that the government need not prove actual contamination or harm in order to increase the offense level under subsection (b)(1). Each of these cases addressing the meaning of subsection (b)(1) demonstrates a tendency to place only a very small burden of proof upon the government prosecution.

United States v. Bogas was the first case to consider the subsection (b)(1) provision. Bogas involved an airport worker who ordered the dumping of partially filled drums of oil-based paint, broken sewer pipe, construction debris, drums of dirty solvents containing xylene and toluene, and jet fuel additives into a pit on airport property in violation of the Comprehensive Environmental Response, Compensation, and Liability Act. This rubbish was covered with dirt and later required exhumation by a certified waste operator. When the operator removed the top layer of dirt, a stench arose from the pit, requir-
ing the workers to don self-contained breathing equipment.\textsuperscript{80} On-site testing of the air disclosed the presence of volatile chemicals.\textsuperscript{81} Tests indicated that no contamination of drinking water had occurred, probably due to the filtration capabilities of carbon-bearing sand in proximity to the site.\textsuperscript{82} Soil samples taken from the disposal pit itself contained only minimal contamination, and not in any dangerous concentrations.\textsuperscript{83} One expert qualified his opinion, saying it was impossible to tell the extent of background contamination caused by the years of planes landing and taking off in the area.\textsuperscript{84}

In \textit{Bogas}, the United States District Court for the Northern District of Ohio refused to increase the defendant's sentence offense level because it was "unwilling to increase a . . . sentence by making an inference that [was] unsupported by any evidence."\textsuperscript{85} That court held that an upward adjustment in the sentence was unwarranted because the government failed to prove actual environmental contamination by a preponderance of the evidence.\textsuperscript{86}

The United States Court of Appeals for the Sixth Circuit overturned the district court sentence in \textit{Bogas} and held that subsection (b)(1) does not "differentiate between a release that results in actual environmental contamination and a release that does not."\textsuperscript{87} The court reasoned that even though no actual harm to the environment may have occurred, it would be erroneous to find no actual contamination because "there was at least some visual contamination of the soil at the disposal site, there was readily detectable contamination of the [air] above the disposal site, and there must have been some water contamination."\textsuperscript{88} The court noted that this was true even if the presence of the carbon-bearing sand at the site would have prevented contamination of a nearby water supply.\textsuperscript{89} Accordingly, the court held that environmental contamination was present in and around the disposal pit, thus requiring an increase under subsection (b)(1).\textsuperscript{90} The court also suggested that a sentencing court could stray from the two-level departure prescribed in the third sentence of Application

\textsuperscript{80} Id.
\textsuperscript{81} Id.
\textsuperscript{82} Id. at 365--66.
\textsuperscript{83} Id. at 366.
\textsuperscript{84} Id.
\textsuperscript{86} See id. at 244, 248.
\textsuperscript{87} United States v. Bogas, 920 F.2d 363, 367 (6th Cir. 1990).
\textsuperscript{88} Id. at 368.
\textsuperscript{89} Id.
\textsuperscript{90} See id.
Note 5 if no actual environmental contamination occurred. According to the court, this departure was permissible because the Sentencing Commission did not consider a situation where no actual environmental contamination occurred. This statement left open the issue of exactly when subsection (b)(1) is applicable and when such application is inappropriate.

Similarly, the United States Court of Appeals for the Fifth Circuit has addressed the issue surrounding subsection (b)(1) of the environmental Guidelines. In the two cases to raise the issue in that circuit, United States v. Sellers and United States v. Goldfaden, the court held that the government need not prove actual contamination. In Sellers, the defendant was convicted for dumping sixteen drums of hazardous paint waste on the embankment of a creek that flows into a nearby river, in violation of the Resource Conservation and Recovery Act. Investigators discovered the waste one day after the dumping. The Fifth Circuit held that actual contamination could be inferred from the high toxic level of the materials dumped. The defendant argued that since the waste was discovered so quickly, there was little likelihood that the waste actually contaminated the environment; yet the district court found, based on the evidence presented, that "one of the barrels was leaking." The Fifth Circuit explained that this evidence, as well as evidence that established the toxicity of the waste, was sufficient to satisfy subsection (b)(1), even if the waste was only in place for one day.

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91 Id. The third sentence of Application Note 5 reads:
Depending on the harm resulting from the emission, release, or discharge, the quantity and nature of the substance or pollutant, the duration of the offense and the risk associated with the violation, a departure of up to two levels in either direction from the offense levels prescribed in the [] specific offense characteristics may be appropriate.

Guidelines Manual, supra note 23, § 2Q1.2 applic. n.5.
92 Bogas, 920 F.2d at 368.
93 United States v. Goldfaden, 959 F.2d 1324, 1331 (5th Cir. 1992), aff'd, 987 F.2d 225 (5th Cir. 1993); United States v. Sellers, 926 F.2d 410, 418 (5th Cir. 1991).
94 Goldfaden, 959 F.2d at 1331; Sellers, 926 F.2d at 418.
95 Sellers, 926 F.2d at 412. The Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §§ 6901-6992 (1988 & Supp. IV 1992, Supp. V 1993), is the federal regulation of all aspects of the solid waste cycle, from generation of waste to its treatment, storage, and disposal. PLATER, supra note 52, at 251-52. RCRA imposes monitoring and reporting requirements on all parties involved with the treatment, storage, and disposal of waste, with a particular focus on hazardous waste. See id. at 252.
96 Sellers, 926 F.2d at 417.
97 Id. at 418.
98 Id. at 417-18.
99 See id. at 418.
In *Goldfaden*, the Fifth Circuit was much bolder and more direct in interpreting subsection (b)(1) and Application Note 5. There, the court held that “subsection (b)(1) takes environmental contamination as a given” and that the government need not prove actual contamination. The defendant discharged hazardous and industrial waste into a major city sewer system without a permit and pleaded guilty to a violation of the Clean Water Act. The court concluded that because the third sentence of Application Note 5 allows for upward or downward departures depending on the potency, size, or duration of the contamination, defendants would not be unduly harmed by the assumption that actual environmental contamination had occurred. Accordingly, the court held that the application of subsection (b)(1), absent proof of actual contamination, was not improper. This reasoning, requiring essentially no government proof of actual contamination when increasing a defendant’s offense level, appears to represent the broadest and most far-reaching interpretation of subsection (b)(1) and Application Note 5.

Unlike the Fifth and Sixth Circuits, the United States Court of Appeals for the Fourth Circuit, in applying subsection (b)(1) and the accompanying Application Note 5, has been extremely reticent to resolve the burden of proof issue. In the two environmental criminal cases to raise the issue, *United States v. Irby* and *United States v. Strandquist*, the court avoided deciding the issue directly. In *Irby*, the defendant was convicted under the Clean Water Act for ordering the release of approximately 500,000 gallons of partially treated sewage sludge from a waste sludge holding basin into a nearby river at least twice a week for two years. The court stated that “[e]ven if the government were required to prove damage to the environment,”

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100 *United States v. Goldfaden*, 959 F.2d 1324, 1331 (5th Cir. 1992), aff’d, 987 F.2d 225 (5th Cir. 1993).

101 *Id.* at 1331.

102 *Id.* at 1327. The Clean Water Act (CWA) requires a permit for any discharge of a pollutant from a point source into the waters of the United States. 33 U.S.C. § 1311(a) (1986).

103 See *Goldfaden*, 959 F.2d at 1331.

104 *Id.*

105 See *United States v. Strandquist*, 993 F.2d 395, 400 (4th Cir. 1993); *United States v. Irby*, No. 90–5113, 1991 U.S. App. LEXIS 21687, at *2 (4th Cir. Sept. 13, 1991); *United States v. Sellers*, 926 F.2d 410, 418 (5th Cir. 1991); *United States v. Bogas*, 920 F.2d 364, 366 (6th Cir. 1990). These courts avoid the issue surrounding subsection (b)(1), deciding the case upon circumstantial evidence, whereas the *Goldfaden* court directly states that there is no requirement for the government to prove actual contamination occurred. 959 F.2d at 1331.


evidence of the huge quantities of pollutants discharged proved that damage did occur.109 Because the court grounded its decision only on the circumstantial evidence presented, this case left the question of the government’s burden of proof entirely unanswered. The court provides no guidance for cases where the quantity of pollutants is not so large, thereby making actual contamination less apparent.

The Fourth Circuit again declined to resolve the issue in Strandquist.110 There, the defendant violated the Clean Water Act by pumping raw sewage from a marina into a storm grate that connected to a nearby boat basin.111 This activity, according to Federal Bureau of Investigation agents who observed the area, caused a strong, foul odor and created a brown, cloudy plume to flow from the outfall pipe into the basin.112 The court held that “the matter of proof of contamination has not yet been decided by the Fourth Circuit and need not be decided here because the district court’s finding of contamination [was] not clearly erroneous.”113 The court explained that although the evidence did not reveal enormous amounts of, or lasting, contamination, sufficient circumstantial evidence existed from which the court could infer environmental contamination.114 Because the court based the verdict upon circumstantial evidence, this decision is only applicable to the particular facts of the case and provides little guidance as to the proper interpretation of subsection (b)(1).

Much like the Fourth Circuit, the United States Court of Appeals for the Eighth Circuit has faced the burden of proof issue, but has avoided making any clarifying decision.115 In United States v. Freeman,116 the defendant was convicted under the Resource Conservation and Recovery Act117 for directing his employees to deposit drums of hazardous waste at an indoor storage space which lacked the necessary permits to store such waste.118 The Eighth Circuit held that it was not required to decide whether the government must show actual contamination to justify an increase under subsection (b)(1).119 Rather, the court stated that “[a]ssuming this showing is required, the record

109 Id.
110 Strandquist, 993 F.2d at 400.
111 Id. at 397.
112 Id. Evidence presented in the case also included EPA scientific samplings and a dye test to verify the connection between the storm grate and the basin. Id. at 397–98.
113 Id. at 400.
114 Id.
115 United States v. Freeman, 30 F.3d 1040, 1041 (8th Cir. 1994).
117 30 F.3d at 1041.
118 Id.
show[ed] environmental contamination” because the drums were leaking onto the floor, which had a drain that led to a storm sewer, and ultimately to a creek. As with the Fourth Circuit decisions, this opinion provides no assistance for future applications of subsection (b)(1).

B. Cases Advocating the Proof of Actual Contamination Requirement

In all of the above cases, the courts charged the government with little or no burden of proof when applying subsection (b)(1). Yet not all courts have obviated the proof of actual contamination requirement. In United States v. Ferrin, the United States Court of Appeals for the Ninth Circuit held that an increase of a sentence under subsection (b)(1) does require a showing that some amount of hazardous substance contaminated the environment.120

In Ferrin, the defendant was the civilian supervisor of seven hazardous waste handlers at a naval station.121 The defendant instructed his employees to treat a hazardous substance, isocyanate, by mixing the substance with another chemical.122 When the mixture did not react as the defendant planned, he told the employee to pour the chemicals into a kitty litter-like absorbent and dump the contents into the municipal dumpster outside the facility.123 Due to an ongoing investigation of the defendant, naval investigators witnessed the dumping and were able to clean up the area before the waste left the dumpster.124

The Ninth Circuit declined to increase the defendant’s offense level based on subsection (b)(1).125 The Ninth Circuit made that determination because, due to the fortuitous intervention of the investigators, there was no actual contamination of the environment.126 The court stated that a defendant who pleads guilty to a statutory charge does not necessarily admit that a discharge occurred, because the statute does not require actual discharge as an element of the crime.127 Rather, the statute imposes liability for hazardous waste disposal even if the

119 Id. at 1042.
120 994 F.2d 658, 663 (9th Cir. 1993).
121 Id. at 660.
122 Id.
123 Id.
124 Id.
125 Id. at 661.
126 Id. at 664.
127 Id. at 662.
hazardous substance did not actually enter the environment.\textsuperscript{128} The court further reasoned that offenses covered by Guideline § 2Q1.2 \textit{may or may not} result in de facto contamination, therefore the language of Application Note 5 requires a showing that some amount of hazardous substance \textit{in fact} contaminated the environment.\textsuperscript{129} Thus, according to the Ninth Circuit, actual contamination is a basic requirement for an offense level increase under subsection (b)(1).\textsuperscript{130} The court further commented that in most cases reasonable inferences from available evidence will suffice to support a conclusion that the illegal acts resulted in contamination.\textsuperscript{131}

This decision adds to the debate regarding the government's burden of proof when it seeks to increase a sentence under subsection (b)(1). All the prior cases, in the Fourth, Fifth, Sixth, and Eighth Circuits, resolved the proof issue in the government's favor.\textsuperscript{132} However, the \textit{Ferrin} decision commands reconsideration of the issue and further exploration of the policies behind the actual contamination requirements.

VI. POLICY REASONS TO REJECT THE PROOF OF ACTUAL CONTAMINATION REQUIREMENT\textsuperscript{133}

Those individuals who espouse the view that the government need not prove actual contamination, but rather may assume or infer its existence, may invoke one or all of the following arguments: to require government proof (1) would cause undue expense, difficulty, and delay in the sentencing process; (2) is inconsistent with legislative intent regarding environmental crime; (3) ignores changed community norms concerning this type of behavior; and (4) is unnecessary, because any due process concerns that might arise are adequately addressed through the third sentence of Application Note 5, which provides for departures in the Guidelines.

\textsuperscript{128} \textit{Id.}

\textsuperscript{129} \textit{Id.} at 663.

\textsuperscript{130} \textit{Id.}

\textsuperscript{131} \textit{Id.} at 664. For further discussion on this point, see infra notes 235-39 and accompanying text.

\textsuperscript{132} See supra notes 77-119 and accompanying text.

\textsuperscript{133} Although no authority explicitly states these propositions, the information in the following section is based on an exploration of the cases and inferences derived from comments surrounding environmental law issues.
A. Undue Expense Argument

The first argument claims that the requirement of proof merely serves to complicate the sentencing process, while providing little or no corresponding benefit. For example, non-technical personnel cannot adequately determine actual contamination, due to problems of quick dispersal and the need to determine changes in the composition of air, water, and soil. Thus, experts or trained personnel are often needed to make quantitative measurements with sophisticated analytical equipment, activities which are both costly and time-intensive. Presumably, therefore, requiring these additional factors at the sentencing stage would contradict the objective of a speedier, financially manageable sentencing process.

Even if the government overcomes these temporal and pecuniary obstacles, further problems arise. Proof of actual contamination requires statistical scientific and epidemiological data that is complex and foreign to most laypersons such as judges, lawyers, and juries. The confusion generated by this information may outweigh any clarity that the information adds to the sentencing process. Moreover, the complex nature of the polluting substances involved in most environmental cases may lead to a “mini-trial and a battle between each side’s experts over the risk associated with a particular . . . substance.” This, the argument concludes, leads to more delay and expense incurred at the sentencing stage.

B. Legislative Intent Argument

The second potential argument against requiring governmental proof of actual contamination propounds that such a requirement is contrary to a demonstrated legislative intention to address environ-

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134 See Lincenberg, supra note 51, at 1256.
135 See Howard Latin, Ideal Versus Real Regulatory Efficiency: Implementation of Uniform Standards and “Fine-Tuning” Regulatory Reforms, 37 STAN. L. REV. 1267, 1313 n.222 (1985). Latin argues that the use of the “sheen test” for determining oil pollution is preferable to other processes that involve costly and more complex quantitative analysis, because the sheen test depends on whether discharges are visible, and therefore, is simpler and cheaper to administer. Id.
137 See Starr & Kelley, supra note 7, at 10,102.
139 Starr & Kelley, supra note 7, at 10,102.
mental crimes seriously. The fact that Congress has added criminal provisions to many environmental statutes evidences a desire to increase the severity of punishment in environmental cases. In addition, Congress clearly has stated that deterrence of this type of conduct is a primary goal of sentencing. In order to accomplish this goal, the argument continues, environmental crimes, which have been criticized as historically receiving quite lenient treatment, must be seriously and severely addressed. Thus, the argument concludes, it is oxymoronic that Congress would emphasize the need to treat environmental crimes stringently and simultaneously create stringent requirements in the Guidelines that would hinder that effort.

C. Public Concern Argument

The third possible argument against requiring proof of actual contamination derives from the public's concern about environmental crime and desire to see such crime seriously addressed. The statutory language listing the duties of the Sentencing Commission includes factors the Commission shall consider in determining a sentencing decision. The statute charges that the Commission shall take into account, where relevant, the "community view of the gravity of the offense" and the "public concern generated by the offense." Moreover, the legislative history behind the statute suggests that "if there were a substantial increase in the rate of commission of a very serious crime, the public concern generated by that increase might cause the Commission to conclude that the guideline sentences for the offense should be increased."

The fact that public concern about environmental crime has increased lends credence to this argument. Public support for environmental enforcement has grown markedly amid a sense that "clean

141 Sharp, supra note 140, at 10,659; Linenberg, supra note 51, at 1237.
142 1984 Crime Control Act, supra note 10, at 3259; see Cohen, supra note 7, at 1100.
143 See Helen J. Brunner, Environmental Criminal Enforcement: A Retrospective View, 22 Envtl. L. 1315, 1338 (1992); Barrett, supra note 14, at 1421-22; Linenberg, supra note 51, at 1238. Congress has expressed concern that many white collar crimes, including environmental crimes, are often sentenced to small fines and little or no imprisonment, creating "the impression that certain offenses are punishable only by a small fine that can be written off as a cost of doing business." 1984 Criminal Control Act, supra note 10, at 3259.
water sources are drying up, natural resources are dwindling, the ozone layer is depleting, and population is increasing." Television has brought environmental catastrophes into our homes and into our collective consciousness. People worry about what environmental degradation will mean in their own lifetimes, and are even more fearful to contemplate its effect on their children's lives. Given that the public wants serious action taken, and yet sentencing for environmental crime has historically been lenient, this argument concludes that the need to prove actual contamination thwarts efforts to meet the public's demands for justice.

D. Outcome Oriented Argument

The final argument against requiring the government to prove actual contamination, which derives from the Fifth Circuit's decision in the Goldfaden case, suggests that assuming actual contamination is the most efficient way to handle environmental sentencing. This argument essentially claims that any mistakes made by assuming, rather than proving, actual contamination, are remedied by the third sentence of Application Note 5, which allows downward—or upward—departures depending on the potency, size, or duration of the contamination. Since any damage to the defendant caused by assuming contamination can be compensated through this provision, the argument continues, it makes sense to assume actual contamination. Such an assumption would increase efficiency, given the lax proof requirements, without creating a corresponding drop in correct results. Therefore, this argument concludes, the assumption of contamination should be made.

148 Lincenberg, supra note 51, at 1238.
149 Id.
151 Plater, supra note 52, at 321. Plater states:
   It would seem inevitable that criminal law would be enlisted in legal efforts to protect the environment, at least once the 1960s and 1970s had brought...environmental consciousness to government and the public. "Throw the bums in jail" is at least as natural as "Sue the bastards" as a gut reaction to many pollution controversies.
   Id.
152 Brunner, supra note 143, at 1338.
153 See United States v. Goldfaden, 959 F.2d 1324, 1331 (5th Cir. 1992), aff'd, 987 F.2d 225 (5th Cir. 1993).
154 See id.
155 See id.
VII. THE GOVERNMENT SHOULD BE REQUIRED TO PROVE ACTUAL CONTAMINATION

The government should be required to prove actual contamination in order to increase a sentence under subsection (b)(1). First, the policy arguments against a requirement of proof can be sufficiently refuted to reduce any concerns that might arise if such a burden were imposed. Second, requiring proof of actual contamination directly furthers the aims of Congress and of the Guidelines themselves by making sentencing less distorted and more fair.\textsuperscript{156} Third, this proof requirement would align environmental criminal sentencing with other criminal sentencing enhancement procedures.

A. Why the Reasoning Rejecting the Proof of Actual Contamination Requirement is Flawed

While each of the policy arguments rejecting the requirement of proof of actual contamination contains some validity, these arguments are too extreme and inflexible, and fail to take account of all the circumstances surrounding an environmental criminal prosecution. Each of those policies still receives adequate consideration when the government is required to demonstrate proof of actual contamination.

1. Undue Expense Argument

The argument that a requirement of proof is needlessly expensive, difficult, and time-consuming\textsuperscript{157} is not necessarily a barrier to the actual contamination requirement because the argument is only valid at the extreme edges of proof requirements. This argument makes an implicit assumption that a very high standard of proof would be mandated.\textsuperscript{158} Thus, it is true that if the standard is extremely demanding, the requirement may be much more burdensome than the corresponding benefit it could produce. For example, it may indeed be too expensive and even impossible to prove the exact numerical concentrations of every pollutant in the soil at the time of a spill. Requiring such proof would, in effect, preclude the government from ever increasing a penalty under subsection (b)(1). Similarly, a year-long scientific analysis to determine pre-spill and after-spill soil conditions

\textsuperscript{156} Guidelines Manual, supra note 23, ch. 1 pt. A, at 2; see supra notes 34–37 and accompanying text.

\textsuperscript{157} See supra notes 134–39 and accompanying text.

\textsuperscript{158} See Cohen, supra note 7, at 1105.
would not be feasible or even desirable. In fact, the Ninth Circuit, which in *Ferrin* held that proof of actual contamination is required, conceded that "[p]roof of environmental contamination does not necessarily require a full-blown scientific study."  

Yet this argument fails because it is readily perceived that a world of difference exists between requiring some evidence of actual contamination and not considering it at all. The argument loses force once a method is determined that can quell defendants' concerns and still be manageable for the government to undertake.  

2. Legislative Intent Argument

The second argument against requiring proof—that such a requirement is inconsistent with legislative intent to treat environmental crimes very seriously—contravenes the intent of the Guidelines.  

This argument glosses over the unique nature of individual crimes, an issue that the Guidelines sought to address. By stating, in effect, that one should look only to the designation of a crime as "environmental," without any consideration of the individual circumstances, this argument completely misinterprets the goal of the Guidelines. The Guidelines seek to tailor the punishment to the criminal and the specific circumstances of the case, not to the general category of the crime. By focusing solely on the nature of the crime as environmental, this argument subordinates the specific aspects of the crime to the general categorization, contradicting the intent of the Guidelines.

Moreover, this argument completely ignores the equally important legislative intent to ensure fair sentencing. Certainly, Congress maintains valid concerns about environmental crime and desires to fully enforce the environmental statutes against those who violate them.

159 United States v. *Ferrin*, 994 F.2d 658, 664 (9th Cir. 1993).

160 See infra Section VIII, for suggestions of methods of proof that satisfy defendant's concern for fairness without overburdening the government.

161 See 994 F.2d at 664.

162 See supra notes 140-43 and accompanying text.


Yet to let that concern block out the equally important concern for fair sentencing is inappropriate. Because both issues are important to our society, neither should be diminished in pursuit of the other.

Furthermore, both concerns can be addressed adequately, and they need not be exclusive of one another.166 It is important to remember that the concern at this point in the criminal process is with sentencing. Our criminal justice system separates the sentencing stage from the guilt-innocence stage.167 This reflects an intuitive notion that a difference exists between deciding whether one can be punished and, once that question is decided, determining the proper punishment.168 At the sentencing stage of the proceedings, a conviction already has been secured, and the remaining issue is simply determining a sentence that provides just punishment while being fair to the individual.169 Since the defendant already has been declared guilty, no fear lingers that the environmental criminal will exist unpunished or that other potential environmental criminals will remain undeterred. The fact that the defendant has been convicted and faces serious jail time, as ensured by the Commission’s attention to environmental crimes when creating the Guidelines, alleviates those concerns. Therefore, requiring that the government show actual contamination to increase a sentence ensures fair and just sentencing, while causing no detriment to the serious punishment and deterrence of environmental crimes.

3. Public Concern Argument

The argument that requiring proof of actual contamination subverts the public’s desire for “social revenge”170 on environmental criminals171 distorts the role of Congress and the government. In insisting that this demand be fulfilled, no matter the cost, the public is in effect asking Congress to subordinate individual due process concerns to environmental concerns. It is not difficult to see why a law-abiding citizen might place environmental concerns before fair sentencing concerns; one directly affects them, the other does not.

166 See Sharp, supra note 140, at 10,665 (discussing opportunities that “both advance environmental goals and conform to the philosophical tenets underlying traditional notions of criminal sanction”).
168 Id.
170 Arkin, supra note 150, at 3.
171 See supra notes 144–52 and accompanying text.
Although these reactions are entirely understandable and may be widespread, the Constitution requires Congress to protect the rights of all people impartially, criminal and innocent alike.\textsuperscript{172} Our government is responsible for ensuring that individuals are not punished unjustly or overpenalized for their crimes.\textsuperscript{173} Certainly, Congress must respond to public concerns, but Congress must also rationally balance the needs of society. The government cannot forego the needs of one to satisfy the wants of many simply because the many speak louder and represent a more "clean" and green sector of our society.

4. Outcome Oriented Argument

The final argument against requiring proof of actual contamination—relating to the "cleanup powers" of the third sentence of Application Note 5—\textsuperscript{174}—is subject to a major flaw in that the powers accorded to a sentencing court by Application Note 5 are insufficient to remedy the entire damage caused by an incorrect assumption. When a court finds that actual contamination occurred, the Guidelines direct the court to increase the base offense by four levels.\textsuperscript{175} The third sentence of Application Note 5 allows a departure of up to two levels, depending on the potency, size, or duration of the contamination.\textsuperscript{176} Thus, a defendant whose actions have not resulted in any actual contamination, but was assumed by the court to have done so, still faces an unwarranted two-level increase in the offense level. Since this method cannot entirely erase the improper effects of an incorrect assumption, it is insufficient to justify the lowered burden of proof.

B. Reasons to Advocate the Proof of Actual Contamination Requirement

The government should be required to prove actual contamination not only because the reasons for dismissing this proof requirement are flawed, but because there are strong policy reasons supporting this requirement. The government should make a showing of actual contamination in order to increase an offense level under subsection (b)(1) because: (1) to assume, rather than be required to prove, actual contamination violates due process and fundamental notions of fair-

\textsuperscript{172} See U.S. CONST. Amend. VI.
\textsuperscript{173} See 1984 Crime Control Act, supra note 10, at 3222.
\textsuperscript{174} See supra notes 153-55 and accompanying text.
\textsuperscript{175} GUIDELINES MANUAL, supra note 23, §§ 2Q1.2, 2Q1.3.
\textsuperscript{176} Id. § 2Q1.2 applic. n.5, § 2Q1.3 applic. n.4.
ness; (2) the requirement of government proof is consistent with legislative intent; (3) the requirement of proof is consistent with rules of statutory construction; and (4) the requirement of proof furthers the goals to which the Guidelines aspire.

1. To Dismiss Government Burden of Proof Violates Due Process and Fundamental Fairness

The first concern hearkens to age-old notions of due process and fairness, because the proof of actual contamination requirement is necessary to protect a defendant's rights. Some commentators hold that the advent and use of the Guidelines may necessitate greater procedural protections than were needed before the Guidelines went into effect. Prior to the existence of the Guidelines, a court was not required to be extremely specific in the determination of facts at sentencing, because no single fact had a quantifiable effect on the sentence. Therefore, the sentencing judge was free to disregard unproven facts or to give them very little weight in the ultimate sentence decision. However, now that the Guidelines are in effect, each determination and finding of fact has a quantifiable effect on the applicable Guideline range. Because the court's fact-finding has such a particularized impact on the sentence, the sentencing stage requires greater due process protections than were necessary previously.

In pursuit of due process, the United States Constitution accords every defendant the right to a sentence based only upon accurate and reliable information. Moreover, if a court bases the sentence on a foundation that is factually false, the defendant's due process rights are violated. Consequently, it is a direct contravention of a defendant's rights for a court to base a sentence on the assumption that

177 Due process requires, in every case, "an evaluation based on a disinterested inquiry pursued in the spirit of science, on a balanced order of facts exactly and fairly stated . . . and on a judgment not ad hoc and episodic but duly mindful of reconciling the needs both of continuity and of change in any progressive society." BALLEN'TINE'S LAW DICTIONARY 380 (3d. ed. 1969). Further, due process demands that "the law . . . hears before it condemns[,] proceeds upon inquiry, and renders judgment only after trial." Id.


179 Id.

180 Id.

181 Id.

182 Id.

183 HUTCHINSON & YELLEN, supra note 178, at 400 annot. 2, (citing Townsend v. Burke, 334 U.S. 736, 740-42 (1948)). TOWNSEND v. BURKE states, in relevant part, "it is the careless or designed pronouncement of sentence on a foundation so extensively and materially false . . . that renders the proceedings lacking in due process." 334 U.S. at 741.

184 See id.
actual contamination occurred, when that assumption could very possibly be incorrect. Moreover, defense counsel in criminal proceedings are "under a duty to prevent the court from proceeding on . . . false assumptions." Thus, a court must heed the defense counsel who requests proof of actual contamination before a sentence increase, to prevent the court from proceeding upon a mistaken assumption.

Further, fairness dictates that if the government seeks to increase the sentencing range and potentially increase the ultimate sentence, the government should bear the burden of proof, just as it does in obtaining the conviction. There, the government's burden of proving guilt beyond a reasonable doubt is imposed to protect the defendant from government overreaching. Similarly, in sentencing, these provisions are necessary to ensure that the sentence is "fair both to the offender and to society," and that "the offender, the Federal personnel charged with implementing the sentence, and the general public are certain about the sentence and the reasons for it."

The proof of actual contamination requirement also serves as a necessary safeguard to protect against the imposition of unjust punishment. In the last few years, environmental crimes have become the object of much attention. Although this attention certainly is well placed and long overdue, the danger arises that such intense and focused attention can lead to "overreaching and overapplication of the system, with consequent injustice." If the desire for deterrence of this type of crime progresses too far, a reduced concern with the culpability of the offender results, causing innocents to be punished as sacrificial victims for the god called deterrence.

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185 See id. at 740.
186 Id. (emphasis added).
187 See id.
188 See United States v. Gordon, 895 F.2d 932, 936 (4th Cir. 1990) (a request to apply an aggravating or mitigating factor must be based on some evidence and "the moving party cannot meet his burden simply by offering conclusory statements"); United States v. Urrego-Linares, 879 F.2d 1234, 1239 (4th Cir. 1989) (holding that each party is responsible for proving the facts necessary for any sentence adjustment it seeks).
190 1984 Crime Control Act, supra note 10, at 3222.
191 Id. (emphasis added).
192 See Sundby, supra note 167, at 169. "Concerns over wrongful deprivation of liberty may be as great, if not greater, at the punishment phase." Id.
193 PLATER, supra note 52, at 321, 323.
194 Arkin, supra note 150, at 3.
195 See id.; Sharp, supra note 140, at 10,662.
Furthermore, because the Guidelines ensure that environmental crimes do not go unnoticed and unpunished, no need exists to augment the Guidelines by reducing the government’s burden of proof. When the Commission created the Guidelines, it recognized that environmental crimes previously received very lenient treatment, and compensated for that deficit in the new Guidelines. Since the Commission “significantly increased both the probability of imprisonment and the length of the sentence” for environmental crimes, it would be patently unfair to increase a sentence again under subsection (b)(1) without the requisite proof. The Guidelines address the public’s rightful concerns; therefore, these concerns now cannot be used to sway courts to increase stringent sentences that already reflect the seriousness of the offense.

2. To Require Proof of Actual Contamination is Consistent with Legislative Intent

The second argument for requiring governmental proof is that such a showing is consistent with legislative intent. Even though Congress may concern itself with environmental crime, all criminal provisions must promote fair sentencing procedures. Nowhere is this concern with fair sentencing more apparent than in the creation of the Sentencing Commission itself. The Guidelines attempt to assist judges in issuing sentences that are correct for a particular crime, and to reduce disparity among similarly situated defendants. By assuming actual contamination, courts will fail on both accounts. As with any assumption, instances will arise where the assumption is made incorrectly. When that happens, the sentence no longer responds to that particular crime, but rather addresses a different, more serious, vio-

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196 Cohen, supra note 7, at 1100.
197 Id.
199 The statute creating the Commission states, in relevant part:
   The purposes of the United States Sentencing Commission are to
   (1) establish sentencing policies and practices for the Federal criminal justice system
   that . . .
   (B) provide certainty and fairness in meeting the purposes of sentencing, avoiding
   unwarranted sentencing disparities among defendants with similar records who have
   been found guilty of similar criminal conduct while maintaining sufficient flexibility to
   permit individualized sentences when warranted by mitigating or aggravating factors
   not taken into account in the establishment of general sentencing practices.
lation. Similarly, a universal assumption treats differently situated defendants in a uniform manner, perpetuating the exact problem the Guidelines seek to avoid. The Guidelines seek to reduce disparity among similarly situated defendants, not among differently situated defendants. Since Congress created the Sentencing Commission with the explicit purpose of reforming sentencing procedures to ensure fairness to both the defendant and the public, this concern requires that safeguards be adopted to arrive at the most correct and appropriate punishment. Accordingly, a just and correct punishment under the Guidelines can only be reached if the government proves, rather than assumes, actual contamination.

3. To Require Proof of Actual Contamination is Consistent with the Rules of Statutory Construction

The third argument for mandating proof of actual contamination is that such a requirement is consistent with the rule of lenity, a long-standing rule of statutory construction that says ambiguities should be resolved in favor of the defendant. The rationale behind this rule is that courts should be reluctant to increase punishment without a clear and definitive legislative directive. Although the rule of lenity primarily relates to statutory construction, the underlying rationale, and thus the rule as well, can be applied to Guidelines interpretation.

The rule of lenity presumes that some ambiguity exists, and the Sentencing Commission has conceded that ambiguities will exist in the Guidelines. The legislative history behind the act creating the Sentencing Commission states that the Commission “can and should continually revise its [goals] and policies to assure that they are the most sophisticated statements available and will most appropriately carry out the purposes of sentencing.” By advocating and encouraging revisions to the Guidelines, the Commission recognizes that the process of guideline-writing is an evolutionary one. The Commission

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201 GUIDELINES MANUAL, supra note 23, ch. 1 pt. A, at 3. For example, when such an assumption is made, Defendant #1, who caused no actual contamination, is treated exactly the same as Defendant #2, who did cause actual contamination. Only when actual contamination is proven, not assumed, can these plainly incorrect results be avoided.
202 Id. at 2.
acknowledges that the Guidelines may need revision because, when the Guidelines were first drafted, the Commission had to make some concessions.\textsuperscript{208} In attempting to "reconcile the need for a fair adjudicatory procedure with the need for a speedy sentencing process," the Commission could not feasibly detail every factor that could affect the application of the Guidelines.\textsuperscript{209} A sentencing system that covered every conceivable factor would be unworkable, while one that was very broad would fail to reduce disparity.\textsuperscript{210} Thus, the Commission created a manageable system, simultaneously recognizing that future improvements may be necessary.

Moreover, the environmental Guidelines are particularly susceptible to ambiguity, due to the paucity of information available to the Commission regarding those crimes in 1984–1987.\textsuperscript{211} Since the Commission had little material on which to base the environmental Guidelines, those Guidelines remain unsuited to their goals.\textsuperscript{212} Once the case law illustrates what issues arise and are important, the Guidelines can respond and take those issues into account. Therefore, the environmental Guidelines will certainly need revision to resolve the ambiguities that arise.

Given that ambiguity does exist in the environmental Guidelines, courts should adhere to the rule of lenity by resolving such ambiguity in favor of the defendant. Thus, courts should err on the side requiring proof of actual contamination until this point receives further clarification by Congress or the Supreme Court.

4. To Require Proof of Actual Contamination Furthers the Goals of Sentencing Guidelines

The final argument supporting the proof requirement is that this requirement furthers the Commission's goals for fair sentencing. The legislative history relates that the Guidelines strive to be the "most sophisticated statements . . . [to] most appropriately carry out the purposes of sentencing."\textsuperscript{213} Interpreting the Guidelines so as to require guesswork and implication regarding the presence or absence of actual contamination does not appear at all sophisticated, especially given the fact that technically advanced methods currently are avail-

\textsuperscript{208} See id. at 5.
\textsuperscript{209} Id. at 2, 5.
\textsuperscript{210} See id. at 2–3.
\textsuperscript{211} See supra note 51.
\textsuperscript{212} See Sharp, supra note 140, at 10,665.
\textsuperscript{213} 1984 Crime Control Act, supra note 10, at 3260.
able to make that determination.\textsuperscript{214} If the Guidelines and the accompanying Application Note 5 can be read to mandate assumptions and inferences, the Guidelines clearly are not providing the adequate guidance intended by their creation.\textsuperscript{215} If the Guideline sentencing process is to become more sophisticated, courts should rely on decisions made by people with the most expertise in assessing risks to safety, health, and the environment, rather than on less technically-adapted inferences and assumptions.\textsuperscript{216}

C. The Requirement of Proof of Actual Contamination Aligns Environmental Criminal Sentencing with Other Sentence Enhancement Contexts

In almost every criminal law context, sentence or penalty enhancements are based upon and accompanied by proof of the underlying aggravating factor.\textsuperscript{217} Sentences are increased in various criminal contexts, usually to provide an even greater deterrent value.\textsuperscript{218} Two common reasons for sentence enhancements are recidivist criminal behavior and bias-motivated crimes.\textsuperscript{219} Yet in neither of these instances do courts make assumptions about crucial facts and then rely on those facts to increase the punishment.\textsuperscript{220} Therefore, requiring proof of actual contamination aligns environmental sentencing with other, longstanding, penalty-enhancement provisions.

Even in instances where proof of the underlying aggravating factor is relatively simple to prove, such as recidivist criminal behavior or behavior while in prison, proof is necessary before that factor can be

\textsuperscript{214} See, e.g., United States v. Strandquist, 993 F.2d 395, 397–98 (4th Cir. 1993) (EPA scientist tested water for fecal coliform levels per 100 milliliters and performed a dye test to verify connection of two water sources); United States v. Bogas, 731 F. Supp. 242, 248 (N.D. Ohio) (samples taken of soil, water, and air to compare contamination levels to pre-existing background contamination levels), rev’d, 920 F.2d 363 (6th Cir. 1990).

\textsuperscript{215} See 1984 Crime Control Act, supra note 10, at 3346–47.

\textsuperscript{216} See Sharp, supra note 140, at 10,660.

\textsuperscript{217} See supra notes 221–24 and 226–31 and accompanying text.


\textsuperscript{219} See, e.g., Nichols v. United States, 114 S. Ct. 1921, 1927 (1994) ("Enhancement statutes, whether in the nature of criminal history provisions such as those contained in the Sentencing Guidelines, or recidivist statutes which are common place in state criminal laws, do not change the penalty imposed for the earlier conviction."); Ball v. United States, 470 U.S. 856, 865 (1985) ("[T]he presence of two convictions on the record may . . . result in an increased sentence under a recidivist statute for a future offense."); Wisconsin v. Mitchell, 113 S. Ct. 2194, 2199 (1993) (approving the use of penalty-enhancement provision in state statute for case of "hate" crime).

\textsuperscript{220} See infra notes 221–24 and 226–31 and accompanying text.
used to increase a penalty or sentence. A record of the judgment of conviction or a certified copy of the record in a criminal case documents the prior criminal acts and the descriptions thereof. Courts require real evidence, such as these documents, as opposed to mere assertions by the prosecution that such evidence exists. The prosecution must actually present these documents or other competent evidence to have a sentence increased based on these past actions.

The policy underlying such proof requirements in the arena of sentence-enhancement is that courts recognize the high value of freedom, and therefore impose burdens on the prosecution when the prosecution seeks to restrict or infringe on that freedom. This policy should be extended to the environmental crime context through the actual contamination proof requirement. A court should not rely merely on the statements of the prosecution that actual contamination did occur. Rather, the court should require hard evidence, just like the judgment of conviction in the recidivist scenario, to protect the defendant's right against unjust punishment.

Crimes committed with a discriminatory motivation also are subject to penalty-enhancement, if the requisite proof is present. The penalty-enhancement for these crimes, known as "hate crimes," is justified by demonstrating that the defendant had certain beliefs and that the defendant selected the victim based on those beliefs. Abstract evidence of the defendant's beliefs is not enough. The prosecution must show a sufficient nexus between the defendant's beliefs and the choice of victim in order to have the defendant's penalty increased due to bias. Clearly, there are numerous difficulties and ambiguities involved in demonstrating such a connection. One must deal with human motivational factors, which are both incalculable and often indistinguishable. Nonetheless, courts require this tangible proof, irrespective of how difficult it is to demonstrate. Without such proof, penalty-enhancement is unavailable.

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222 Id.
223 See id.
224 Id.
225 See LAFAVE & SCOTT, supra note 189, at 46.
227 Id. at 2200.
228 Id.
229 See id.
230 See id.
231 See id.
Consider, for example, a case where a longstanding, vocal, white supremacist is guilty of battering an African-American. To most people, such a crime is obviously bias-motivated. Yet the court will not assume that fact. Rather, the court requires that the prosecution provide a high level of proof before the court will take the drastic step of penalty-enhancement. If the prosecution lacks sufficient proof, the penalty remains unaltered, despite many people's belief that the crime indeed was motivated by bias.232

Just as a court choosing a sentence in a hate crime case requires a certain level of proof before it will increase the sentence, that concern for proof is needed to protect defendants in the environmental crime context. A prosecutor cannot secure a penalty-enhancement for a white supremacist who committed assault on an African-American merely by relating bigoted messages the defendant has spoken.233 The prosecution must tie those messages to the choice of this victim for assault.234 Likewise, a prosecutor should not be able to secure a sentence increase for an environmental polluter merely by showing that the defendant committed a discharge. The government must connect that discharge to actual contamination for an increase to ensue. Thus, our system of criminal sentencing will remain consistent with respect to penalty enhancement, regardless of the underlying crime.

VIII. SUGGESTED METHODS OF PROOF OF ACTUAL CONTAMINATION

Once it is determined that the government should be required to prove actual contamination to have a sentence increased under subsection (b)(1), the next issue is what type of proof will suffice. Any method employed must satisfy both the defendant's concern for fairness and the government's need for efficiency and manageability.

From the outset it should be noted that the Ferrin court, while correct in requiring proof of actual contamination,235 incorrectly estimated what form that proof should take. That court, probably in an effort to quell government fears regarding this newly-imposed proof requirement, overextended itself in saying that in most cases, the burden of proof would be satisfied through the use of conclusions derived from inferences from available evidence.236 This method of

232 See id.
233 See id.
234 Id.
235 See United States v. Ferrin, 994 F.2d 658, 663-664 (9th Cir. 1993).
236 Id. at 664.
proof requires little more than not requiring any proof of actual contamination at all. People employ inferences when proof is absent. To permit inferences to satisfy the burden of proof returns the standard to the point in early case law where courts were forced to guess what occurred, rather than require that the government demonstrate what actually occurred.\textsuperscript{237} This statement by the court represents a retreat from the holding that proof of actual contamination is a basic requirement for offense level increase under subsection (b)(1).\textsuperscript{238} The Ninth Circuit, however, resumed its original position in stating, by way of example, that a finding that the pollutants came into contact with land or water, or were released into the air, would satisfy the requirement.\textsuperscript{239}

A preferable method of proof is for the government to provide results of tests performed or samples taken, showing that actual contamination did occur. Preliminary conventional tests should be taken of areas not influenced by the spill to determine the amount of background contamination that is already present in the area.\textsuperscript{240} Without this information on pre-existing conditions, no one can determine if a spill added any contamination to the site.\textsuperscript{241} Because the soil in a given area may have naturally high concentrations of some chemicals, this knowledge of background conditions is necessary to give perspective to any subsequent findings.\textsuperscript{242}

Once this background information is secured, the government experts should perform tests to show that the discharge added pollutants to the area. Such tests should take into account the properties of the material discharged, and the regulations of that state regarding discharge of that material.\textsuperscript{243} The decision on what constitutes contamination should not be arbitrary and subjective. Rather, the decision should be rationally tied to the legal standards, applicable to that location, regarding what level of that material is acceptable.\textsuperscript{244} For

\textsuperscript{237} See, e.g., United States v. Freeman, 30 F.3d 1040, 1041 (8th Cir. 1994) (inferring contamination from chemical characteristics and location of leaked waste); United States v. Sellers, 926 F.2d 410, 418 (9th Cir. 1991) (inferring contamination from chemical characteristics); United States v. Irby, No. 90-5113, 1991 U.S. App. LEXIS 21087, at *3 (inferring contamination from the quantity discharged); see also supra notes 95--99, 108--09 and 116--19 and accompanying text.

\textsuperscript{238} See Ferrin, 994 F.2d at 663.

\textsuperscript{239} Id. at 664.

\textsuperscript{240} Brief for Appellee at 18, United States v. Bogas, 731 F. Supp. 242 (N.D. Ohio) (No. 90--3228), rev'd, 920 F.2d 363 (6th Cir. 1990).


\textsuperscript{242} See Brief for Appellee at 18--19, Bogas (No. 90--3228).

\textsuperscript{243} Brief for Appellant at 33, United States v. Strandquist, 993 F.2d 395 (4th Cir. 1993) (No. 92--5174).

\textsuperscript{244} See id. at 34--36.
example, the Clean Water Act authorizes states to set water quality standards.\textsuperscript{245} Those water quality standards reflect the state's determination of what constitutes contamination.\textsuperscript{246} Where specific criteria are set for determining whether contamination exists, those criteria should be followed in the sentencing decision.\textsuperscript{247} This will be relatively simple to do in the vast majority of cases, where large quantities of pollutants are dumped into the ground or water.

The government may still find this too weighty a burden and may clamor for a reduced standard, however, especially in cases where the pollutant commingled with other substances or where the spill occurred a number of years ago.\textsuperscript{248} If a court is sympathetic to the government's situation, perhaps a lower, although less desirable, standard would suffice in those instances only. For example, the method of proof could be the testimony of a reputable expert, unconnected to any government actor, who would assume the professional position that it is very likely there was contamination at the site, even if only for a limited time. The professional witness must be willing to place his or her credibility behind such a decision. The validity of this method, of course, presumes that the expert witness is a disinterested party, with credible qualifications in this type of environmental science.\textsuperscript{249} This method is less desirable than one requiring "hard" proof, because this method requires the environmental expert to make some inferences from data and tests. Yet such a showing, though modest, is still preferable to a non-technical judge making assumptions of contamination based on no evidence at all.

These suggestions only begin to consider methods that would be sufficient to satisfy the government's burden of proof. Those with more experience in the technical aspects of environmental study could probably derive many other methods that would balance the needs of both parties in an environmental prosecution.

\textbf{IX. Conclusion}

The debate over the burden of proof regarding actual contamination must end to ensure fair sentencing for environmental defendants.

\textsuperscript{245} 33 U.S.C. § 1313(a)(1986).
\textsuperscript{246} See Brief for Appellant at 34, Strandquist (No. 92-5174).
\textsuperscript{247} Id. at 35.
\textsuperscript{248} The government is limited in the cases it may bring by a five year statute of limitations. 28 U.S.C. § 2462 (1988). Thus, the government could bring suit for a spill that occurred four years ago, but all the traces of the spill may be gone.
\textsuperscript{249} Presumably, any expert witness will be disinterested and objective. Of course, procedural devices provided by the adversary system ensure that the testimony is correct. Thus, defense counsel can cross-examine the expert witness to glean objective, truthful information.
Congress should amend Application Note 5 accompanying subsection (b)(1) of the environmental Guidelines to make it clear that the government must make some showing of proof of actual contamination in order to increase a sentence under that subsection. Such an amendment should go further to designate what type of proof would suffice in order to balance the defendant's need for fairness with the government's need for manageability. By doing so, Congress would preclude any further confusion in the federal district courts as to the sufficiency of offered evidence. Alternatively, the United States Supreme Court could decide this proof issue to end the disparity among the circuit courts. It is preferable, however, for Congress to amend the Guidelines so that Congress can dictate precisely what proffered evidence will be sufficient to satisfy the government's burden. Only when this issue is resolved can the courts further the goals and spirit of the Guidelines themselves.