Articles

The Work of the International Law Commission in the Field of International Environmental Law

Luis Barrionuevo Arévalo

[pages 493–507]

Abstract: Established in 1947 by the United Nations General Assembly, the International Law Commission (ILC) has played an instrumental role in the codification and progressive development of international law over the last five decades. Despite an initially weak legal basis for environmental action, the ILC managed to meet the demands for international measures in this domain, producing a number of draft articles, some of which gave birth to major environmental treaties. After briefly describing the ILC’s organization, functions, and procedures, this Article analyses its work on some environmental issues, grouped under three categories: law of the sea, international watercourses and natural shared resources, and accountability for trans-boundary environmental damage. Although not counted among today’s main law-making bodies in the environmental field, the ILC has positively responded to the need to protect the environment and made a valuable contribution to the process of codification and progressive development of international environmental law.

The Utility of Non-Use Values in Natural Resource Damage Assessments

Jason J. Czarnezki
Adrianne K. Zahner

[pages 509–526]

Abstract: Non-use values are frequently underestimated or ignored in natural resource damage assessments, despite the fact that there are significant social and economic benefits to assessing costs for lost non-use values. The regulations of the Department of the Interior, which bind some CERCLA trustees, create unusual barriers to the consideration of non-use values and are potentially vulnerable to a reasonableness challenge under Chevron v. NRDC. Trustees who are not bound by the DOI regulations should consider calculating and assessing non-use values because of the economic and social benefits of recognizing non-economic injury caused by the destruction or degradation of natural resources.
LEARNING FROM MORE THAN FIVE-AND-A-HALF DECADES OF FEDERAL WATER POLLUTION CONTROL LEGISLATION:
TWENTY LESSONS FOR THE FUTURE

Kenneth M. Murchison

(pages 527–598)

Abstract: Since 1948, the federal government has assumed an increasingly dominant role in efforts to control pollution of surface waters in the United States. Over that half century, the federal role has evolved from research support and financial grants to states, to federal effluent standards and a national permit requirement, and, more recently, to enforcement of a mandate to achieve water quality standards. This Article describes the evolution of federal water pollution control legislation in the United States. It focuses particularly on the 1972 statute prescribing feasibility-based controls for point sources and its 1977 modification, the increasing concern with toxic pollution in the 1980s, and recent litigation requiring total maximum daily loads for waters that fail to meet water quality standards. The Article then examines this description to evaluate the accomplishments and failures of each step in the legislative evolution, and to extract practical lessons so that future water pollution control legislation may be successful.

NOTES

RESURRECTING ENVIRONMENTAL JUSTICE: ENFORCEMENT OF EPA’S DISPARATE-IMPACT REGULATIONS THROUGH CLEAN AIR ACT CITIZEN SUITS

Brian Crossman

(pages 599–642)

Abstract: The environmental justice movement aims to eradicate disparate siting of environmental hazards in minority and low-income communities. Prior to the Supreme Court’s decision in Alexander v. Sandoval, environmental justice advocates had focused their efforts on enforcement of EPA’s disparate-impact regulations. These regulations prohibit recipients of federal funding from administering any program that has the effect of racial discrimination. However, the Sandoval decision declared that no private right of action existed to enforce the regulations. Despite this significant setback, the regulations may still be enforceable in circumstances where an appropriate statutory handle exists. For example, section 110(a)(2)(E) of the Clean Air Act requires states to provide assurances that their plans comply with federal law. To the extent the disparate-impact regulations remain valid federal law, they may be enforced through actions to compel EPA to reject plans that do not include the requisite assurances. This Note explores the substantive and procedural issues surrounding such actions.
A PROPOSED NARROWING OF THE CLEAN WATER ACT’S CRIMINAL NEGLIGENCE PROVISIONS: IT’S ONLY HUMAN?

Brigid Harrington

[pages 643–677]

Abstract: The Senate Subcommittee on Fisheries and Wildlife is considering an amendment to the Clean Water Act (CWA) that would require human endangerment for a finding of criminal negligence under section 309(c). This proposal is in reaction to United States v. Hanousek and United States v. Hong, seen by some as overly harsh punishment for mere “accidents,” contrary to the intent behind the CWA. Others have defended the decisions, arguing that requiring human endangerment for section 309(c) violations would unjustifiably excuse negligent conduct harmful to the environment and the public welfare. This Note reviews the criminal negligence standard under section 309(c), its application in Hanousek and Hong, and the major arguments proffered by the amendment’s proponents and opponents. It concludes that the amendment is ill-advised, risking failure to capture significant environmental harms and depriving prosecutors of leverage in plea-bargaining.

SURVEYING THE PRECAUTIONARY PRINCIPLE’S ONGOING GLOBAL DEVELOPMENT: THE EVOLUTION OF AN EMERGENT ENVIRONMENTAL MANAGEMENT TOOL

Scott LaFranchi

[pages 679–720]

Abstract: The precautionary principle, which many trace back to German regulations promulgated in the early 1970s, has developed into an important environmental management tool. Its inclusion in numerous international treaties and agreements over the past seventeen years confirms its significance. Beyond international treaties, many foreign governments have explored the application of the precautionary principle to their own decisionmaking procedures. For instance, the precautionary principle has been the central focus of judicial decisions in Australia, Canada, and India. Despite this growing global acceptance and implementation of the precautionary principle, the United States has remained adamantly opposed to its introduction into domestic policy. This Note focuses on international application or non-application of the precautionary principle in order to better understand the United States’ current opposition. Ultimately, this comparative analysis should clarify, which, if any, governmental avenue will prove most effective in laying the foundation for implementation of the precautionary principle in this country.
THE WORK OF THE INTERNATIONAL LAW COMMISSION IN THE FIELD OF INTERNATIONAL ENVIRONMENTAL LAW

Luis Barrionuevo Arévalo*

Abstract: Established in 1947 by the United Nations General Assembly, the International Law Commission (ILC) has played an instrumental role in the codification and progressive development of international law over the last five decades. Despite an initially weak legal basis for environmental action, the ILC managed to meet the demands for international measures in this domain, producing a number of draft articles, some of which gave birth to major environmental treaties. After briefly describing the ILC’s organization, functions, and procedures, this Article analyses its work on some environmental issues, grouped under three categories: law of the sea, international watercourses and natural shared resources, and accountability for transboundary environmental damage. Although not counted among today’s main law-making bodies in the environmental field, the ILC has positively responded to the need to protect the environment and made a valuable contribution to the process of codification and progressive development of international environmental law.

Introduction

The International Law Commission (ILC or Commission) was established in 1947 by the United Nations (U.N.) General Assembly to implement article 13, paragraph 1, of the U.N. Charter, which provides that the Assembly “shall initiate studies and make recommendations for the purpose of . . . encouraging the progressive development of international law and its codification.” Indeed, both progressive development and codification are among the most significant aspects in the evolution of international law since WWII. In this respect, the

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2 U.N. Charter art. 13, para. 1.
ILC has been instrumental by producing more than twenty sets of draft articles, many of which “have, in turn, been transformed into major global treaties.”4 Some of these draft articles and treaties deal with the environment, even though the ILC, like the international organization to which it belongs,5 is in fact a pre-environmental institution, in that it predates the dawn of the environmental era.6 However, despite an initially weak legal basis for environmental action, the U.N. system positively responded to the demands for international measures in this domain as soon as an environmental consciousness started to emerge. On the international level, these growing demands played a decisive part in the convening of the Stockholm Conference on the Human Environment in 1972, generally regarded as the starting point for the development of international environmental law as a separate branch of international law.7 As far as the ILC is concerned,

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4 See id. at 1–2.
5 The U.N. Charter includes only indirect links to environmental issues, such as article 55, “which addresses ‘the creation of conditions of stability and well-being’ and according to which the United Nations shall promote ‘conditions of economic and social progress and development’ as well as ‘solutions of international economic, social, health, and related problems.’” Winfried Lang, *The United Nations and International Environmental Law*, 9 Int’l Geneva Y.B. 47, 47 (1995); see U.N. Charter art. 55.
6 Concepts about nature started to experience a fundamental change near the end of the 1960s as a result of a growing awareness that our planet is “endangered by the continued multiplication of human population, by increasingly invasive technology, and by the disordered activities of humanity.” See Alexandre Kiss & Dinah Shelton, *International Environmental Law* 1 (3d ed. 2003).
7 Peter Malanczuk, *Akehurst’s Modern Introduction to International Law* 241 (7th rev. ed. 1997). As for the definition of this new branch of international law and the concept of environment that underlies it, the task remains complex and controversial. Professors Kiss and Shelton consider international environmental law a category of international law aiming “at the protection of the biosphere from major deterioration which could endanger its present or future functioning.” Kiss & Shelton, supra note 6, at 9. They then draw on a UNESCO (United Nations Educational, Scientific, and Cultural Organization) definition of the biosphere as “the totality of our environment, that part of the universe in which, as far as we know, all life is concentrated.” Id. Using Philippe Sands’s definition of international environmental law (“those substantive, procedural and institutional rules of international law which have as their primary objective the protection of the environment”) as a departure point, Professors Hafner and Pearson suggest that environment is a very broad concept that includes “human life, health, and social well-being; flora, fauna, and all other components of ecosystems; landscape and cultural heritage; and natural resources.” See Gerhard Hafner & Holly L. Pearson, *Environmental Issues in the Work of the International Law Commission*, 11 Y.B. of Int’l Envtl. L. 3, 5–6 (2000) (quoting Philippe Sands, Frameworks, Standards and Implementation 17 (1995)). For their part, Professors Birnie and Boyle define international environmental law “to encompass the entire corpus of international law, public and private, relevant to environmental issues or problems.” P.W. Birnie & A.E. Boyle, *International Law and the Environment* 1–2 (2d ed. 2002). They note, however, that many conventions avoid dealing with the concept of envi-
although some of its early work on the law of the sea certainly had an environmental impact, it was not until the 1970s that it explicitly started to address environmental issues.\textsuperscript{8} Since then, however, the environment and its protection have come to occupy an increasingly important place on the Commission’s agenda.

The ILC has dealt with environmental issues in different ways. Sometimes, it has done so in a straightforward, explicit way, addressing conduct that results in environmental damage (under the topics of international liability and prevention of transboundary damage from hazardous activities, for example) or providing for the rational management and conservation of natural resources and protection from pollution (under the topics of international watercourses and shared natural resources).\textsuperscript{9} On other occasions, aspects of international environmental law have been addressed only indirectly (for instance, under the issue of state responsibility, which deals with the legal consequences of the breach of international obligations, including environmental ones) or incidentally (as shown by the inclusion of certain crimes against the environment in the Draft Code of Crimes against the Peace and Security of Mankind).\textsuperscript{10} After a brief description of the Commission’s organization, functions, and methods of work, this Article will analyse its work on some of those topics, grouped under three broad categories: law of the sea, international watercourses and natural shared resources, and accountability for transboundary environmental damage. Finally, some concluding observations will be made regarding the work of the ILC in the field of environmental law.

I. THE INTERNATIONAL LAW COMMISSION: ORGANIZATION, FUNCTIONS, AND PROCEDURES

As mentioned before, the ILC is a U.N. body devoted to the progressive development of international law and its codification.\textsuperscript{11} It is

\textsuperscript{9} See infra Part I.A–B.
\textsuperscript{10} See infra Part I.C.
\textsuperscript{11} Article 15 of the ILC statute makes a distinction “for convenience” between progressive development, which means “the preparation of draft conventions on subjects which have not yet been regulated by international law or in regard to which the law has not yet been sufficiently developed in the practice of the States,” and codification, which means “the more precise formulation and systematization of rules of international law in fields where there already has been extensive State practice, precedent and doctrine.” \textit{See Stat-
composed of thirty-four experts in international law representing the world’s principal legal systems; they are elected for terms of five years by the General Assembly to serve in their personal capacities rather than as representatives of governments.

The most important function of the Commission is the drafting of articles and other documents on various aspects of international law either upon request of the General Assembly, other U.N. organs, the Member States, or on its own initiative. According to its usual method of work, after a topic has been selected, the ILC appoints a special rapporteur and establishes an appropriate plan of work. Governments may be required to provide relevant information on such matters as laws, judicial decisions, treaties, and diplomatic practices. The special rapporteur then submits reports to the ILC that form the basis of a provisional draft of articles and their commentaries, which eventually become final. Upon completion of its work on a topic, the ILC refers the final draft back to the General Assembly for it to take action as deemed appropriate, normally including its recommendations as to what measures should be adopted.

12 ILC Statute, supra note 11, art. 2, para. 1.
13 Id. art. 8.
14 See id. art. 10. Even though the members of the ILC do not represent governments, the Commission reports on its work every year to the General Assembly. The reports of the Commission are thoroughly discussed in the Sixth (Legal) Committee of the General Assembly, and records of these discussions are transmitted to the ILC, which takes them into account in future deliberations. Therefore, as Professor McCaffrey points out, “despite the independence of the members, it would not be accurate to suggest that the Commission functions in an ‘ivory tower,’ aloof from such pragmatic considerations as whether its work would be acceptable to governments.” See Stephen C. McCaffrey, An Update on the Contributions of the International Law Commission to International Environmental Law, 15 Envtl. L. 667, 668 n.4 (1985).
15 ILC Statute, supra note 11, arts. 16–18.
16 See id. art. 16.
17 See id.
18 See id. Upon adoption by the ILC, the draft’s first version is submitted to the General Assembly and to governments for comment. See id. Bearing in mind the replies received, the special rapporteur prepares additional reports with recommendations until a final report with draft articles and their commentaries is approved. See id.
19 See id. The Commission’s options for recommendation to the General Assembly are:

(a) To take no action, the report having already been published;
(b) To take note of or adopt the report by resolution;
(c) To recommend the draft to Members with a view to the conclusion of a convention;
Although the Commission’s functions cannot be characterised as legislative, its work is often regarded as an authoritative source of international law on a given subject. Therefore, its work on environmental issues is of interest not only because it has formed the basis of a number of draft articles and multilateral conventions, but also because it reflects the views of a large and diverse group of experts on international law. To this work we now turn.

II. The International Law Commission and the Environment

A. Law of the Sea

The ILC discussed environmental issues for the first time under two of the topics of its initial programme of work, namely, the regime of the high seas and the regime of territorial waters. In this respect, two main environmental questions arose relatively soon: water pollution and the conservation of marine resources. Water pollution was dealt with under the framework of the high seas regime, restricted to certain types of pollution, particularly that caused by fuel oil. After subsequent discussions on the issue, the ILC adopted a provision calling on all states to draft regulations to prevent water pollution from fuel oil discharged from ships. This draft article formed the basis for article 24 of the Convention on Fishing and Conservation of the Living Resources of the High Seas, which also includes a provision on radioactive waste (article 25), added as a result of the negotiations that took place in the first U.N. Conference on the Law of the Sea (UNCLOS I).

As for conservation of marine resources, a question also discussed in connection with the regime of the high seas, the negotiations within the ILC led to the drafting of several articles later to be

See id. art. 23, para. 1.


included in two of the conventions adopted at UNCLOS I.\textsuperscript{23} Discussions on these issues within the ILC revolved around the definition of the countries that were entitled to impose restrictions on fishing on the high seas and on exploiting the natural resources of the continental shelf in order to protect the resources of the sea. However, to a large extent, the yardstick by which conservation was measured was the need to preserve the food supply for human consumption.\textsuperscript{24}

Professors Hafner and Pearson have aptly criticized the ILC for addressing the conservation of living resources in a largely anthropocentric and exploitation-oriented way and for dealing with only certain types of water pollution while excluding others.\textsuperscript{25} However, bearing in mind the time and circumstances in which the ILC carried out its work, the draft articles on water pollution and conservation of marine resources are worthy of praise, for they represent an important contribution to international environmental law in its early stages; moreover, they had a profound influence on the subsequent efforts of codification and progressive development of the law of the sea.\textsuperscript{26}

**B. International Watercourses and Natural Shared Resources**

The topic of the non-navigational uses of international watercourses, referred to the Commission by the General Assembly in 1971, is a prime example of the ILC’s contribution to both the codification and the progressive development of international environmental law.\textsuperscript{27}

\begin{itemize}
\item \textit{According to the ILC, “the primary objective of conservation of the living resources of the sea is to obtain the optimum sustainable yield so as to obtain a maximum supply of food and other marine products in a form useful to mankind.” See ILC Seventh Session Report, supra note 21, at 14.}
\item \textit{Hafner & Pearson, supra note 7, at 9–10.}
\item Even though the ILC was not involved in the negotiations (held within the frame of UNCLOS III from 1973 to 1982) that led to the adoption of the 1982 U.N. Convention on the Law of the Sea, a number of its articles are based on those of the 1958 conventions. See United Nations, supra note 20, at 122.}
\end{itemize}
As far as codification is concerned, the draft articles formulate and systematize a number of principles governing non-navigational uses of watercourses drawn from the practice of watercourse states. Worth mentioning are the principle of “equitable and reasonable” utilization of international watercourses and participation in their use, development, and protection (articles 5 and 6), the “obligation not to cause significant harm” (article 7), the “obligation to cooperate” (article 8), and the directive to exchange data and information (article 9). The final draft also included a set of provisions on the notification of planned measures that might affect an international watercourse (articles 11–19), which envisaged a procedure of notification and information exchange followed by a waiting period during which the potentially affected state could reply to the notification.

Together with the codification of these customary rules in the Watercourses Convention, the ILC has also contributed to the progressive development of the law of international watercourses by including a number of provisions dealing with the protection, preservation, and management of the ecosystems of international watercourses. Draft article 21, for example, imposes on states the duty to “prevent, reduce and control the pollution of an international watercourse that may cause significant harm to other watercourse States or to their environment, including harm to human health or safety, to the use of the waters for any beneficial purpose or to the living resources of the watercourse.” In addition to this provision, the final draft includes others dealing with issues such as introduction of alien species (article 22), protection and preservation of marine ecosystems (article 23), joint management mechanisms for watercourses (article 24), measures to regulate the flow of waters (article 25), prevention and mitigation of harmful conditions (article 27), and management of emergency situations (article 28).


28 According to Professor McCaffrey (fourth ILC Special Rapporteur on the topic) the non-navigational uses of international watercourses “vary widely, including such activities as fishing, irrigation, power generation, domestic consumption, and . . . waste disposal.” McCaffrey, supra note 14, at 674. As for “watercourses,” McCaffrey contends that “[t]he term may be taken to include not only rivers, but also lakes, canals, glaciers, aquifers, and reservoirs.” Id.

29 Watercourses Convention, supra note 27, at 5–7.
30 Id. at 7–9.
31 See Watercourses Convention, supra note 27.
32 Id. at 10.
33 Id. at 10–12.
The Watercourses Convention has only been signed by sixteen states and ratified by twelve.\textsuperscript{34} Despite this low level of acceptance, it has received considerable attention from scholars,\textsuperscript{35} legal practitioners, and international courts,\textsuperscript{36} some of which consider it “a clear statement on several important environmental principles” and, up to now, “the ILC’s most significant contribution to international environmental law.”\textsuperscript{37} Moreover, the principles contained in the Watercourses Convention have been applied to other topics, such as the regime of shared natural resources.\textsuperscript{38}

Indeed, the ILC first addressed this issue during the codification of the law of the non-navigational uses of international watercourses. At the time, the Commission decided to exclude confined groundwaters unrelated to surface waters from the topic, acknowledging, nonetheless, that the singular nature and importance of such waters in many parts of the world warranted a separate study of the subject.\textsuperscript{39} In 2002, the ILC decided to include the topic “Shared natural resources” in its programme of work,\textsuperscript{40} appointing a special rapporteur who submitted his first report on the issue in 2003.\textsuperscript{41} In this report, it was suggested that priority should be given to confined transboundary waters and, at


\textsuperscript{35} A recent study conducted under the auspices of the British Institute of International and Comparative Law acknowledges that “[t]he careful and thorough preparatory work of successive rapporteurs undoubtedly gives the new Convention an authority which is likely to endure . . . almost regardless of however many States become parties.” \textit{See The International Law Commission and the Future of International Law} 14 (M.R. Anderson et al. eds., 1998) [hereinafter \textit{The International Law Commission}].

\textsuperscript{36} Although not yet in force, the Convention has already been relied upon by the International Court of Justice. \textit{See generally Concerning the Gabčíkovo-Nagymaros Project (Hung. v. Slovk.), 1997 I.C.J. 7 (Sept. 25)}.

\textsuperscript{37} Hafner & Pearson, \textit{supra} note 7, at 15.


\textsuperscript{39} \textit{See id.} at 6.


a later date, to oil and gas,\footnote{However, within the General Assembly’s Sixth Committee, “[c]autious was voiced concerning the drawing of close parallels with oil or gas since that would overlook the essential role of groundwaters for, inter alia, broader ecosystems, biodiversity and human health.” \textit{Report of the International Law Commission on the Work of Its Fifty-Fifth Session: Topical Summary of the Discussion Held in the Sixth Committee of the General Assembly During Its Fifty-Eighth Session}, U.N. GAOR, 58th Sess., Supp. No. 10, at 265, U.N. Doc. A/58/10 (2003) [hereinafter \textit{ILC Fifty-Fifth Session Report: Topical Summary}].} whereas other natural resources like minerals and migratory species (that is, birds) should be excluded.\footnote{See \textit{id.} at 46.}

Even though the topic is still in a preliminary stage of development, some conclusions can be drawn from the above-mentioned report and the subsequent commentaries of the ILC and the Sixth Committee of the General Assembly. First, the relevance of the principle of sovereignty has been unanimously emphasized. In this context, it has been observed that “any intimation that the term ‘shared resources’ referred to a shared heritage of mankind or to notions of shared ownership would be misleading”\footnote{See \textit{id.} at 46.} and that, in its work, the ILC will have to bear in mind the principles governing the permanent sovereignty of states over natural resources enshrined in General Assembly resolution 1803 (XVII) of 14 December 1962.\footnote{See \textit{Report of the International Law Commission on the Work of Its Fifty-Fifth Session}, U.N. GAOR, 58th Sess., at 265, U.N. Doc. A/CN.4/537 (2004) [hereinafter \textit{ILC Fifty-Fifth Session Report: Topical Summary}].} Second, although most of the principles contained in the Watercourses Convention are deemed applicable to the management of shared natural resources, account must be taken of the uniqueness of groundwaters as vulnerable, non-renewable, and finite resources and their significance for the fresh water supply.\footnote{In this connection, it has been suggested that, given the special characteristics of these resources, article 5 of the Watercourses Convention (which deals with the principle of equitable and reasonable utilization), and article 7 (regarding the measures to prevent significant harm to other states) will have to be adapted, modified, or reinforced. \textit{id.} at 265.} Finally, these features also seem to justify heightened standards of due diligence and pollution prevention as compared to the ones applied to surface waters and stricter thresholds in relation to transboundary harm.\footnote{\textit{id.} at 265, 266.}

\section*{C. Accountability for Transboundary Environmental Damage}

Under this heading, we will discuss three interrelated issues (state responsibility, international liability, and prevention of transboundary damage from hazardous activities) that are particularly pertinent to en-
Environmental law and how it deals with the consequences of transboundary damage. As for the first, state responsibility was among the topics included in the ILC’s long-term programme of work. The Commission’s intention was to codify the secondary rules which allocate responsibility and determine the legal consequences of the breach of any primary rule of international law. This proved to be a “marathon task” that required the ILC “to expend in the preparation of the draft Articles a vast amount of time and energy, unparalleled in its other work.”

One of the most controversial issues addressed by the ILC under this topic was the distinction, based on the severity of the breach, between international crimes and international delicts, and the inclusion among the former of any “serious breach of an international obligation of essential importance for the safeguarding and preservation of the human environment, such as those prohibiting massive pollution of the atmosphere or of the seas.” This provision, drafted in the early 1980s, clearly illustrates the growing pervasiveness of environmental issues in the work of the ILC. Even though the article in question faced strong criticism from governments and ILC members and was finally suppressed, some of the concepts underlying it can still be found in the final draft. Moreover, its discussion paved the road for the inclusion of similar provisions in other sets of articles drafted by the ILC, such as the Draft Code of Crimes Against the Peace and Security of Mankind.

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48 See United Nations, supra note 20, at 194.
51 Id.
52 See Hafner & Pearson, supra note 7, at 17.
53 One such example is part II, chapter III, entitled “Serious breaches of obligations under peremptory norms of general international law.” See ILC Fifty-Third Session Report, supra note 49, at 53.
54 Article 20(g) of the draft code provides that “using methods or means of warfare not justified by military necessity with the intent to cause widespread, long-term and severe damage to the natural environment” constitutes not only a war crime but also “a crime
The scope of the topic of state responsibility—“the totality of legal rules and consequences linked to the breach of any international obligation of the State”—goes far beyond the domain of international environmental law and permeates the very foundations of international law as a whole. We shall merely observe that some of the articles drafted by the ILC on the issue, such as those governing the attribution of internationally wrongful acts to the state and those relating to the reparation of injuries arising from such acts, are of particular interest for international environmental law, since they may enable states to demand “ex post compensation” and other relief for harm caused to them by other states.

Halfway through its work on state responsibility, the ILC came to the conclusion that legal consequences resulting from damage through lawful activities should be treated differently from responsibility for consequences of wrongful acts. It therefore decided to divide the original topic into “two segments: one dealing with responsibility for harms resulting from violations of international law; and the other with the prevention of and international liability for” damage not involving breaches of international law. In undertaking the codification of international liability for otherwise lawful acts, the ILC had two objectives in mind: “to provide compensation to injured states (liability) and, as well as to deter or prevent” potentially liable


56 This is a prerequisite for state responsibility to arise, according to article 2(a) and (b). See ILC Fifty-Third Session Report, supra note 49, at 43.

57 The remedies available to secure compliance with international obligations and obtain reparation for injuries caused by an internationally wrongful act are restitution, compensation, and satisfaction (article 34). See id. at 235.

58 See Lakshman D. Guruswamy, International Environmental Law in a Nutshell 66 (2d ed. 2003). For a general analysis of judicial remedies as instruments to compel compliance with international environmental law, see id. at 65–93.

59 See United Nations, supra note 20, at 204–05.

60 Guruswamy, supra note 58, at 71 (parenthetical omitted). The new topic, termed “[i]nternational liability for injurious consequences arising out of acts not prohibited by international law,” was included in the ILC programme of work in 1997, and the Commission started to work on it one year later. See United Nations, supra note 20, at 204–05; see also Guruswamy, supra note 58, at 71.
states from performing such injurious acts or, at least, take appropriate measures to "minimize the risk of potential harms (prevention)." In the following years, the ILC increasingly focused on the prevention objective, which led to a further division of international liability into two subtopics: prevention and liability.

Leaving aside the controversy on the breakdown of the original topic into two and then three subtopics, international liability is one area of the ILC's work that has been "consistently interpreted as pertaining to environmental law." Originally, this topic was supposed to deal with liability "for 'ultrahazardous' but socially desirable activities affecting the physical environment—such as nuclear reactors and space objects"—which, despite their legal character, create a risk of harm to states and individuals having no control over them. This means that, although the act causing the damage may not be prohib-

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61 See Guruswamy, supra note 58, at 82.
63 For example, as far as the distinction between international liability and state responsibility is concerned, Professor Boyle considers that, theoretically, it has a weak conceptual basis and, practically, represents an uncertain basis for the codification and development of existing law and practice in the field of environmental harm. See Alan E. Boyle, State Responsibility and International Liability for Injurious Consequences of Acts Not Prohibited by International Law: A Necessary Distinction?, 39 Int'l & Comp. L.Q. 1, 1 (1990). In his view, such distinction "is liable to seem at best a questionable exercise in reconceptualising an existing body of law, or at worst, a dangerously retrograde step which may seriously weaken international efforts to secure agreement on effective principles of international environmental law." See id.

Professor Guruswamy suggests that, in practice, the creation of the new topic "international liability," as distinct from state responsibility, has not caused significant new difficulties because the real challenge is to "define the non-wrongful acts (or one not prohibited by international law) to which international liability attaches." Guruswamy, supra note 58, at 82. This question remains problematic regardless of the heading under which it is found. Moreover, in Guruswamy's opinion, the separate treatment of wrongful and non-wrongful acts may also have the positive effect of affirming the 'legal' character of international law by emphasizing the difference between acts that violate international law and those that do not." Id.

64 See Nanda, supra note 8, at 153.
65 See Stephen C. McCaffrey, International Environmental Law and the Work of the International Law Commission, 77 Am. Soc’y Int’l L. Proc. 414 (1983). However, the scope of the topic was subsequently enlarged to include “activities not prohibited by international law which involve a risk of causing significant transboundary harm . . . through their physical consequences” as well as other “legal” activities that cause that harm even if they do not involve such risk (article 1 of the 1996 draft articles on international liability for injurious consequences arising out of acts not prohibited by international law). See ILC Forty-Eighth Session Report, supra note 54, at 238.
ited, the individuals who suffer the harmful consequences must be compensated. The essential feature of this regime is a standard of strict liability for environmental injury, according to which states may be held accountable, even if they have not breached their obligations of due diligence. However, the issue remains controversial, and there are doubts as to whether there is support among states for the development of a general international legal regime on liability.

As already mentioned, in 1997 the ILC set aside liability and proceeded with the subtopic of prevention. This move, welcomed by some as the beginning of the “transformation of [international environmental law] from an ex post to an ex ante law,” led to the approval in 2001 of a set of draft articles specifically devoted to prevention of transboundary damage from hazardous activities. These draft articles envisage several obligations for states, including: the duty to take all appropriate measures to prevent, or minimize the risk of, significant transboundary harm (article 3); to obtain prior authorization for activities within the scope of the draft articles, with decisions on authorization to be based on environmental impact assessments (article 7); to provide information to the public (article 13); to notify states that are likely to be affected (article 8); and to cooperate, consult, and exchange information (articles 4, 9, and 12, respectively).

On the other hand, after the adoption of the final draft on prevention, the ILC resumed consideration of the liability aspects of the topic. In this evaluation, the special rapporteur on the issue submitted a report in 2003 on the legal regime for allocation of loss in the case of a transboundary harm arising out of hazardous activities. Consistent with the “polluter pays” principle, the report recognized that the operator should bear primary liability for redressing any harm caused and that the innocent victim should not be left to bear loss. The special

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66 See Birnie & Boyle, supra note 7, at 189.
68 Guruswamy, supra note 58, at 92. In the same vein, Professors Birnie and Boyle consider it an example of a change of perspective within environmental international law: “Having started as a system of rules limited largely to liability for transboundary damage, resource allocation, and the resolution of conflicting uses of common spaces, international law now accommodates a preventive, and in this sense precautionary, approach to the protection of the environment on a global level.” Birnie & Boyle, supra note 7, at 753.
70 Id. at 370–75.
72 Id. at 19.
The rapporteur also favoured linking the strict liability of the operator with some residual compensation regime involving the state,\textsuperscript{73} which itself should enact legislation designed to prevent uncovered losses, exercising due diligence to ensure effective enforcement. Also worthy of mention is the idea that any future regime should guarantee compensation for harm caused, not only to individuals, but also to the environment, and that the definition of harm should therefore include any damage to the environment or natural resources within the national jurisdiction, including elements of state patrimony and natural heritage on the same footing as any loss to persons and property.\textsuperscript{74}

**Conclusion**

Over the last three decades, the protection of the environment has come to occupy a significant place on the international agenda. Parallel to the increasingly obvious need to protect the environment, a new branch of international law has developed to address environmental deterioration in a way that earlier laws were unable to do.\textsuperscript{75} As this Article has sought to demonstrate, the ILC’s contribution to this endeavour has been remarkable. In pursuance of its mandate to codify and progressively develop international law, the ILC has drafted several sets of articles that have often formed the foundation for significant international environmental conventions. Even when this has not been the case, its discussions have been found extremely useful because they have provided evidence of what international environmental law is and how it could be reasonably transformed in ways that are acceptable to the international community at large.

In general, the ILC has placed a greater emphasis on establishing procedural regulations (such as the draft articles on state responsibility and many provisions in the Watercourses Convention) than on drawing up substantive rules imposing obligations on states. In the opinion of some commentators, this responds to a clear need for the codification of “general rules and principles which support the substantive provisions of international environmental law.”\textsuperscript{76} On the other hand, the ILC has refrained from including in its programme

\textsuperscript{73} Id. at 10.
\textsuperscript{74} Id. at 18.
\textsuperscript{75} See Guruswamy, supra note 58, at iv.
\textsuperscript{76} See The International Law Commission, supra note 35, at 44. Under this view, the need is particularly evident in fields such as “risk prevention, environmental impact assessment, liability for environmental damage, transboundary cooperation, and sustainable utilization” of resources. Id.
issues perceived to be too general (“environmental protection,” for instance) or topics in which state practice is sparse, vague, or inconsistent, such as rules for the avoidance of environmental conflicts, or some principles of environmental law, including the precautionary principle and the polluter pays principle.77

Admittedly, the ILC is far from being the only (or even the most important) law-making body in the environmental arena.78 However, as its work over half a century indicates, it has been increasingly responsive to the environmental demands of the international community, making a highly valuable contribution to the process of codification and progressive development of international environmental law.

77 See Hafner & Pearson, supra note 7, at 49.
78 In general terms, Professor Anderson considers that the ILC shares its codifying role with “an eclectic range of competing or complementary institutions and processes within and outside the UN system.” The International Law Commission, supra note 35, at 17.
THE UTILITY OF NON-USE VALUES IN NATURAL RESOURCE DAMAGE ASSESSMENTS

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Abstract: Non-use values are frequently underestimated or ignored in natural resource damage assessments, despite the fact that there are significant social and economic benefits to assessing costs for lost non-use values. The regulations of the Department of the Interior, which bind some CERCLA trustees, create unusual barriers to the consideration of non-use values and are potentially vulnerable to a reasonableness challenge under Chevron v. NRDC. Trustees who are not bound by the DOI regulations should consider calculating and assessing non-use values because of the economic and social benefits of recognizing non-economic injury caused by the destruction or degradation of natural resources.

Introduction

Maine’s Penobscot River runs 240 miles from Penobscot Lake on the Canadian border to Bucksport on the state’s Atlantic coast. The river forms the artery of an 8,570-square-mile drainage basin, making it the second-largest river system in New England.1 The Penobscot River Valley has been the home and cultural center of the Penobscot Indian Nation for thousands of years,2 and the river has played an in-

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tegral part in the development of Maine’s economy—from fishing, timber, and hydroelectric power industries to river rafting. In part because of its role in economic development, however, the Penobscot River today suffers from serious pollution problems.

Beginning in 1967, a chemical plant in Orrington, Maine, continuously discharged wastewater containing significant amounts of mercury into the Penobscot River and emitted still larger quantities of mercury through airborne emissions. As a result of this and other sources, mercury contamination levels in the lower Penobscot River far exceed “safe” levels, and are among the highest in Maine (which itself has high rates of mercury contamination compared with other states in the nation).

Because of the unique way mercury interacts with its environment, it multiplies in toxicity as it moves up the food chain, and it remains in the environment for decades after the release of pollutants has ceased. The Penobscot River also suffers from contaminants other than mercury, such as dioxins and tar deposits.

Citizens’ use of the river is severely limited by the contamination. The State of Maine Bureau of Health has issued a standing fish consumption advisory cautioning citizens to limit their consumption of fish from the lower half of the Penobscot River to one to two meals per month.

Women who are nursing, pregnant, or who may become

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3 See Bisulca, supra note 2; Maine Rivers, supra note 1.
4 See generally Bisulca, supra note 2 (discussing the nature of the pollution problems arising from the development of hydroelectric power plants and paper manufacturing mills).
6 Id. at 248.
7 Id. at 244–45, 251.
10 See Me. People’s Alliance, 211 F. Supp. 2d at 253.
11 Me. Bureau of Health, Warning About Eating Freshwater Fish (Aug. 29, 2000), available at http://mainegov-images.informe.org/dhhs/ehu/fish/2KFCA.pdf. Inorganic mercury becomes methylmercury after interacting with microorganisms in the river’s sediments. See Me. People’s Alliance, 211 F. Supp. 2d at 244. Methylmercury affects the development of the central nervous system, but also causes damage to fully-developed organisms, including humans, such as cardiovascular problems resulting in heart disease and stroke. Id. at 245.
pregnant, and children under the age of eight are warned not to eat any inland freshwater fish because of mercury’s effect on the developing brain. Some individuals refrain from swimming or boating in the river because of concerns about the health effects of exposure to these pollutants.

The contamination causes other losses, too. One citizen has testified that she felt “robbed” of her right to use the Penobscot River and Bay as a result of the mercury contamination. The inability to fully exercise its fishing rights in the Penobscot River affects the economic well-being of the Penobscot Indian Nation, but it also stresses the Nation’s culture and community, centered as they are on the river itself. Wildlife enthusiasts are harmed as a result of pollution’s destructive effects on the reproductive and survival capacities of the river’s flora and fauna. These very real but non-economic losses can be referred to as non-use values.

The term “non-use value” describes the values attributable to the simple knowledge that something exists (“existence value”), the potential for its use (“option value”), or the expectation that it will be of value to future generations (“bequest value”). Losses may be incurred in one or more of these categories of non-use values when a natural resource is damaged by pollution. In the case of a polluted river, preservationists may have lost peace of mind that the natural environment was being protected; the loss of a community resource or source of pride may have had a detrimental effect on the cohesion of the community; and future generations may be prevented from inheriting the river’s environmental assets. Both use and non-use val-

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12 See Envtl. Health Unit., supra note 11.
13 Me. People’s Alliance, 211 F. Supp. 2d at 253.
14 Id.
15 See Bisulca, supra note 2; Statement of Barry Dana, supra note 2 (“We are inextricably tied to the Penobscot River through a cultural, physical and spiritual relationship that runs in our veins as the original inhabitants of this region.”).
17 See Frank B. Cross, Natural Resource Damage Valuation, 42 Vand. L. Rev. 269, 285–88 (1989) (defining and discussing these non-use values (but adopting slightly different formulations, including usage of the term “intertemporal value” in lieu of “bequest value”)); see also Cass R. Sunstein, Incommensurability and Valuation in Law, 92 Mich. L. Rev. 779, 840 (1994) (“In particular, people may believe that a species or a pristine area has intrinsic rather than instrumental value.”).
18 See, e.g., Cross, supra note 17, at 289 (hypothesizing as to the loss of existence value in the context of hazardous substance release).
19 See id. at 286–88 (making a similar analogy using the Grand Canyon and endangered species).
ues are real, yet non-use values are frequently underestimated or ignored in determinations of how much polluters should pay for damages inflicted upon natural resources.\textsuperscript{20}

When it passed the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA),\textsuperscript{21} Congress sought to hold polluters liable for the injury, destruction, or loss of natural resources resulting from the release of hazardous substances into the environment.\textsuperscript{22} Congress and scholars further have recognized that the real losses caused by pollution typically exceed lost use or market values,\textsuperscript{23} and have expressed skepticism as to “the ability of human beings to measure the true ‘value’ of a natural resource.”\textsuperscript{24} This Article argues that consideration of interim non-use values—those non-use values lost in the period between the pollution and remediation or recovery of a natural resource—is an effective method for CERCLA trustees to address these concerns regarding proper valuation and to thereby advance the public interest.

Part I of the Article briefly describes the relationship between CERCLA and various sections of the Department of the Interior regulations. Part II argues that the regulations’ treatment of non-use values is subject to challenge for reasonableness under step two of the test developed in \textit{Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.}\textsuperscript{25} Finally, Part III discusses the benefits of including non-use values in natural resource damage assessments and offers some considerations for trustees to use in determining the utility of calculating lost interim non-use values in a given case.

\textsuperscript{20} See \textit{id.} at 297 (stating that “there is no consensus over the legitimacy of considering intrinsic, or even existence, value in measuring natural resource damages”).


\textsuperscript{23} The \textit{Ohio v. DOI} court held that damages could not be limited to use value only, \textit{Ohio v. U.S. Dep’t of the Interior}, 880 F.2d 432, 444 (D.C. Cir. 1989). The court also noted that natural resources are not “fungible,” private markets may fail to reflect the value of natural resources, and “use value” fails to capture the value of losses incurred as a result of pollution. \textit{See id.} at 456–57 & n.40. For a brief summary of \textit{Ohio v. DOI}, see Charles B. Anderson, \textit{Damage to Natural Resources and the Costs of Restoration}, 72 Tul. L. Rev. 417, 441–45 (1997).

\textsuperscript{24} \textit{Ohio v. DOI}, 880 F.2d at 457; \textit{see also id.} at 457 n.40 (discussing the concerns of scholars).

\textsuperscript{25} 467 U.S. 837 (1984).
I. The Current DOI Regulations

A. Overview

CERCLA requires the promulgation of damage determination procedures to establish the amount of money to be sought in compensation for injuries to natural resources. These procedures are commonly referred to as natural resource damage assessments (NRDAs), and regulations setting forth such procedures have been promulgated by the Department of the Interior (DOI). Federal and state agencies serve as trustees to oversee the NORDA process described in these regulations. However, due to an express regulatory provision declaring the procedures “not mandatory,” trustees are not bound to follow them unless so required by agency guidance or state law. Some trustees use the DOI regulations to take advantage of the “rebuttable presumption” afforded by the statute, which shifts to potentially responsible parties the burden of proof that the trustees’ damage assessment is in error. Other trustees conclude that the benefit of the presumption is outweighed by the difficulty of using the regulations or the resulting undervaluation of the losses, and calculate damages under CERCLA using their own guidelines.

26 CERCLA § 301(c)(1)–(2), 42 U.S.C. § 9651(c)(1)–(2) (2000).
27 See 43 C.F.R. § 11.14(rr) (2004) (defining “trustee” as “any Federal natural resources management agency designated in the NCP and any State agency designated by the Governor of each state” pursuant to pertinent CERCLA provisions).
30 See Robert J. McManus, Why the Ohio Case Shouldn’t Matter, 34 Nat. Resources J. 109, 110 (1994) (stating that “the entire NRDA process is overly complicated, virtually impossible to administer and of uncertain utility” and that the provisions “are so exquisitely complex that their implementation is simply not worth the bother”).
32 For example, one state trustee describes its view as follows:

It appears, however, that the limited value of the ‘rebuttable presumption’ is outweighed by many disadvantages inherent in the structure of the regulations, especially the low dollar value the regulations would assign to natural resource damages. More comprehensively, there are inherent limitations in the assessment methodologies, both scientific and economic, and significant procedural constraints in the regulations.
DOI’s current regulations, promulgated pursuant to section 301(c)(2)(B) of CERCLA, were adopted following the Supreme Court’s decision in *Ohio v. U.S. Department of the Interior*, which held invalid a regulation limiting recovery to the lesser of restoration cost or lost use value of a resource. The current regulations set forth two types of procedures for performing NRDAs: the first involves the use of a standard computer model to assess damages that result from chemical or oil discharge in coastal environments (Type A assessment), and the second provides “alternative protocols for conducting assessments in individual cases” (Type B assessment). “The purpose of the [T]ype B assessment is to provide alternative methodologies for conducting natural resource damage assessments” in more complex, site-specific cases that require an individualized approach.

The DOI regulations prescribe the procedure for trustees to follow at each stage of a case. Before initiating a CERCLA action, a trustee conducts a “pre-assessment screen” to determine whether there is a reasonable probability that a CERCLA claim would be successful. If appropriate, the trustee then develops an “assessment plan” describing how the trustee expects to determine the monetary value of the injury caused by the pollution, and indicates whether it intends to conduct a Type A assessment or a Type B assessment. A Type B assessment will commence if the standard Type A procedures are unavailable, or if the

In short, while the Department of Interior’s regulations provide a useful starting point and helpful guidance for conducting natural resource damage assessments, strict adherence to them in order to gain the value of the ‘rebuttable presumption’ is unwarranted.

*Id.*


880 F.2d 432, 459 (D.C. Cir. 1989). Unsuccessful procedural and substantive challenges to the current DOI regulations were made in *Kennecott Utah Copper Corp. v. United States Department of the Interior*, 88 F.3d 1191 (D.C. Cir. 1996).


43 C.F.R. § 11.60(a) (2004); see also EPA, *supra* note 35.


See id. §§ 11.23–25.

See id. §§ 11.30–32.

See id. §§ 11.34–36.
trustee otherwise elects a Type B assessment over a Type A assessment.\footnote{Officials decide between pursuing Type A and Type B procedures pursuant to the guidelines in 43 C.F.R. § 11.35. \textit{See also id.} § 11.36 (describing situations in which both Type A and Type B procedures may be used).} After completing the assessment, the trustee prepares a report describing the assessment and presents a demand to each potentially responsible party for its share of the damages,\footnote{\textit{See} 43 C.F.R. §§ 11.90–.91 (2004).} filing suit if appropriate. If the trustee is successful in recovering funds, it develops a plan to restore the injured natural resources.\footnote{\textit{Id.} §§ 11.91–.93.}

\textbf{B. Type B Assessments and Non-Use Values}

Type B assessments generally consist of three steps: injury determination, injury quantification, and damage determination.\footnote{\textit{Id.} § 11.60(b).} In the damage determination phase, the trustee determines the amount of money that will be sought as compensation for injury to natural resources.\footnote{\textit{See id.} § 11.80(b).} For the Type B damage determination phase, the regulations state that

\begin{quote}
[t]he measure of damages is the cost of restoration, rehabilitation, replacement, and/or acquisition of the equivalent of the injured natural resources and the services those resources provide. Damages may also include, at the discretion of the authorized official, the \textit{compensable value} of all or a portion of the services lost to the public for the time period from the discharge or release until the attainment of the restoration, rehabilitation, replacement, and/or acquisition of equivalent of the resources and their services to baseline.\footnote{\textit{Id.} (emphasis added).}
\end{quote}

While the above language seems to focus exclusively on lost use values, the regulations define “compensable value” as follows:

\begin{quote}
Compensable value is the amount of money required to compensate the public for the loss in services provided by the injured resources between the time of the discharge or release and the time the resources and the services those resources provided are fully returned to their baseline conditions. The compensable value includes the value of lost pub-
lic use of the services provided by the injured resources, plus lost nonuse values such as existence and bequest values. Compensable value is measured by changes in consumer surplus, economic rent, and any fees or other payments collectable . . . . 48

Thus, the definition of “compensable value”, and hence the measure of damages, appears to include both use value and non-use value.49 Crucially, however, the regulations then proceed to require that “[e]stimation of option and existence values shall be used only if the authorized official determines that no use values can be determined.”50

II. AS-APPLIED CHALLENGES TO THE REGULATIONS

A. Challenges to Assessments Relying on the Regulatory Language

The inclusion of “nonuse values such as existence and bequest values” in the definition of compensable value, coupled with a requirement that “option and existence values” can be used only if no use values can be determined, places trustees using the regulations in an awkward predicament with respect to including non-use values in damage assessments.51 It will be an exceptionally rare case in which a natural resource has no use value whatsoever—nearly everything has some market value. The importance of non-use value is that it recognizes non-market based values, which coexist with market values.52 Thus, the regulations appear to preclude trustees from considering option and existence values in almost every case, leaving only bequest value as a non-use value for proper consideration.53 A reasonable rationale for this disparate treatment of different types of non-use values is elusive.

Based on this simultaneous inclusion and exclusion of certain non-use values, the DOI regulations may be susceptible to as-applied

48 Id. § 11.83(c)(1) (emphases added).
49 Use value is defined as “the value of the resources to the public attributable to the direct use of the services provided by the natural resources.” 43 C.F.R. § 11.83(c)(1)(i). Non-use value is defined as “the difference between compensable value and use value, as those terms are used in this section.” Id. § 11.83(c)(1)(ii).
50 Id. § 11.83(c)(1)(iii) (emphases added).
51 See id.
52 See Cross, supra note, 17 at 285–97 (describing different formulations of non-market based non-use values).
53 See 43 C.F.R. § 11.83(c) (2004) (listing acceptable values and valuation methods used in cost estimation of injured or lost natural resources).
legal challenges.\textsuperscript{54} Section 301(c)(2) of CERCLA provides that the “regulations . . . shall take into consideration factors including, but not limited to, replacement value, use value, and ability of the ecosystem or resource to recover.”\textsuperscript{55} This language certainly permits the inclusion of other factors; indeed it can be argued that section 301(c)(2)’s “not limited to” language actually requires that the DOI regulations include at least one other factor for consideration in making NRDAs under the regulations.\textsuperscript{56} As seen above, DOI has included lost non-use values in the regulations as an additional factor for consideration in conducting damage assessments.\textsuperscript{57}

A federal administrative agency’s regulations may be challenged under the standard announced in \textit{Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.}.\textsuperscript{58} Step one of the \textit{Chevron} inquiry applies where the statutory meaning is unambiguous.\textsuperscript{59} If a regulation violates the plain language of a statute, it will be invalidated under \textit{Chevron} step two, as described below. \textit{See infra} text accompanying notes 64–67.

\textsuperscript{54} \textit{See id.}
\textsuperscript{55} CERCLA § 301(c)(2), 42 U.S.C. § 9651(c)(2) (2000).
\textsuperscript{56} \textit{See id.; 43 C.F.R. §§ 11.80–.84 (2004).} While “including, but not limited to” language is most commonly understood as permissive and not mandatory, it certainly can take on a mandatory meaning. Take, for example, the following hypothetical requirement from a university policy on the serving of alcoholic beverages: “Foods served shall not be limited to salty foods which increase thirst.” In this context, “shall not be limited to” is clearly a clause indicating mandatory behavior. Thus, the “including, but not limited to” language in section 301(c)(2) could be a combination of two statutory requirements: (a) include these enumerated factors and (b) include other factors designed to advance the legislative goals of the statute. This construction may make particular sense in light of congressional statements of concern for proper valuation of lost natural resources. Whether or not one agrees with this analysis of the language of section 301(c)(2), that section clearly permits the inclusion of additional factors in the regulations; as such, the inclusion of non-use values in the regulations—and subsequent NRDAs—is subject to challenge under \textit{Chevron} step two, as described below. \textit{See infra} text accompanying notes 64–67.

\textsuperscript{57} \textit{See 43 C.F.R. § 11.83(c)(1).} If section 301(c)(2) is read to require inclusion of an additional factor, the necessary additional factor cannot be restoration value, which already must be considered. \textit{See CERCLA § 107(f)(1), 42 U.S.C. § 9607(f)(1) (“There shall be no double recovery under this chapter for natural resource damages, including the costs of damage assessment or restoration, rehabilitation, or acquisition for the same release and natural resource.”).} Under \textit{Ohio v. DOI}, sections 301 and 107 of CERCLA should be read in conjunction when determining what Congress mandated be taken into consideration when measuring damages. \textit{See Ohio v. U.S. Dep’t of the Interior, 880 F.2d 432, 446–47 (D.C. Cir. 1989) (stating that one cannot read section 107 while ignoring the existence of section 301).} Under this construction, “restoration value” is added to the factors for consideration enumerated in section 301(c)(2). \textit{See id.}

\textsuperscript{58} 467 U.S. 837, 842–43 (1984).
\textsuperscript{59} \textit{Id.} (framing the question as “whether Congress has directly spoken to the precise question at issue”).
one.\textsuperscript{60} If the statutory meaning is ambiguous, then the regulation is evaluated for reasonableness under step two of the \textit{Chevron} inquiry.\textsuperscript{61}

Congress’s “but not limited to” language does not unambiguously state which additional factor may (or must) be included in the regulation, nor to what extent that additional factor should be considered or used in assessing natural resource damages.\textsuperscript{62} Here, DOI has chosen one additional factor to be considered—non-use values—which on its face seems sufficient to satisfy the statutory language of section 301(c)(2).\textsuperscript{63} But how should these non-use values be considered, if at all?

In practice, these regulations are subject to an as-applied reasonableness challenge under \textit{Chevron} step two, based on the perplexing treatment of non-use values that permits option and existence values to be included in damages only when no use values can be determined.\textsuperscript{64} Although the regulations allow for consideration of “nonuse values such as existence and bequest values,”\textsuperscript{65} the end result is that

\begin{itemize}
  \item \textsuperscript{60} See id.
  \item \textsuperscript{61} Id. at 843.
  \item \textsuperscript{62} See CERCLA § 301(c)(2), 42 U.S.C. § 9651(c)(2). Not only does section 301(c)(2) not indicate what the additional factor might be, the provision does not indicate whether an additional factor must be actually be included in the damage assessment. In other words, can the regulation allow a trustee to consider assessing the additional factor—here, non-use values—and then allow the trustee to decline to include it in the damage measure, or does the statute require that the regulation mandate consideration and inclusion of an additional factor in NRDAs performed using the regulations? On the one hand, the fact that section 107 of CERCLA provides that damages “shall not be limited by” the amounts that can be used to restore or replace the resources could mean only that trustees can charge more than the amounts necessary to restore or replace the resources, but it does not require them to do so. CERCLA and the \textit{Ohio v. DOI} decision embrace the idea of maximizing the discretion of the trustee, and there may be a concern that trustees should not recover sums unsubstantiated by evidence. See 43 C.F.R. § 11.80(b) (2004) (“Damages may also include, at the discretion of the authorized official, the compensable value . . .”); see also CERCLA § 107(f)(1), 42 U.S.C. § 9607(f)(1) (2000); \textit{Ohio v. DOI}, 880 F.2d at 447–48. On the other hand, Congress, in passing CERCLA, evidenced a concern that humans cannot properly evaluate the true worth of natural resources, and would have wanted all factors, even if the value is minimal, to be included in the damage assessment. See \textit{Cross}, supra note 17, at 284.
  \item \textsuperscript{63} The regulations would probably survive a facial challenge under \textit{Chevron} step one because compensable value includes “nonuse values such as existence and bequest values.” 43 C.F.R. § 11.83(c)(1). It is only in practice that non-use values will not be considered (both in improperly defining compensable value and by failing to address any non-use values once use values are determined). See id. § 11.83(c)(1)(iii).
  \item \textsuperscript{64} See id. § 11.83(c)(1)(iii). A finding or conclusion by a trustee based on this provision might also be considered arbitrary or capricious under the Administrative Procedure Act, especially if significant non-use values are ignored. See APA § 10(e), 5 U.S.C. § 706 (2000).
  \item \textsuperscript{65} 43 C.F.R. § 11.83(c)(1).
trustees following the regulations will virtually never consider option and existence values because some minimal use values will always be easily identifiable, and because no other additional factors are indicated in the regulations. It seems an unreasonable construction of the statute to adopt regulations that welcome entrance of non-use values through the front door, in the definition of compensable value, only to immediately drive them out the back, by allowing estimation of non-use values only when use values are completely absent.

B. Challenges to Assessments Using Incomplete Regulatory Language

A separate obstacle to a full recovery for natural resource damages is that some trustees do not even reach the point of deciding whether to consider non-use values, because they fail to recognize the complete definition of compensable value. For example, some trustee assessment plans used by federal administrative agencies and state environmental agencies that ostensibly follow the regulations do not indicate that non-use values will be considered in the damage determination phase. Rather, these plans define “compensable value” for

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66 See Cross, supra note 17, at 284.

67 The counterargument to this conclusion is equally unreasonable: one could conceptualize “option” and “existence” values as different from “bequest” value because option and existence values are things I enjoy, while bequest value is something I hope others will enjoy. Making this distinction, trustees could consider bequest value under 43 C.F.R. § 11.83(c)(1)(iii), even if use values are determined. Thus, bequest value would be the additional factor under CERCLA section 301(c)(2). However, some scholars consider existence value to be comprised of the subparts option value and bequest value and it is difficult to provide a rationale for why trustees would be allowed to estimate bequest value, but not existence or option values. See Cross, supra note 17, at 285–86.

68 This would not withstand judicial review because the definition of compensable value would be “plainly erroneous” and “inconsistent” with the regulation’s plain language. See Bowles v. Seminole Rock & Sand Co., 325 U.S. 410, 414 (1945) (“But the ultimate criterion is the administrative interpretation which becomes of controlling weight unless it is plainly erroneous or inconsistent with the regulation.”); Albemarle Corp. v. Herman, 221 F.3d 782, 785 (5th Cir. 2000) (“[A]s is the case here, the Secretary’s interpretation is not entitled to deference if it is unreasonable or contrary to the regulation’s plain language.”) (citing Martin v. Occupational Safety & Health Review Comm’n, 499 U.S. 144, 156–57 (1991)).

interim losses as “the value of lost public use of the services provided by the injured resources,” deleting the remaining portion of the regulatory definition, “plus lost nonuse values such as existence and bequest values.”

While the DOI regulations make consideration and assessment of non-use values difficult, non-use values should not be dismissed out of hand at any stage of the NRDA process without a fair look at the potential benefits of including them in an assessment.

C. Proposals

Trustees that follow the DOI regulations should take notice of interim non-use values to the extent permitted by the regulations. DOI, for its part, should amend the regulations to allow trustees to include lost non-use values in their calculations of damages under CERCLA.

Damage Assessment of the Grand Calumet River, Indiana Harbor Ship Canal, Indiana Harbor, and Associated Lake Michigan Environments 46–49 (Oct. 1997) (prepared by Indus. Econ., Inc.) (finding only three areas where compensable value may be calculated: interim losses of habitats that provided “important services” to humans; interim losses of recreational opportunities; and interim losses representing increased costs of past or committed future public development projects), available at http://www.fws.gov/midwest/GrandCalumetRiver/gcraplan.pdf. Contra U.S. Fish & Wildlife Serv., Lower Fox River/Green Bay Natural Resource Damage Assessment Plan § 9.3.1 (Aug. 1996) (stating that “[c]ompensable values include ‘the value of lost public use of the services provided by the injured resources, plus lost nonuse values such as existence and bequest values’”), available at http://www.fws.gov/midwest/nrda/assess.pdf. This plan proceeds to embrace the consideration of non-use values at length, first by quoting DOI regulation language and then further by adding its own formulation:

Nonuse values (or passive use values) arise from the values individuals place on resources apart from their own readily identified and measured direct use. Nonuse values may include bequest values for the availability of resources for use by others now and in the future, and existence values for the protection of the resources even if they are never used [56 F.R. 19760].

Additionally, option values to preserve the site for one’s own potential future use and casual or indirect uses of natural resources, such as enjoying the site while driving or walking by or working near the site; and enjoying hearing about, reading about, or seeing photographs of the site may also be included in direct uses or passive uses depending on the study design.

Id.


71 See Miriam Montesinos, It May Be Silly, But It’s an Answer: The Need to Accept Contingent Valuation Methodology in Natural Resource Damage Assessments, 26 Ecology L.Q. 48, 78 (1999) (“Federal courts, DOI and experts have agreed that nonuse values must be included and have provided for nonuse values to be part of NRD assessments.”). However, state natural resource damage laws may expressly prohibit the use and recovery of non-use values. See, e.g., Mich. Comp. Laws § 324.20104(2)–(3) (2003).
regardless of whether any lost use values can be determined, particularly in light of the otherwise very conservative calculation procedures set forth in the regulations, which often result in severe underestimations of the cost of remediation.73

III. The Utility of Non-Use Values

As explained in the introduction, non-use value includes existence, option, and bequest value.74 Existence value is the worth to people of knowing that a given natural resource is protected; option value is the value to people of retaining the option for future use; and bequest value comes from knowing that a natural resource will be available to future generations.75 The literature on these non-use values abounds with discussion of the difficulty of calculating non-use values. But many of these articles lose sight of an administrative reality: CERCLA trustees, whose role it is to assess resource damages and pursue claims for recovery, have the autonomy to decide how, or even whether, to charge polluters for lost non-use values.

A. Measuring Non-Use Values

Because non-use values are inherently non-economic, perhaps the most common method of calculating such values involves asking individuals what dollar figure they would assign to a particular resource.76 This type of study is termed a contingent valuation (CV) study. The Ohio v. DOI court upheld DOI’s continued use of CV as a “best available procedure” in determining resource values under CERCLA.77 The CV process “set[s] up hypothetical markets to elicit . . . [the] economic valuation of a natural resource,” and is used when there are no adequate models of market behavior available to measure use or non-use values.78

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72 Such amendment should not be problematic; the regulation must be reviewed and revised as appropriate every two years. CERCLA § 301(c)(3), 42 U.S.C. § 9651(c)(3) (2000).
73 See N.Y. State Dep’t of Envtl. Conservation, supra note 31.
74 Cross, supra note 17, at 285–86.
75 Id. at 285–86.
76 See id. at 315, 320 n.267 (citing Alan Randall, Total Economic Value as a Basis for Policy, 116 Transactions Am. Fisheries Soc’y 325, 329 (1987) (declaring that contingent valuation “offers the only means of directly estimating the total value of nonmarketed environmental assets”).
77 Ohio v. U.S. Dep’t of the Interior, 880 F.2d 423, 478 (1989). However, reliance on CV studies may expose a NRDA to further as-applied challenges under Chevron step two.
78 See id. at 475. Adequate models of market behavior that could be useful in measuring non-use values are contributions to charitable organizations, calculations of donated time, and the like, which indicate the economic resources some humans are willing to
Specifically, "CV involves a series of interviews with individuals for the purpose of ascertaining the values they respectively attach to particular changes in particular resources."\textsuperscript{79} While some have expressed criticism that CV studies can result in overestimation of damages and speculative or egregious outcomes,\textsuperscript{80} the \textit{Ohio v. DOI} court made clear its unwillingness to judicially overrule "DOI's careful estimate of the caliber and worth of CV methodology."\textsuperscript{81}

Contingent valuation studies do have several important substantive weaknesses, which have been discussed in detail by numerous scholars. Highly susceptible to bias, overestimation of how much money people would spend to preserve a resource, question sequence effects, "pair" effects, and insensitivity to quantity, CV can result in implausibly high valuations.\textsuperscript{82} There are procedural difficulties as well. For example, the applicable facts may change during preparation of a CV study, forcing the trustee to choose between proceeding with the development of an expenditure on non-economic benefits. This market-based analysis may provide more predictable results than a CV study, but will probably also result in dramatic undervaluation of non-use value due to the transaction costs and injection of other issues into the valuation question. However, because of their conservative nature, market indicators of non-use value may provide trustees with strong, and cheaply obtained, data on non-use value for inclusion in NRDAs.


\textsuperscript{80} See \textit{Ohio v. DOI}, 880 F.2d at 475–76; see also Cass R. Sunstein, \textit{Coherent and Incoherent Valuation: A Problem with Contingent Valuation of Cultural Amenities} 1 (Feb. 2002) (preliminary draft Sep. 25, 2001) (arguing that the problem with contingent valuation is category-bound thinking: "[w]hen people explore particular problems in isolation, they normalize them by comparing them to a cognitively accessible comparison set, consisting of cases from the same basic category"), at http://culturalpolicy.uchicago.edu/workingpapers/Sunstein12.pdf.

\textsuperscript{81} 880 F.2d at 478.

outdated study, or beginning the study once the facts are fully developed but risking critical delay in obtaining the results.\footnote{See Dale B. Thompson, Valuing the Environment: Courts’ Struggles with Natural Resource Damages, 32 Env. L. 57, 85 (2002).}

Because it is so difficult to calculate non-use values, it should not be surprising that many trustees are reluctant to incorporate lost non-use values into natural resource damage assessments.\footnote{Id.} Another factor that may discourage trustees from considering non-use values is that natural resources historically have been defined in terms of use. Nevertheless, a strictly use-based approach does not sufficiently capture nature’s full value.\footnote{See id.} “The fundamental problem of damage valuation for the per se loss of wildlife is that the intrinsic worth of natural resources does not conveniently fit the terms of economic accountability.”\footnote{Zygmunt J.B. Plater et al., Environmental Law and Policy: Nature, Law, and Society 189 (3d ed. 2004); see also Cross, supra note 17, at 270 (“Placing an economic value on natural resources is not just an academic exercise.”).}

Including non-use values in NRDAs strikes a balance between the purely economic view of the value of natural resources and more controversial notions such as assessing damages for animal suffering caused by pollution.\footnote{But perhaps expanding the notion of non-use value is appropriate. \textit{See}, e.g., Cass R. Sunstein, The Rights of Animals, 70 U. Chi. L. Rev. 387, 394 (2003) (stating that balancing human versus animal interests must depend on values—“on how much weight we should assign to the relevant interests,” and suggesting at the very least that “suffering and harms to animals should count”); J. Baird Callicott, Non-Anthropocentric Value Theory and Environmental Ethics, 21 Am. Phil. Q. 299, 300 (1984) (stating that nature must have some value even when it is not used for human purposes).}
B. The Benefits of Assessing Damages for Lost Non-Use Values

Assessing damages for lost non-use values can bestow many benefits upon communities affected by pollution. The additional funds procured can be used as a “reserve” fund in the (very likely) event that the actual cost of restoration or replacement exceeds the amount calculated and received from the perpetrator for remediation. Moreover, assessing additional liability for injury to special resources will require potential polluters to exercise extra caution with assets that are important to the public, and will help protect such resources. Finally, the assessment of damages for lost non-use values recognizes the loss of a resource that may be central to the identity of a community and the insult caused by a polluter who failed to exercise due care for the communities it affected.

The consideration of non-use values is optional for many trustees. Those trustees that are not bound by the odd strictures of the DOI regulations should seriously consider calculating lost non-use values in each case they handle. Although the costs of calculating damages may sometimes outweigh the benefits of collecting such damages, in cases where calculation of the lost non-use values is warranted, the imposition of liability for such losses can have several different levels of utility.

Situations in which it is especially worthwhile...
to consider non-use values include those where: the likelihood of litigation remains low;^{92} some market indicator of non-use value is available;^{93} a previously completed contingent valuation study related to a similar resource already exists;^{94} or the resource is unique, well-known, or has suffered long-term or irreversible damage.^{95}

Trustees should err in favor of calculating non-use values because, as Congress recognized when it passed CERCLA, humans—through ignorance or indifference—often fail to acknowledge much of nature’s intrinsic value.^{96} These damages, in addition to paying for restoration and creating other benefits discussed below, would help advance CERCLA’s primary goals of deterrence and environmental protection.^{97}

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^{92} Trustees must assess the increased probability that adding non-use values may subvert the out-of-court process, thereby imposing “obstacles to the achievement of an important goal of CERCLA—the preference that recovery of natural resource damages be achieved through settlement rather than by a court.” Thompson, supra note 83, at 85–86. “Settlement discussions may [also] be hindered by uncertainty about the amount of non-use value damages trustees will seek.” Id. at 86. That said, few CERCLA cases go to trial. See Office of Env'tl. Guidance, U.S. Dep’t of Energy, Integrating Natural Resource Damage Assessment and Environmental Restoration Activities at DOE Facilities 11 (Oct. 1993) (“The rebuttable presumption is, however, primarily of importance in the event of litigation. Few natural resource damages cases have, in fact, actually been tried, with most being settled out of court.” (endnote omitted)), available at http://www.eh.doe.gov/oepa/guidance/CERCLA/nrda3.pdf.

^{93} See Ohio v. DOI, 880 F.2d at 475; see also supra text accompanying note 78.

^{94} Such parallel studies may be needed if the trustees lack the funds necessary to develop their own CV studies.


^{96} Ohio v. DOI, 880 F.2d at 457.

^{97} Restoration might include any non-use or intrinsic values, and CERCLA may envision a broader construction of restoration in natural resource damage assessments. After all, a primary goal of CERCLA was to make whole the natural resources that suffer injury. As a result, restoration, and its costs, may be justified even when restoration costs outrun willingness to pay. This suggestion is not so outrageous if one remembers that CERCLA is a statute designed to deter future release of hazardous pollutants into the environment. If restoration costs must be paid, even if extremely high, this can further the goals of deterrence and environmental protection. After all, restoration is the proper basic valuation measure. See id. at 446. In support of using restoration as the sole remedy for publicly-owned natural resources, see, for example, Heidi Wendel, Note, Restoration as the Economically Efficient Remedy for Damage to Publicly Owned Natural Resources, 91 Colum. L. Rev. 430 (1991) (advocating restoration as the only efficient remedy that will compensate the public fully for its loss). See also Frank B. Cross, Restoring Restoration for Natural Resource Damages, 24 U. Tol. L. Rev. 319, 321 (1993) (arguing that restoration provides optimal preservation as a low cost “selective process that uses the power of natural forces to recreate a better functioning ecosystem”).
Assessment of damages for non-use values is unlikely to lead to “excessive precautions” on the part of economic players and potential polluters.\textsuperscript{98} CERCLA liability is so disastrous for polluters that firms and individuals already engage in economically inefficient behaviors in order to avoid such liability. An additional calculation in conducting NRDAs is unlikely to cause a marked increase in economically inefficient behaviors. To the contrary, inclusion of non-use values in NRDAs will facilitate economically efficient activity in the restoration and replacement of lost natural resources because the necessary restoration funds will be available.\textsuperscript{99}

**Conclusion**

No argument can be made that it is easy to calculate non-use values. But many trustees have wide discretion in deciding both whether to follow the DOI regulations and whether to consider non-use values in damage determinations. As the vignette of the Penobscot River illustrates, the injury caused by pollution is multifaceted. Where warranted, there are multiple benefits to charging polluters for damages beyond the simple repair of the physical problem they caused. The inclusion of non-use values would help promote accountability and deterrence, and ensure that the human interests negatively affected by pollution are adequately addressed.

\textsuperscript{98} But see Note, supra note 82, at 1990–91 (citing Richard A. Posner, Economic Analysis of Law 176 (3d ed. 1986)).

\textsuperscript{99} See Ohio v. DOI, 880 F.2d at 445 (stating that DOI’s regulations were not in line with Congress’s intention for recovery to be sufficient to cover the costs of restoration).
LEARNING FROM MORE THAN FIVE-AND-A-HALF DECADES OF FEDERAL WATER POLLUTION CONTROL LEGISLATION: TWENTY LESSONS FOR THE FUTURE

KENNETH M. MURCHISON*

Abstract: Since 1948, the federal government has assumed an increasingly dominant role in efforts to control pollution of surface waters in the United States. Over that half century, the federal role has evolved from research support and financial grants to states, to federal effluent standards and a national permit requirement, and, more recently, to enforcement of a mandate to achieve water quality standards.

This Article describes the evolution of federal water pollution control legislation in the United States. It focuses particularly on the 1972 statute prescribing feasibility-based controls for point sources and its 1977 modification, the increasing concern with toxic pollution in the 1980s, and recent litigation requiring total maximum daily loads for waters that fail to meet water quality standards. The Article then examines this description to evaluate the accomplishments and failures of each step in the legislative evolution, and to extract practical lessons so that future water pollution control legislation may be successful.

Introduction

In the United States, federal water pollution control legislation has evolved significantly over the last five-and-a-half decades. Since 1948, the federal government has assumed an increasingly dominant role in efforts to control the pollution of surface waters. During that period, the federal role has evolved from research support and financial grants to federal effluent standards and a national permit requirement.

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requirement and, more recently, to a mandate that water quality standards be achieved.

Engaging in a review of this statutory development, and its implementation by administrators and courts, can advance understanding of the regulatory process and suggest ways it might be improved. At a minimum, an examination of prior regulatory initiatives serves as a reminder of how water pollution control law has arrived at its current equilibrium—an equilibrium that can be characterized as wanting in many respects. In addition, the successes and failures of the past can offer lessons regarding what strategies may work to control water pollution, and other forms of pollution, in the future.

This Article begins by describing the evolution of the federal legislation. It focuses particularly on the 1972 statute prescribing feasibility-based controls for point sources, the modifications of the 1972 law in 1977 and in the 1980s, and recent litigation requiring total maximum daily loads for waters that fail to meet water quality standards.

This descriptive section sets the stage for the analytical contribution. The Article evaluates the accomplishments and failures of each step in the evolution of water pollution control law. It then uses the description and evaluation to generate some practical lessons for successful legislation. Some of these lessons may be useful in the present; others may be guides best called upon in a political, economic, or technological climate yet to arrive. In addition, because water pollution control legislation has used a range of different strategies for environmental regulation, these lessons have potential application to other environmental statutes as well.

I. FEDERAL WATER POLLUTION CONTROL LEGISLATION IN THE UNITED STATES

A. Regulation Prior to 1972

1. Legislation

The United States Supreme Court has long recognized extensive federal power over navigable waters. As early as 1824, the Court broadly defined congressional authority to control the use of waters in interstate commerce. For most of the nation’s history, Congress ex-

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1 Gibbons v. Ogden, 22 U.S. (9 Wheat.) 1, 197 (1824). For general discussions of the authority the Commerce Clause grants Congress to enact pollution control regulations, see Sidney Edelman, Federal Air and Water Control: The Application of the Commerce Power to Abate
ercised its authority over waterways by regulating the "navigable waters" of the United States. Moreover, the Supreme Court broadly defined that phrase.\(^2\) By the twentieth century, it included waters that had been navigable in the past,\(^3\) waters capable of being used for interstate commerce with reasonable improvements,\(^4\) and nonnavigable tributaries that affect navigable streams.\(^5\)

Congress delayed significant federal pollution control legislation until the middle of the twentieth century.\(^6\) Nonetheless, one nineteenth century statute—the Rivers and Harbors Appropriation Act of 1899\(^7\)—was important in shaping modern legislation. Section 13 of that statute,\(^8\) commonly known as the Refuse Act, prohibited discharging refuse into navigable waters or their tributaries. To give the prohibition some teeth, section 16 of the 1899 law\(^9\) made any violation of the Refuse Act a misdemeanor punishable by a fine of $500 to $2500 and imprisonment for not more than thirty days; it also pro-

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\(^9\) Id. § 16, 30 Stat. at 1153 (codified as amended at 33 U.S.C. § 411). The maximum penalty under the 1899 statute was a $2500 fine and imprisonment for one year. A 1996 amendment, Water Resources Development Act of 1996, Pub. L. No. 104-303, sec. 218(a), § 16, 110 Stat. 3658, 3696, eliminated the minimum fine and raised the maximum fine to $25,000 per day of violation.
vided that one-half of the fine was “to be paid to the person or persons giving information which shall lead to conviction.”

The current codification of section 13 of the Refuse Act is a long and convoluted sentence; it contains two prohibitions and ends with a qualification and a pair of provisos. The first prohibition makes it unlawful to discharge “any refuse matter” into navigable waters or their tributaries except for “that flowing from streets and sewers and passing therefrom in a liquid state.” The second prohibition forbids anyone from depositing “material of any kind . . . on the bank of any navigable water, or on the bank of any tributary of any navigable water” when the material “shall be liable to be washed into such navigable water.” At the end of the second prohibition, Congress inserted the qualifying phrase “whereby navigation shall or may be impeded or obstructed.” Finally, the sentence concludes with two provisos. The first exempts federal public works from the statutory prohibitions. The second authorizes the Chief of the Corps of Engineers to allow “the deposit of any material above mentioned in navigable waters.”

The story of modern federal legislation begins with the Federal Water Pollution Control Act of 1948. The 1948 Act “assigned the federal government to a very secondary position in relation to the states in water quality matters, the principal federal responsibility being to bolster local pollution control programs with technical services and money.” The new law authorized federal support for research on water pollution problems, loans to help finance treatment facilities, and financial grants to state water pollution control programs. Although the 1948 Act encouraged states to enact uniform laws and

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12 Id.
13 Id.
14 Id.
15 See id.
16 Id.
18 Hines, supra note 6, at 810.
19 Federal Water Pollution Control Act of 1948 § 2, 62 Stat. at 1155.
20 Id. § 5, 62 Stat. at 1158.
21 Id. § 8, 62 Stat. at 1159.
interstate compacts,\textsuperscript{22} it explicitly recognized—in words that remain part of contemporary law\textsuperscript{23}—that water pollution control was primarily the responsibility of state and local governments.\textsuperscript{24} The 1948 legislation included a narrow authorization for federal enforcement action.\textsuperscript{25} It allowed the federal government to file a public nuisance action for interstate pollution that endangered persons in a state other than the one in which the pollution originated. However, the federal government could proceed only with the approval of state officials in the state where the discharge originated and after a complicated series of notices, warnings, hearings, and conference recommendations.\textsuperscript{26}

Congress expanded the federal statute in 1956.\textsuperscript{27} The most significant aspect of the 1956 amendments authorized direct funding for municipal sewerage treatment plants.\textsuperscript{28} The amendments also modified the provision allowing the federal government to act against interstate pollution by deleting the requirement for approval of the state in which the discharge originated and by eliminating one of the notice requirements in the abatement procedure.\textsuperscript{29} Unfortunately, Congress also narrowed the definition of “interstate waters”\textsuperscript{30} and negated the impact of the deletion of the notice requirement by adding a new requirement for a conference of local and state officials and two new delays in the process.\textsuperscript{31}

Additional amendments to the Federal Water Pollution Control Act in 1961\textsuperscript{32} made modest alterations in the statute.\textsuperscript{33} The amendments increased the appropriation authority for grants to state pro-

\textsuperscript{22} \textit{Id.} § 2, 62 Stat. at 1156.
\textsuperscript{23} See 33 U.S.C. § 1251(b) (2000).
\textsuperscript{24} Federal Water Pollution Control Act of 1948 § 1, 62 Stat. at 1155.
\textsuperscript{25} See \textit{id.} § 2, 62 Stat. at 1156–57.
\textsuperscript{26} See Hines, \textit{supra} note 6, at 812.
\textsuperscript{27} Water Pollution Control Act Amendments of 1956, Pub. L. No. 84-660, 70 Stat. 498. \textit{See generally} Andreen, \textit{supra} note 7, at 239–41; Barry, \textit{supra} note 17, at 1107–12; Hines, \textit{supra} note 6, at 813–19.
\textsuperscript{28} Water Pollution Control Act Amendments of 1956, sec. 1, § 6, 70 Stat. at 502.
\textsuperscript{29} \textit{Id.} § 8, 70 Stat. at 504–05.
\textsuperscript{30} \textit{Id.} § 11(e), 70 Stat. at 506; \textit{see} Barry, \textit{supra} note 17, at 1109–11.
\textsuperscript{31} Water Pollution Control Act Amendments of 1956, sec. 1, § 8, 70 Stat. at 504. For a more complete description of the enforcement process, see Barry, \textit{supra} note 17, at 1108–09.
\textsuperscript{32} Federal Water Pollution Control Act Amendments of 1961, Pub. L. No. 87-88, 75 Stat. 204.
\textsuperscript{33} \textit{See generally} Andreen, \textit{supra} note 7, at 241–44; Barry, \textit{supra} note 17, at 1112–14; Hines, \textit{supra} note 6, at 822–25.
grams as well as the dollar ceiling on federal construction grants, and they broadened the definition of “interstate or navigable waters” to include all coastal waters. With respect to enforcement, Congress increased the federal government’s power to initiate enforcement conferences, although it required that the conference be requested by the governor of the state where the discharge originated. The 1961 legislation also allowed municipalities to initiate requests for federal enforcement, but only when they obtained the concurrence of the governor or the state water pollution control agency.

The Water Quality Act of 1965 substantially expanded the scope of federal regulatory authority. It directed states to establish water quality standards for interstate waters and to prepare implementation plans imposing pollution controls that would achieve the water quality standards. The amendments also required the states to submit their standards to the newly created Federal Water Pollution Control Administration for approval, but the new federal statute did not mandate enforceable regulations on individual sources of pollution. Moreover, when a state failed to act, the statute did not grant the administrator authority to impose and enforce a federal implementation plan.

In 1966, Congress again amended the Federal Water Pollution Control Act. The principal feature of the Clean Water Restoration Act of 1966 was a substantial increase in the authorization for federal

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34 Federal Water Pollution Control Act Amendments of 1961, sec. 3, § 4, 75 Stat. at 205.
35 Id. sec. 5, § 6, 75 Stat. at 206.
36 Id. sec. 9, § 11, 75 Stat. at 210.
37 Id. sec. 7, § 8, 75 Stat. at 208.
38 Id.
40 See generally Andreen, supra note 7, at 244–50; Barry, supra note 17, at 1114–16; Hines, supra note 6, at 825–30.
42 Id. § 10, 79 Stat. at 908.
43 Id.
44 When a state failed to adopt water quality standards for interstate waters within its borders, the statute authorized the Secretary of Health, Education, and Welfare to prepare water quality standards. If the state failed to adopt acceptable standards after the Secretary proposed federal standards, the Secretary could promulgate the federal standards. Id. At this point, however, the state could request a hearing on the federal standards. Even after the federal standards were promulgated, the statute did not authorize the Secretary to prepare a federal implementation plan to insure that the standards were achieved. See id.
45 Clean Water Restoration Act of 1966, Pub. L. No. 89-753, 80 Stat. 1246. See generally Andreen, supra note 7, at 250–52; Barry, supra note 17, at 1116–17; Hines, supra note 6, at 833–38. In the 1966 law, Congress also amended the Oil Pollution Act to include inland
construction grants for public waste treatment facilities. In addition, the 1966 statute increased federal support for research and training efforts, authorized larger grants to support local and state agencies responsible for water pollution control, provided incentives for states to adopt water quality standards and to support construction of local waste treatment works, and permitted the use of federal enforcement machinery for international boundary waters.

Congress amended the Federal Water Pollution Control Act one more time before 1972. The 1970 amendment was a response to two oil spills. One spill resulted from the wrecking of the *Torrey Canyon* off the coast of Great Britain in 1967, and the other occurred in 1969 when oil escaped from a platform in the ocean near Santa Barbara, California. The legislation did not, however, change the basic structure of water pollution control regulations. Instead, the Water Quality Improvement Act of 1970 established a system of strict liability for oil spills.
2. Interpretation and Enforcement

Not surprisingly, the 1970 legislation and its predecessors achieved limited results in improving the quality of the nation’s waters. By 1972, approximately half of the states had adopted water quality standards, but the federal legislation failed to compel meaningful progress toward achieving those standards. Furthermore, the limited authority and complicated procedures for federal enforcement had proved ineffective. According to a report prepared by the Senate Committee on Public Works, the federal government initiated only one enforcement action under the Federal Water Pollution Control Act prior to 1970.

Because the enforcement procedures were so ineffective, the Department of Justice instead used the Refuse Act as the basis for legal actions against polluters. During the 1960s, two Supreme Court decisions expanded the potential of the Refuse Act as a pollution control statute. The two cases contributed to the political momentum that ultimately produced the political compromise reflected in modern federal water pollution control legislation.

In the first case, the Supreme Court in 1960 narrowly construed the Refuse Act exemption for liquid sewerage from streets and sewers. According to the majority opinion authored by Justice Douglas, the exemption did not apply to suspended solids in the discharge of an industrial plant. As a result, the discharge fell within the statute’s general prohibition against discharging refuse into the navigable waters. In addition, the Court also ruled that the United States could

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58 See United States v. Republic Steel Corp., 362 U.S. 482, 485 (1960). The Court also held that the discharge was an “obstruction” to navigation and thus violated section 10 of the Rivers and Harbors Appropriation Act of 1899, ch. 425, § 10, 30 Stat. 1121, 1151 (codified at 33 U.S.C. § 403 (2000)).
59 Republic Steel, 362 U.S. at 490–91.
60 33 U.S.C. § 407 (2000); see supra notes 12–13 and accompanying text.
seek injunctive relief against violators even though neither section 13 nor section 16 expressly authorized an injunction.61

Justice Douglas continued his expansive interpretation of the Refuse Act six years later. The new decision62 broadly defined the “refuse” that could not be discharged into navigable waters.63 According to Justice Douglas, commercially valuable gasoline that was inadvertently spilled into a waterway was refuse that fell within the statutory prohibition.64

When the Supreme Court rendered its opinions construing the Refuse Act, the Corps of Engineers lacked a program for permitting discharges that did not impede navigation.65 Thus, the effect of the decisions was to render unlawful (indeed, criminal) virtually all industrial discharges into the navigable waters of the United States and their tributaries and to authorize a bounty of one-half of the fine for citizens who provided information that led to conviction.66 Unfortunately, however, even the Supreme Court’s expansive interpretation of the Refuse Act left two major sources of water pollution unregulated. No decisions had interpreted runoff from agricultural and other nonpoint sources to be either a “discharge” or a “deposit” of refuse material, and untreated municipal discharges fell within the “liquid sewerage” exception to the statute. Furthermore, the unwieldy enforcement mechanism of lawsuits initiated by the Justice Department against individual polluters made the Refuse Act an unlikely vehicle for significant improvement in the quality of the nation’s waterways.

The Supreme Court’s activism with respect to water pollution continued to the eve of congressional reform of federal water pollution control legislation. In addition to construing the Refuse Act

61 Republic Steel, 362 U.S. at 485.
63 33 U.S.C. § 407 (2000); see supra notes 11–16 and accompanying text.
64 Standard Oil, 384 U.S. at 225–26, 237.
65 According to one commentator, the corps had issued only 266 permits under section 13 as of August 1970. Steffin, supra note 57, at 788. In December of 1970, President Nixon directed the Corps of Engineers to develop an expanded permit program, and the corps issued final regulations in April 1971. See Permits for Discharges or Deposits into Navigable Waters, 36 Fed. Reg. 6564 (Apr. 7, 1971) (codified at 33 C.F.R. § 209.131). However, a federal district court brought the program to a halt in December 1971 when it required the corps to develop rules for complying with the National Environmental Policy Act before issuing any permits. Kalur v. Resor, 335 F. Supp. 1, 14–15 (D.D.C. 1971). See generally Andreen supra note 7, at 258–60.
66 See 2 William H. Rodgers, ENVIRONMENTAL LAW: AIR AND WATER § 4-11 (1994); Houck, supra note 55, at 2289–90. But see Rodgers, supra note 57, at 792–806 (criticizing the Department of Justice guidelines that enforced the Refuse Act).
broadly, the Court also allowed claims based on the federal common law of nuisance when water pollution problems were interstate in nature. Less than seven months before Congress amended the Federal Water Pollution Control Act in October 1972, the Supreme Court ruled that a federal district court had jurisdiction over a claim that the city of Milwaukee was dumping raw sewerage into Lake Michigan. The common law solution proved a limited one, however. When the Milwaukee case returned to the Supreme Court nine years later, the Court ruled that the 1972 Amendments had preempted the state’s claim insofar as it was based on the federal common law. Six years after the second Milwaukee case, the Supreme Court further limited the role for common law remedies. It ruled that the only common law claims that survived the enactment of the Clean Water Act were those provided by the state in which the pollution discharge originated.

B. Federal Water Pollution Control Act Amendments of 1972

The Supreme Court decisions construing the Refuse Act helped to make possible the compromise that led to the Federal Water Pollution Control Act Amendments of 1972. The 1972 Amendments replaced the twenty-four-year-old statute with an entirely new “Federal Water Pollution Control Act” (the Act or the 1972 Act), establishing the modern structure of federal water pollution control legislation and the statutory numbering system used to the present day. Industrial dischargers wanted a permit system to avoid possible criminal


71 Federal Water Pollution Control Act, 33 U.S.C. §§ 1251–1387 (2000). Its popularly adopted appellation, “Clean Water Act,” was not formally acknowledged until the amendments of 1977. See infra note 220 and accompanying text. Section 2 of the 1972 Act contains the entire reenactment of the Federal Water Pollution Control Act with its modern numbering system. Because section 2 covers 80 pages in the Statutes at Large, the citations to the 1972 Act in the footnotes that follow include a reference to the specific section of the Federal Water Pollution Control Act as well as to section 2 of the 1972 Amendments.
liability under the absolute prohibition of the Refuse Act. Environmental groups also advocated a new statute to address perceived deficiencies in the 1899 law: they favored expanding federal pollution control jurisdiction to reach beyond the navigable waters of the United States; they wanted the newly created Environmental Protection Agency (EPA), rather than the Corps of Engineers, to regulate the discharge of pollutants; they sought the elimination of the municipal sewerage exclusion in the Refuse Act; and they wanted a more effective enforcement regime. Congress gained the support of local governments for the new legislation by promising to increase funding for publicly owned treatment works (often referred to as POTWs). Finally, farming interests supported the new statute because Congress drastically limited its impact on farming operations.

These political compromises shaped the 1972 Amendments, which were enacted over President Nixon’s veto. The absolute ban in the Refuse Act remained in section 101 of the 1972 legislation as a “national goal” that the discharge of pollutants be eliminated by 1985, in section 301 as authority for EPA to set no-discharge standards for existing sources when “technologically and economically achievable,” in section 306 as a direction for EPA to impose no-discharge standards for new sources “where practicable,” and in section 307 as a provision allowing EPA to prohibit the discharge of toxic pollutants. However,

72 President Nixon vetoed the legislation because of his opposition to the increase in federal funding for publicly owned treatment works. See 118 Cong. Rec. 36,859 (1972). He continued his opposition in implementing the statute, but the Supreme Court ultimately ruled that the President lacked authority to refuse to allot moneys that Congress had appropriated for construction grants. Train v. City of New York, 420 U.S. 35, 41 (1975).

73 See 33 U.S.C. § 407 (2000); supra note 8 and accompanying text; see also supra notes 11–16 and accompanying text.

74 Federal Water Pollution Control Act Amendments of 1972, Pub. L. No. 92-500, sec. 2, § 101(a)(1), 86 Stat. 816, 816 (codified at 33 U.S.C. § 1251(a)(1) (2000)); see also id. § 402, 86 Stat. at 880 (codified at 33 U.S.C. § 1342) (naming the new federal permit program the “National pollutant discharge elimination system”) (emphasis added). Even the no-discharge goal was less absolute than its language might initially suggest. The goal was to eliminate “the discharge of pollutants into the navigable waters” by 1985. Although the Act broadly defined “navigable waters” to mean “the waters of the United States,” id. § 502(7), 86 Stat. at 886 (codified at 33 U.S.C. § 1362(7)), the term “discharge of a pollutant” covered only discharges from “point source[s].” Id. § 502(12), 86 Stat. at 886 (codified at 33 U.S.C. § 1362(12)).

75 Id. § 301(b)(2), 86 Stat. 816, 845 (codified prior to amendment at 33 U.S.C. § 1311(b)(2) (1976)).


77 Id. § 307(a)(2), 86 Stat. at 856–57 (codified prior to amendment at 33 U.S.C. § 1317(a)(2) (1976)).
the regulatory prohibition of section 301(a) applied only to discharges from "point sources," and section 301 in fact allowed discharges from point sources so long as the discharger complied with the substantive requirements of the Act and obtained the permit required by the statute. The requirements of the new legislation reached all "navigable waters," a term that included all "waters of the United States, including the territorial seas." Moreover, Congress gave EPA responsibility for establishing federal effluent standards, administering the federal permit program for pollution discharges, and enforcing the federal standards. The substantive and procedural requirements of the 1972 Amendments applied to municipal discharges, but a new

78 Id. § 301(a), 86 Stat. at 844 (codified as amended at 33 U.S.C. § 1311(a) (2000)).
79 Id. § 502(14), 86 Stat. at 887 (codified as amended at 33 U.S.C. § 1362(14)) ("The term 'point source' means any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged.").
80 A careful reading of section 301 shows that the regulatory prohibition is not as absolute as it appears. "[T]he discharge of any pollutant by any person shall be unlawful," according to section 301(a), "[e]xcept as in compliance with this section and sections 302, 306, 307, 318, 402, and 404." Federal Water Pollution Control Act Amendments of 1972, sec. 2, § 301(a), 86 Stat. at 844 (codified as amended at 33 U.S.C. § 1311(a)). However, the definition of "discharge of a pollutant" limits the phrase to discharges from point sources, thus exempting nonpoint sources of water pollution from the prohibition. Moreover, the exception at the beginning of the subsection has the effect of allowing discharges from point sources so long as the discharges comply with the substantive standards of sections 302, 306, 307, and 318, 33 U.S.C. §§ 1312, 1316, 1317, 1328; see infra notes 88–89, 115–141 and accompanying text, and the permit requirements of sections 402 and 404, 33 U.S.C. §§ 1342, 1344; see infra notes 99–103, 148–155, 168–170 and accompanying text. As the discussion in the text indicates, the most substantial of the substantive requirements were feasibility-based.
82 Id. §§ 301(b), 304, 86 Stat. at 844, 850 (codified prior to amendment at 33 U.S.C. §§ 1311(b), 1314 (1976)).
85 See id. § 301(b)(1)(B), 86 Stat. at 845 (codified as amended at 33 U.S.C. § 1311(b)(1)(B)) (requiring that existing publicly owned treatment works achieve effluent limits based on secondary treatment by July 1, 1977); id. § 502(6), 86 Stat. at 886
grant program raised the federal share of the construction costs for new publicly owned treatment works to seventy-five percent.\textsuperscript{86} Farmers remained largely exempt from the statute.\textsuperscript{87}

1. Principal Aspects of the Legislation

Substantively, the 1972 Amendments changed the regulatory approach of federal water pollution controls. Although the 1972 legislation continued and expanded the water quality standards required by the Water Quality Act of 1965,\textsuperscript{88} the focus of the new statute shifted to nationally applicable, feasibility-based standards that were uniform among categories of point sources.\textsuperscript{89} Industrial polluters accepted the new approach of uniform standards because it qualified the absolute prohibition of the Refuse Act and reduced the prospect that increased pollution costs would place some polluters at a competitive disadvantage. In establishing these feasibility-based standards, the statute distinguished between existing and new sources and between publicly owned treatment works and all other point sources.

For existing point sources, Congress established a two-step progression of standards. By 1977, publicly owned treatment works had to provide secondary treatment before discharging their effluent into the navigable waters;\textsuperscript{90} by 1983, publicly owned treatment works had to employ the best treatment control technology over the life of the

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\textsuperscript{87} See infra notes 111–14 and accompanying text.
\textsuperscript{88} See infra notes 115–41 and accompanying text.
\textsuperscript{89} Federal Water Pollution Control Act Amendments of 1972, sec. 2, §§ 301(b), 304, 86 Stat. at 844, 850 (codified prior to amendment at 33 U.S.C. §§ 1311(b), 1314 (1976)). EPA’s authority to issue binding effluent standards for categories of existing sources rather than to establish guidelines that would be used to establish individualized standards in permit proceedings remained uncertain until the Supreme Court’s decision in \textit{E.I. du Pont de Nemours & Co. v. Train}, 430 U.S. 112 (1977). If a point source does not fall into a category of sources for which EPA has established feasibility-based standards, the agency (or the state in cases where the state has an approved discharge permitting program) must still establish the standards sufficient to satisfy the substantive standards of the Act when it issues a permit to the point source. See Federal Water Pollution Control Act Amendments of 1972, sec. 2, § 402(a)(1), (3), (b)(1)(A), 86 Stat. at 880–81 (codified as amended at 33 U.S.C. § 1342(a)(1), (3), (b)(1)(A) (2000)); Am. Mining Cong. v. EPA, 965 F.3d 759, 762 n.2 (9th Cir. 1992); NRDC v. Costle, 568 F.2d 1369, 1378–79 (D.C. Cir. 1977).
works.\textsuperscript{91} Other point sources (principally industrial discharges) were to employ the best practicable control technology currently available (BPT) by 1977\textsuperscript{92} and the best available control technology economically achievable (BAT) by 1983.\textsuperscript{93} The principal difference between the two standards involved the role of costs. In setting BPT standards, EPA was to consider “the total cost of application of technology in relation to the effluent reduction benefits to be achieved from such application.”\textsuperscript{94} For BAT standards, the “cost of achieving such effluent reduction” was merely one item in a list of factors EPA was directed to consider.\textsuperscript{95}

\textsuperscript{91} Federal Water Pollution Control Act Amendments of 1972, sec. 2, § 301(b)(2)(B), 86 Stat. at 845 (codified prior to repeal at 33 U.S.C. § 1311(b)(2)(B) (1976)), \textit{repealed by} Municipal Wastewater Treatment Construction Grant Amendments of 1981, Pub. L. No. 97-117, sec. 21(b), 95 Stat. 1623, 1632. Section 301(b)(2)(B) did not establish this standard directly. Instead, it required that—by 1983—existing plants had to achieve the standard that new plants had to satisfy to receive federal grants. \textit{See infra} note 110 and accompanying text.

\textsuperscript{92} Federal Water Pollution Control Act Amendments of 1972, sec. 2, §§ 301(b), 304(b)(1), 86 Stat. at 844, 851 (codified prior to amendment at 33 U.S.C. §§ 1311(b), 1314(b)(1) (1976)).


\textsuperscript{94} \textit{Id.} § 304(b)(1), 86 Stat. at 851 (codified prior to amendment at 33 U.S.C. § 1314(b)(1) (1976)). Senator Muskie, the chairman of the Senate Environment Committee, provided the following description of the BPT standard in a document inserted in the \textit{Congressional Record} during the Senate debate on the 1972 Amendments:

\begin{quote}
The Administrator should establish the range of “best practicable” levels based on the average of the best existing performance by plants of various sizes, ages, and unit processes within each industrial category. In those industrial categories where present practices are uniformly inadequate, the Administrator should interpret “best practicable” to require higher levels of control than any currently in place if he determines that the technology to achieve those higher levels can be practicably applied.

“Best practicable” can be interpreted as the equivalent of secondary treatment for industry, but this interpretation should not be construed to limit the authority of the Administrator.
\end{quote}


\textsuperscript{95} Federal Water Pollution Control Act Amendments of 1972, sec. 2, § 304(b)(2)(B), 86 Stat. at 851 (codified prior to amendment at 33 U.S.C. § 1314(b)(2)(B) (1976)). Senator Muskie offered this explanation of the BAT standard:

\begin{quote}
In determining the degree of effluent reduction to be achieved for a category of class of sources by 1983, the Administrator may consider a broader range of technological alternatives and should, at a minimum, review capabilities, which exist in operation or which can be applied as a result of public and private research efforts.
\end{quote}
When prescribing standards for new sources, the 1972 statute continued to distinguish between publicly owned treatment works and other point sources. New sources other than publicly owned treatment works\(^96\) were to use the best available demonstrated control technology (BADT).\(^97\) For publicly owned treatment works, the new standard was indirect. Because Congress anticipated that new public treatment facilities would be funded through the federal grant program, the conditions for grant approval contained the substantive standard. EPA could fund a construction project only if the project provided for “the best practicable waste treatment technology over the life of the works.”\(^98\)

In addition to establishing substantive standards, the new statute created a new permit program administered by EPA.\(^99\) The permit

\(\ldots\) [R]ather than establishing the range of levels in reference to the average of the best performers in an industrial category, the range should, at a minimum, be established with reference to the best performers in an industrial category.


96 A source is subject to a new source standard of performance if “construction” of the source “commenced after the publication of proposed regulations” prescribing the standard. Federal Water Pollution Control Act Amendments of 1972, sec. 2, § 306(a)(2), 86 Stat. at 855 (codified at 33 U.S.C. § 1316(a)(2) (2000)) (emphasis added). A source that is constructed in accordance with all applicable standards of performance is not “subject to any more stringent standard of performance” for 10 years. Id. § 306(d), 86 Stat. at 856 (codified at 33 U.S.C. § 1316(d)); see NRDC v. EPA, 822 F.2d 104, 117 (D.C. Cir. 1987) (10-year protection extends to BAT standards as well as to new source standards of performance).

97 Federal Water Pollution Control Act Amendments of 1972, sec. 2, § 306(a)(1), 86 Stat. at 854 (codified at 33 U.S.C. § 1316(a)(1)).

98 Id. § 201(g)(2)(A), 86 Stat. 816, 834 (codified prior to amendment at 33 U.S.C. § 1281(g)(2)(A) (1976)). In the 1987 Amendments to the Clean Water Act, Congress phased out the construction grants in favor of a loan program. See infra notes 277-79 and accompanying text.

In establishing the “best practicable treatment over the life of the work” standard, EPA was to insure that the works “will take into account and allow to the extent practicable the application of technology at a later date which will provide for the reclaiming or recycling of water or otherwise eliminate the discharge of pollutants.” Federal Water Pollution Control Act Amendments of 1972, sec. 2, § 201(g)(2), 86 Stat. at 834 (codified prior to amendment at 33 U.S.C. § 1281(g)(2)(B) (1976)).

program applied to “the discharge of any pollutant” from a “point source” into “navigable waters.” Once a permit was issued, the permit defined the discharger’s obligation under the Act. Compliance with the permit was “deemed” compliance with the Act.

Section 502 expanded the definition of the term “navigable waters” beyond the traditional requirement that a water be navigable in its

gren, 309 F.3d 1181, 1190 (9th Cir. 2002) (permit required for aerial spraying of forest that would place pesticides in waters covered by the Clean Water Act), with Interim Statement and Guidance on Application of Pesticides to Waters of the United States in Compliance with FIFRA, 68 Fed. Reg. 48,385 (Aug. 13, 2003) (proposed guidance document from EPA indicating that no permit is required for aerial spraying designed to control pests in or over the navigable waters).


101 Section 402(a)(1) authorizes the EPA Administrator to “issue a permit for the discharge of any pollutant,” and section 502(12) defines “discharge of a pollutant” to mean “any addition of any pollutant to navigable waters from any point source” as well as “any addition of any pollutant to the waters of the contiguous zone or the ocean from any point source other than a vessel or other floating craft.” Federal Water Pollution Control Act Amendments of 1972, sec. 2, §§ 402(a)(1), 502(12), 86 Stat. at 880, 886 (codified at 33 U.S.C. §§ 1342(a)(1), 1362(12)) (emphases added). See S. Fla. Water Mgmt. Dist. v. Miccosu-kee Tribe of Indians, 541 U.S. 95, 112 (2004) (pumping water from one body of water into another requires a permit); Romero-Barcelo v. Brown, 643 F.2d 835 (1st Cir. 1981) (shell shot from ship into coastal waters is discharge of a pollutant into the navigable waters from a point source), rev’d on other grounds, 456 U.S. 305 (1982). But see Ass’n to Protect Hammersley, Eld, & Totten Inlets, 299 F.3d at 1019 (harvesting rafts on which mussels were grown were not point sources); United States v. Plaza Health Labs., Inc., 3 F.3d 643, 649 (2d Cir. 1993) (human being who threw waste into a river was not a point source).


103 Id. § 402(k), 86 Stat. at 883 (codified at 33 U.S.C. § 1342(k)).
natural state or by reasonable improvements.\textsuperscript{104} In the 1972 Amendments, Congress defined “navigable waters” to mean “the waters of the United States, including the territorial seas.”\textsuperscript{105} The Senate conference report declared that this language was to be “given the broadest possible constitutional interpretation.”\textsuperscript{106}

A discharger could avoid the permit requirement by sending its waste water to a publicly owned treatment works, but the 1972 statute directed EPA to promulgate “pretreatment” standards for that situation.\textsuperscript{107} The goal of these pretreatment standards was to prevent a discharger from sending to a publicly owned treatment works any pollutant that “interferes with, passes through, or otherwise is incompatible with such works.”\textsuperscript{108}

As indicated in the preceding paragraphs, the 1972 legislation imposed regulatory controls on discharges from publicly owned treatment works as well as discharges from industrial point sources. To make the new requirements palatable to local governments, Congress authorized a new construction grant program in which the federal share of the cost of building new treatment facilities was seventy-five percent.\textsuperscript{109} To qualify for the federal funding, states and local gov-

\begin{footnotesize}
\begin{enumerate}
\item See supra notes 2–5 and accompanying text.
\item Federal Water Pollution Control Act Amendments of 1972, sec. 2, § 502(7), 86 Stat. at 886 (codified as amended at 33 U.S.C. § 1362(7)).
\item Federal Water Pollution Control Act Amendments of 1972, sec. 2, § 502(7), 86 Stat. at 886 (codified as amended at 33 U.S.C. § 1362(7)).
\item Id. § 307(b), 86 Stat. at 857 (codified as amended at 33 U.S.C. § 1317(b)). EPA also had to promulgate similar restrictions for new sources that discharged into publicly owned treatment works. Id. § 307(c), 86 Stat. at 858 (codified as amended at 33 U.S.C. § 1317(c)).
\item Id. § 201(g), 86 Stat. at 834 (codified prior to amendment at 33 U.S.C. § 1281(g) (1976)). See generally Clinton W. Shinn, The Federal Grant Program to Aid Construction of Municipal Sewage Treatment Plants: A Survey of the 1972 FWPCA Amendments, 48 TUL. L. REV. 85, 86 (1973).
\end{enumerate}
\end{footnotesize}
ernments had to establish an area-wide policy for handling sewerage.\textsuperscript{110}

For the most part, the new regulatory controls did not affect farmers.\textsuperscript{111} The limitation of the reach of the statute’s regulatory provisions to discharges from point sources\textsuperscript{112} exempted runoff from farming operations.\textsuperscript{113} Congress did, however, specifically include one agricultural activity—concentrated animal feeding operations—within the definition of point source.\textsuperscript{114}

The 1972 Amendments did not entirely abandon the water quality approach of the 1965 legislation. They established an “interim” national goal of achieving fishable and swimmable water quality by July 1, 1983; more precisely, the goal was to achieve water quality that would allow the propagation of fish and wildlife, and recreational uses of water, by that date “wherever attainable.”\textsuperscript{115} To help reach that goal, the 1972 Amendments contained three sections, sections 101, 302, and 303, that focused on water quality; in addition, section 301(a) required point sources to comply with effluent limits set under these sections as well as with the feasibility-based standards described above.\textsuperscript{116} Nonetheless, achievement of effluent standards based on water quality was a distinctly subordinate concern of the new legislation.

Section 302\textsuperscript{117} provided a mechanism for enforcing the “interim goal” of achieving fishable and swimmable waters.\textsuperscript{118} It authorized EPA to set a stricter effluent control whenever feasibility-based stan-

\begin{footnotes}
\footnote{110}{Federal Water Pollution Control Act Amendments of 1972, sec. 2, § 208(d), 86 Stat. at 842 (codified as amended at 33 U.S.C. § 1288(d) (2000)).}
\footnote{111}{For a general analysis of the farming exemptions in a variety of environmental statutes, see J.B. Ruhl, \textit{Farms, Their Environmental Harms, and Environmental Laws}, 27 \textit{Ecology L.Q} 263 (2000).}
\footnote{112}{See supra note 79 and accompanying text.}
\footnote{113}{EPA originally exempted irrigation return flows from the permit requirement of section 402 even though they fell within the statutory definition of a point source. Form and Guidelines Regarding Agricultural and Silvicultural Activities, 38 Fed. Reg. 18,000, 18,000 (July 5, 1973). The Court of Appeals for the District of Columbia Circuit overturned this exemption in \textit{NRDC v. Costle}, 568 F.2d 1369, 1377, 1379 (D.C. Cir. 1977), but then Congress excluded irrigation return flows from the definition of point source in 1977. Congress further excluded agricultural stormwater discharges from the definition in 1987. \textit{See infra} note 234 and accompanying text.}
\footnote{114}{Federal Water Pollution Control Act Amendments of 1972, sec. 2, § 502(14), 86 Stat. at 887 (codified as amended at 33 U.S.C. § 1362(14)).}
\footnote{115}{Id. § 101(a)(2), 86 Stat. at 816 (codified at 33 U.S.C. § 1251(a)(2)).}
\footnote{116}{Id. § 301(a), 86 Stat. at 844 (codified as amended at 33 U.S.C. § 1311(a)).}
\footnote{117}{Id. § 302, 86 Stat. at 846 (codified as amended at 33 U.S.C. § 1312).}
\footnote{118}{Id. § 101(a)(2), 86 Stat. at 816 (codified at 33 U.S.C. § 1251(a)(2)).}
\end{footnotes}
standards were insufficient to achieve the water quality goal.\textsuperscript{119} EPA was to establish this stricter standard by publishing a notice of the proposed limitation and then holding a public hearing.\textsuperscript{120} However, if the applicant demonstrated the absence of any "reasonable relationship between the economic and social costs and the benefits to be obtained" from achieving the limitation under section 302, the limitation did not "become effective."\textsuperscript{121}

Section 101 declared a "national policy that the discharge of toxic pollutants in toxic amounts be prohibited."\textsuperscript{122} and section 307 provided for extra controls on toxic pollutants.\textsuperscript{123} Specifically, section 307 obligated the Administrator to identify toxic pollutants for which additional effluent limits were appropriate and to prepare supplemental standards for those pollutants.

The 1972 Amendments broadly defined the term "toxic pollutant,"\textsuperscript{124} but section 307 did not require additional effluent standards for all pollutants covered by the definition.\textsuperscript{125} Instead, the section gave EPA ninety days to prepare a list of pollutants for which additional controls were to be established.\textsuperscript{126} In deciding whether to include a pollutant on the list, EPA was to "take into account" the following factors: "the toxicity of the pollutant, its persistence, degradability, the usual or potential presence of the affected organisms in any waters, the importance of the affected organisms and the nature and extent of the effect of the toxic pollutant on such organisms."\textsuperscript{127} If a pollutant was included on the list, EPA had a duty to pre-

\textsuperscript{119} Id. § 101, 86 Stat. at 816 (codified at 33 U.S.C. § 1251).
\textsuperscript{120} Federal Water Pollution Control Act Amendments of 1972, sec. 2, § 302(b)(1), 86 Stat. at 846 (codified as amended at 33 U.S.C. § 1312(b)(1)).
\textsuperscript{121} Id. § 302(b)(2), 86 Stat. at 846 (codified as amended at 33 U.S.C. § 1312(b)(2)(A)).
\textsuperscript{122} Id. § 101(a)(3), 86 Stat. at 816 (codified at 33 U.S.C. § 1251(a)(3)).
\textsuperscript{123} Id. § 307, 86 Stat. at 856 (codified prior to amendment at 33 U.S.C. § 1317 (1976)).
\textsuperscript{124} See id. § 502(13), 86 Stat. at 886 (codified at 33 U.S.C. § 1362(13) (2000)) (defining "toxic pollutant" to mean a pollutant or "combination of pollutants" that, "after discharge and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will, on the basis of information available to the Administrator, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions" or "physical deformations, in such organisms or their offspring.").
\textsuperscript{125} See id. § 307, 86 Stat. at 856 (codified prior to amendment at 33 U.S.C. § 1317 (1976)).
\textsuperscript{126} See Federal Water Pollution Control Act Amendments of 1972, sec. 2, § 307, 86 Stat. at 856 (codified prior to amendment at 33 U.S.C. § 1317 (1976)).
\textsuperscript{127} Id. § 307(a)(1), 86 Stat. at 856 (codified prior to amendment at 33 U.S.C. § 1317(a)(1) (1976)).
pare an effluent standard for the pollutant “at that level which the Administrator determines provides an ample margin of safety.” After the effluent standard was established for a toxic pollutant, the Administrator had to “designate the category or categories of sources to which the effluent standard” applies. Once EPA established a toxic pollutant standard, all point sources to which the standard applied had to comply with the standard within one year.

Section 303 obligated states to set and implement water quality standards by continuing and expanding the 1965 provisions for state water quality standards. It extended the obligation for state water quality standards to encompass intrastate waters, and it required states to review their existing standards and to conduct an additional review of the standards every three years. The amended statute gave the EPA Administrator authority to establish standards when a state failed to comply with the statutory mandate, and it required the Administrator to identify those pollutants that were “suitable for maximum daily load measurement correlated with the achievement of water quality objectives.” The statute also obligated states to identify waters that failed to meet water quality standards as well as those waters for which controls on thermal discharges were “not stringent enough to assure protection and propagation of a balanced indigenous population of shellfish, fish, and wildlife.” Once the waters that failed to meet the Act’s standards were identified, states had to

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128 Id. § 307(a)(4), 86 Stat. at 857 (codified prior to amendment at 33 U.S.C. § 1317(a)(4) (1976)).
129 Id. § 307(a)(5), 86 Stat. at 857 (codified prior to amendment at 33 U.S.C. § 1317(a)(5) (1976)).
130 Id. § 307(a)(6), 86 Stat. at 857 (codified prior to amendment at 33 U.S.C. § 1317(a)(6) (1976)).
131 Id. § 303, 86 Stat. at 846 (codified as amended at 33 U.S.C. § 1313 (2000)).
134 Id. § 303(c), 86 Stat. at 847 (codified as amended at 33 U.S.C. § 1313(c)).
135 Id. § 303(a)(1)–(3), (b), 86 Stat. at 846–47 (codified as amended at 33 U.S.C. § 1313(a)(1)–(3)(C), (b)).
136 Id. § 304(a)(2)(D), 86 Stat. at 850 (codified at 33 U.S.C. § 1314(a)(2)(D)).
137 Id. § 303(d)(1)(A)–(B), 86 Stat. at 848 (codified at 33 U.S.C. § 1313(d)(1)(A)–(B)).
develop total maximum daily loads (TMDLs) for those waters for any pollutant that the Administrator determined was suitable for the calculation of such a load, and to develop total maximum daily thermal loads for the waters where controls on thermal discharges were inadequate to protect fish and wildlife.\(^{138}\) The states had to submit the identifications and the TMDLs to EPA for approval.\(^ {139}\) If EPA disapproved a state’s submission, the agency had to prepare the identifications or the TMDLs itself.\(^ {140}\) The statute did not expressly provide what action EPA should take if a state made no submission.\(^ {141}\)

The effluent standards and permit requirements of the 1972 amendments applied only to point sources. For nonpoint sources of pollution, the 1972 Act substituted planning for regulation. As a prerequisite to obtaining construction grants for publicly owned treatment works, section 208\(^ {142}\) obligated states to initiate “a continuing area-wide waste treatment management planning process” for areas with “substantial water quality control problems.”\(^ {143}\) In the planning process, the states had to provide for the creation of a plan for controlling pollution from both point sources and nonpoint sources.\(^ {144}\) Plans prepared pursuant to this process had to be submitted to EPA for approval, but the Act did not authorize EPA to prepare a federal plan even if the plan submitted by the state was inadequate.\(^ {145}\) Although Congress authorized funding for the planning process, it did

\(^ {138}\) Id. § 303(d)(1)(C)–(D), 86 Stat. at 848–49 (codified at 33 U.S.C. § 1313(d)(1)(C)–(D)).

\(^ {139}\) Federal Water Pollution Control Act Amendments of 1972, sec. 2, § 303(d)(2), 86 Stat. at 849 (codified at 33 U.S.C. § 1313(d)(2)). The first submission was to be due 180 days after the Administrator identified the pollutants that were suitable for calculation of total maximum daily loads. See id.; see also id. § 304(a)(2)(D), 86 Stat. at 850–51 (codified at 33 U.S.C. § 1314(a)(2)(D)).

\(^ {140}\) Id. § 303(d)(2), 86 Stat. at 849 (codified at 33 U.S.C. § 1313(d)(2)).

\(^ {141}\) See id. Theoretically, a state could lose its authority to administer the permit programs under sections 402 and 404 if the state failed to implement total maximum daily loads once they were prepared. Id. A state’s “continuing planning process” under section 303 must include total maximum daily loads. Id. § 303(e), 86 Stat. at 849 (codified at 33 U.S.C. § 1313(e)). Moreover, the statute forbids EPA from approving any state permit program in a state that “does not have an approved continuing planning process.” Id.

\(^ {142}\) Id. § 208, 86 Stat. at 839 (codified prior to amendment at 33 U.S.C. § 1288 (1976)).

\(^ {143}\) Id. § 208(a)–(b), (g), 86 Stat. at 839–42, 843 (codified prior to amendment at 33 U.S.C. § 1288(a)–(b), (g) (1976)); see Zener, supra note 70, at 765–70.

\(^ {144}\) Federal Water Pollution Control Act Amendments of 1972, sec. 2, § 208(b), 86 Stat. at 840 (codified prior to amendment at 33 U.S.C. § 1288(b) (1976)).

\(^ {145}\) See id.
not require that the state plans impose regulatory limits nor did it offer to pay the cost of reducing pollution from nonpoint sources.

The 1972 Act continued the traditional authority of the Corps of Engineers to protect navigation. The Act gave EPA control over pollution discharges, but it prohibited the issuance of any permit when the corps concluded that the discharge would impair anchorage or navigation. In addition, the statute established a separate permit program under which the corps controlled the deposit of dredge and fill materials into the waters of the United States.

Section 402 allowed the corps to veto any pollution discharge permit that would impair navigation. The mechanism for exercising this authority was, however, less than straightforward. To obtain approval to administer the pollution discharge permit program under section 402, a state had to demonstrate that no permit would be issued if the Chief of Engineers—after consultation with the Coast Guard—concluded that “anchorage and navigation of any of the navigable waters would be substantially impaired thereby.” When the Administrator issued a permit under section 402, the federal permit program was “subject to the same terms, conditions, and requirements as apply to a State permit program.”

More importantly, section 404 substituted for the prohibition of the Refuse Act a provision that allowed the Corps of Engineers to issue permits “for the discharge of dredged or fill material into the navigable waters at specified disposal sites.” Just as section 402 pre-

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146 Id. § 402, 86 Stat. at 880 (codified as amended at 33 U.S.C. § 1342 (2000)).
147 Id. § 404, 86 Stat. at 884 (codified as amended at 33 U.S.C. § 1344). EPA and the Corps of Engineers have adopted identical regulations defining “fill material” as material placed in the waters of the United States where the material has the effect of:
   (i) Replacing any portion of a water of the United States with dry land; or
   (ii) Changing the bottom elevation of any portion of a water of the United States.


148 Federal Water Pollution Control Act Amendments of 1972, sec. 2, § 402(b)(6), 86 Stat. at 881 (codified at 33 U.S.C. § 1342(b)(6)).
149 Id.
150 Id. § 402(a)(3), 86 Stat. at 880 (codified at 33 U.S.C. § 1342(a)(3)).
151 Id. § 404(a), 86 Stat. at 884 (codified as amended at 33 U.S.C. § 1344(a)).
served the control of the corps over the impact of pollution discharges on navigability,152 section 404 attempted to grant EPA control over the pollution impacts of deposits of dredge and fill material.153 In deciding whether to grant a permit, the corps was to consider water quality criteria that EPA established for ocean dumping plus the economic impact of the proposed disposal site on anchorage and navigation.154 Moreover, the statute gave EPA power to veto any particular disposal site that would “have an unacceptable adverse effect on municipal water supplies, shellfish beds and fishery areas . . . , wildlife, or recreational areas.”155

Attempting to correct one of the most serious deficiencies of prior legislation,156 Congress also established new enforcement provisions in 1972.157 The federal statute now authorized the federal government to sue in federal court to collect civil penalties from violators, and it included criminal provisions for intentional violations.158 A still greater innovation allowed private parties to file civil actions against persons who violated the federal statute and even against the EPA Administrator when the Administrator failed to perform a non-discretionary duty.159 Before filing such a “citizen suit,” the plaintiff had to provide sixty days’ notice to the defendant and—in the case of suits against violators—to EPA and to the state in which the violation occurred.160

In the 1972 Amendments, the federal government assumed a dominant role in water pollution control without totally displacing state authority.161 The declaration of goals and policy in the statute continued “to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution,”162 and the states indeed did retain important powers under the 1972 Amend-

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152 See supra notes 148–49 and accompanying text.
153 The section 404 process was similar to the one that the corps had established in 1971 to issue permits under the Refuse Act. See Andreen, supra note 7, at 259.
154 Federal Water Pollution Control Act Amendments of 1972, sec. 2, § 404(b), 86 Stat. at 884 (codified as amended at 33 U.S.C. § 1344(b)).
155 Id. § 404(c), 86 Stat. at 884 (codified as amended at 33 U.S.C. § 1344(c)).
156 See generally Barry, supra note 17.
157 Federal Water Pollution Control Act Amendments of 1972, sec. 2, § 309(b)–(d), 86 Stat. at 860 (codified as amended at 33 U.S.C. §1319(b)–(d)).
158 Id.
159 Id. § 505, 86 Stat. at 888 (codified as amended at 33 U.S.C. § 1365).
160 Id.
161 Id. § 101(b), 86 Stat. at 816 (codified at 33 U.S.C. § 1251(b)).
162 Id.
ments. States could continue their own water pollution control regulations as long as they were at least as stringent as federal requirements, and they could assume responsibility for administering the permit system under section 402. Furthermore, the 1972 Amendments also gave states new authority over federal decisions that polluted waterways.

Like most federal environmental statutes, the 1972 Amendments established a system of floor preemption and preserved state authority to impose standards stricter than the requirements of the federal statute. Section 510 expressly preserved the power of states, local governments, and interstate agencies to adopt water pollution control regulations so long as they were no “less stringent” than the requirements established pursuant to federal law.

Perhaps the most substantial role for states under the 1972 Amendments involved the permit program for discharges from point sources. A state that obtained approval from EPA could assume responsibility for administering the discharge permit program. To obtain EPA approval, the state had to demonstrate that its program would satisfy the substantive and procedural requirements of the federal statute.

Two sections expanded state authority to control polluting activities authorized by the federal government. Section 313 required agencies of the federal government to comply with “all . . . State, interstate, and local requirements respecting the control and abatement of water pollution to the same extent as any nongovernmental entity.” Section 401 precluded any federal agency from granting a permit for any activity that might result in the discharge of a pollutant into the waters of the United States unless the applicant obtained

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164 Id.
167 Id.
168 Id. § 402(b), 86 Stat. at 880 (codified as amended at 33 U.S.C. § 1342(b)).
169 Id.
170 Id.
171 Id. §§ 313, 401(a)(1), 86 Stat. at 875, 877 (codified as amended at 33 U.S.C. §§ 1323, 1341(a)(1)).
from the state a certification “that any such discharge will comply with the applicable” substantive requirements of the 1972 law.\footnote{172}

2. Administration of the Act: Lackluster Implementation by EPA, the Corps of Engineers, and the States

The 1972 Amendments were overly ambitious in the tasks they assigned to EPA. Congress never gave the agency resources commensurate with its new responsibilities,\footnote{173} and frequent legal challenges also delayed implementation.\footnote{174} Moreover, achieving the BAT standards—the second stage of feasibility-based controls for industrial sources—proved to be very costly and to result in much more modest reductions in pollution than the BPT standards had produced.\footnote{175}

Progress was even slower with respect to standards based on water quality. Section 302 proved to be a dead letter.\footnote{176} EPA also failed to meet the statutory deadline for identifying toxic pollutants for which section 307 standards were to be prepared,\footnote{177} and the agency delayed the process for preparing TMDLs under section 303 by its failure to identify those pollutants for which the calculation of TMDLs was appropriate.\footnote{178}

For several reasons, EPA never used its section 302 authority. Setting a section 302 standard was likely to involve an awkward procedure; the effluent limits established pursuant to the section were subject to important exceptions; and the section provided no means for reaching nonpoint sources.

The procedure apparently envisioned by section 302\footnote{179} would be awkward in the typical case where numerous point sources contributed to the pollution of a water body. Before establishing “any effluent limitation” under section 302, the Administrator had to pub-

\footnote{176} See infra notes 179–84 and accompanying text.
\footnote{177} See infra notes 185–93 and accompanying text.
\footnote{178} See infra notes 194–98 and accompanying text.
\footnote{179} See generally Federal Water Pollution Control Act Amendments of 1972, sec. 2, § 302(b)(1), 86 Stat. at 846 (codified as amended at 33 U.S.C. § 1312(b)(1)).
lish a proposed limitation and to hold a public hearing. Of course, modification of a proposed effluent limitation for one point source might require changes in the standards applicable to other point sources if the water quality standard were to be achieved. Thus, EPA presumably would have to set the limits for all point sources contributing to the pollution in the water body in simultaneous but separate proceedings.

Section 302 also provided an important exception to its provision for stricter substantive standards. With the concurrence of the state, the Administrator could modify the new controls whenever the cost of attaining the water quality standard was unreasonable. Because the reasonableness of the cost already had been considered in setting the feasibility-based standards, this language almost always was likely to permit an exception to the section 302 standards.

Perhaps most significantly, section 302—like the other regulatory limits of the 1972 Amendments—applied only to point sources. Thus, the section did not provide a very useful alternative in the typical case where pollution from nonpoint sources was a significant factor in the failure to meet the fishable and swimmable goal.

The agency also found it impossible to comply with the obligation to issue toxic pollutant standards until a 1976 consent decree allowed it to issue feasibility-based standards rather than standards designed to protect the aquatic environment. As noted above, an additional complication was the decision by EPA to use formal, trial-type hearings in setting the toxic pollutant standards. See Khristine Hall, supra, at 615. The statutory obligation to use these procedures was ambiguous. Federal Water Pollution Control Act Amendments of 1972, sec. 2, § 307, 86 Stat. at 856 (codified prior to amendment at 33 U.S.C. § 1317 (1976)). Section 307 originally required the Administrator to issue a notice of a “public hearing” after publishing a proposed standard. Following the public hearing, the Administrator was to promulgate the standard unless the Administrator found, “on the record, that a modification . . . [was] justified based upon a preponderance of the evidence adduced at such hearings.” Id. The Administrative Procedure Act requires trial-type hearings whenever a statute mandates that rules “be made on the record after opportunity

180 See id.
181 Id. § 302(b)(2), 86 Stat. at 846 (codified as amended at 33 U.S.C. § 1312(b)(2)).
182 Id.
183 See id. § 302(b), 86 Stat. at 846 (codified as amended at 33 U.S.C. § 1312(b)).
184 Id. § 301(b)(1)(A), 86 Stat. at 845 (codified at 33 U.S.C. § 1311(b)(1)(A)).
Congress had given EPA ninety days to prepare an initial list of toxic pollutants subject to section 307. When EPA failed to meet that goal, the Natural Resources Defense Council (NRDC) brought a citizen suit seeking to force EPA to promulgate the list.\textsuperscript{187} Pursuant to a settlement in that case, EPA filed a list containing only nine toxic pollutants.\textsuperscript{188} Dissatisfied with both the list and the criteria used to prepare the list, NRDC filed another law suit.\textsuperscript{189} The district court upheld the EPA decision, but the Court of Appeals for the District of Columbia Circuit reversed the trial court on procedural grounds.\textsuperscript{190} As the NRDC litigation was proceeding, various other environmental groups filed additional suits challenging EPA’s failure to prepare section 307 standards for the nine toxic pollutants the agency had identified.\textsuperscript{191} Eventually, EPA agreed to a second settlement to resolve all the pending litigation.\textsuperscript{192} This settlement obligated EPA to issue new standards for sixty-five “priority” pollutants. For those pollutants, EPA had to establish standards for twenty-one categories of industrial polluters, but the settlement allowed the agency to base the standards on the best available technology for each category. In addition, EPA agreed to prepare additional standards designed to protect the aquatic environment from six highly toxic pollutants.\textsuperscript{193}

EPA made even slower progress with respect to section 303. The agency initially failed to identify the pollutants for which TMDLs were to be prepared. Once the pollutants were identified, the agency allowed states to satisfy their section 303 obligations with minimal submissions.

The prerequisite for state preparation of TMDLs was identification of pollutants for which the calculation of TMDLs was appropriate. The 1972 Amendments required EPA to identify those pollutants
within a year, but the agency failed to meet that deadline. As with the list of section 307 toxic pollutants, a citizen suit finally forced EPA to identify the pollutants for which TMDLs were appropriate. Following a settlement in that suit, EPA promulgated the list of pollutants in 1978.

Identification of the pollutants for which TMDLs were appropriate initiated the process by which states were to identify waters that failed to meet water quality standards for those pollutants and to prepare TMDLs for those waters. The process, however, produced few tangible results. States lacked data that would enable them to prepare comprehensive lists of waters that failed to meet water quality standards. Even when impaired waters were identified, states submitted almost no TMDLs, and EPA did virtually nothing to prod the states to action.

Implementation of section 404 was particularly controversial. The Corps of Engineers initially defined the scope of its new regulatory authority narrowly. Environmentalists obtained a court decision rejecting that definition, but the corps has rarely denied permits to developers who need dredge and fill permits.

Despite the definition of navigable waters as “waters of the United States” in the 1972 Amendments, the Corps of Engineers applied the traditional definition in deciding when permits were required and so declined to require permits for deposits of dredge and fill.

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197 See supra notes 131–41 and accompanying text.
fill material into wetlands. The District Court for the District of Columbia overturned this interpretation, after which revised regulations extended the permit requirement to most wetlands. More recent litigation has, however, sustained the revised regulations only in part. In 1985, the Supreme Court upheld the new requirement insofar as it applied to wetlands adjacent to surface waters, but a 2001 decision held that “isolated wetlands” are not part of the navigable waters under the federal statute. In addition, lower court decisions have ruled that the regulation does not reach some activities that can eliminate the characteristics that cause an area to be classified as a wetland.

As noted above, section 404 established a complicated process for issuing permits for the deposit of dredge and fill materials. The process gave EPA theoretical control over the process by allowing the agency to establish the guidelines for issuing permits and to veto permits with unacceptable adverse effects on the environment. Notwithstanding these powers of EPA, the Corps of Engineers controlled the program as a practical matter. The corps was responsible for making the permit decision. In making the decision, the corps could consider economic matters as well as EPA guidelines. Moreover, EPA funding and staffing insufficiencies ensured that EPA would exercise its veto authority infrequently. As a result, the corps approved al-

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208 For a recent example of the significance of granting control of the program to the Corps of Engineers, see Kentuckians for the Commonwealth, Inc. v. Rivenburgh, 317 F.3d 425, 445 (4th Cir. 2003) (holding that under section 404, the corps can issue permits allowing excess overburden from coal mining to be placed into valley fills).
most all of the applications that it received seeking permits to deposit dredge and fill material into wetlands.

Section 208 was perhaps the least successful of the innovations in the 1972 Amendments. The lack of success was most notable with respect to pollution from nonpoint sources. EPA lacked authority to force states to establish controls on nonpoint sources, and states lacked the political will to enact controls without a federal mandate. One commentary termed the section 208 program “a toothless system of incentives and planning.” A leading casebook concluded that the program was doomed to failure because Congress was unwilling to mandate “new local land use control and agricultural practice standards” in 1972.

The 1972 statute only partially succeeded in the goal of preserving “the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution.” States rarely exercised their authority to set more stringent standards except when they were trying to apply those standards to dischargers in other states. States did gradually assume the responsibility for administering the discharge permit program, and they occasionally used their section 401 authority to deny certifications to applicants for federal licenses and permits. Some states were also fairly aggressive in enforcing water pollution control requirements against federal agencies, but the Supreme Court frustrated those efforts by construing the waiver of im-

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munity in section 313 as applying only to substantive requirements and not to state laws requiring polluters to obtain permits.\textsuperscript{216}

C. Revisions to the 1972 Legislation

Since 1972, Congress has amended the Federal Water Pollution Control Act on several occasions.\textsuperscript{217} This section summarizes the three major modifications: the amendments enacted in 1977, 1981, and 1987.\textsuperscript{218}

In general, the amendments since 1972 have refined the approach of the 1972 law. They have retained feasibility-based standards as the basic regulatory approach of the statute, although they have made important, incremental modifications to the Act—including relaxation of most of the original feasibility-based standards. Over the years, Congress increasingly has focused on problems associated with toxic pollutants, and it has strengthened enforcement provisions. Congress also has continued, and even expanded slightly, the state role in administering the statute.


Congress adopted the most significant revisions of the 1972 statute in 1977.\textsuperscript{219} The 1977 Amendments officially acknowledged the

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\textsuperscript{217} See, e.g., Estuaries and Clean Waters Act of 2000, Pub. L. No. 106-457, 114 Stat. 1957 (encouraging the restoration of estuary habitat through more efficient project financing and enhanced coordination of federal and non-federal restoration programs); Beaches Environmental Assessment and Coastal Health Act of 2000; Pub. L. No. 106-284, sec. 4, \S 406(b), 114 Stat. 870, 872 (authorizing EPA to award grants to localities that are adjacent to beaches or similar points of access used by the public and providing support for the development and implementation of programs to notify the public of the exposure to disease-causing microorganisms in coastal recreation waters); Ocean Pollution Reduction Act, Pub. L. No. 103-431, 108 Stat. 4396 (1994) (amending the Clean Water Act with respect to the ocean discharge of the city of San Diego); Ocean Dumping Ban Act of 1988, Pub. L. No. 100-688, sec. 3202(a), \S 502, 102 Stat. 4139, 4154 (amending the Clean Water Act to include the term “medical waste” in the ban on ocean dumping); Act of Jan. 8, 1983, Pub. L. No. 97-440, 96 Stat. 2289 (amending the Clean Water Act to permit modifications “with respect to [certain] effluent limitations . . . [relating] to biochemical oxygen demand and pH”).


\end{footnotesize}
“Clean Water Act” label by which the Federal Water Pollution Control Act had generally come to be known in the 1970s, adopting it as a second, or alternative, statutory name.\textsuperscript{220} Substantively, the Amendments continued the feasibility-based focus of the 1972 legislation, but they made some important changes. The 1977 legislation significantly modified the second step for implementing the 1972 standards, made modest revisions to the rules governing pretreatment standards, and authorized a variety of exceptions, waivers, and modifications of feasibility-based standards in particular situations.\textsuperscript{221} With respect to toxic pollutants, the 1977 Amendments ratified the feasibility-based approach that EPA had embraced in its 1976 settlement with NRDC,\textsuperscript{222} although Congress reaffirmed EPA’s discretionary authority to impose stricter standards when necessary to protect the aquatic environment.\textsuperscript{223} The 1977 Amendments also ratified the extension of the section 404 permit program to wetlands and authorized states to assume responsibility for administering part of the program.\textsuperscript{224} Finally, the Amendments made modest alterations in the enforcement provisions and reversed a Supreme Court decision limiting the duty of federal agencies to comply with state permit requirements.\textsuperscript{225}

For point sources other than publicly owned treatment works, the 1977 Amendments modified the second stage of feasibility-based standards and extended the deadline for meeting the standard. The revised standards now varied depending on the type of pollutants that a point source was discharging. The most significant change involved “conventional pollutants,” such as “pollutants classified as biological oxygen demanding, suspended solids, fecal coliform, and pH.”\textsuperscript{226} For those pollutants, the 1977 legislation prescribed a new standard—the “best conventional pollutant control” technology (BCT)\textsuperscript{227}—and re-

\textsuperscript{220} See id. sec. 2, § 518, 91 Stat. 1566, 1566.
\textsuperscript{221} See id.
\textsuperscript{222} See supra note 192 and accompanying text.
\textsuperscript{223} Id. sec. 48(b)(3), § 304(b)(4), 91 Stat. at 1587 (codified at 33 U.S.C. § 1314(b)(4)).
\textsuperscript{224} Id. sec. 67(b), § 404(g)(1), 91 Stat. at 1601 (codified at 33 U.S.C. § 1344(g)(1)).
\textsuperscript{226} Clean Water Act of 1977, sec. 48(a), § 304(a)(4), 91 Stat. at 1587 (codified at 33 U.S.C. § 1314(a)(4)).
\textsuperscript{227} Id. sec. 48(b), § 304(b)(4), 91 Stat. at 1587 (codified at 33 U.S.C. § 1314(b)(4)) (specifying factors). “This new level of technology, best conventional technology, is the equivalent of best practicable technology or something a little better, even as far as best available technology in some circumstances.” 123 Cong. Rec. 38,978 (1977) (statement of Rep. Harold Johnson).
quired that point sources meet the new standard by 1984. The feasibility-based standard for all other pollutants remained BAT, but the amendments extended the 1983 deadline. For the toxic pollutants identified in section 307, the new BAT deadline was 1984; for pollutants that were not classified as either toxic or conventional, the new BAT deadline was 1987.

Congress made minor revisions to the pretreatment provisions. The revised statute allowed EPA to grant local variances from pretreatment standards in order to give credit for the ability of a publicly owned treatment works to remove toxic pollutants during its pretreatment process. It also mandated that the permit of a publicly owned treatment works include requirements for identifying significant sources of pollutants subject to pretreatment standards as well as a program to enforce compliance with pretreatment standards.

The 1977 Amendments overturned a judicial decision that had threatened to subject some farm pollution to the regulatory provisions of the Federal Water Pollution Control Act. In National Resources Defense Council, Inc. v. Costle, the Court of Appeals for the District of Columbia Circuit affirmed a district court decision invalidating an EPA regulation that excluded irrigation return flows from the permit requirements of the Act. In the 1977 Amendments, Congress reversed that decision by specifically excluding irrigation return flows from the definition of point sources.


229 Id. For toxic pollutants that were subsequently added to the section 307 list, the deadline was three years after the establishment of BAT standards for the pollutant. Id. § 301(b)(2)(D), 91 Stat. at 1583 (codified prior to amendment at 33 U.S.C. § 1311(b)(2)(D) (1982)).

230 Id. § 301(b)(2)(F), 91 Stat. at 1583 (codified prior to amendment at 33 U.S.C. § 1311(b)(2)(F) (1982)).

231 Id. sec. 54(a), § 307(b)(1), 91 Stat. at 1591 (codified as amended at 33 U.S.C. § 1317(b)(1) (2000)). To obtain the variance, the source subject to pretreatment standards must demonstrate that the discharge from the publicly owned treatment works will not exceed limits that would apply if the source discharged directly into the navigable waters and that granting the variance will not prevent sludge use or disposal.

232 Id. sec. 54(c)(1), § 402(b)(8), 91 Stat. at 1591 (codified as amended at 33 U.S.C. § 1342(b)(8)).

233 568 F.2d 1369, 1379 (D.C. Cir. 1977).

234 Clean Water Act of 1977, sec. 33(b), § 502(14), 91 Stat. at 1577 (codified as amended at 33 U.S.C. § 1362(14)). To make the exemption unmistakable, Congress also amended section 402 to provide expressly that EPA could not require permits from irrigation return flows. Id. sec. 33(c), § 402(l), 91 Stat. at 1577 (codified prior to amendment...
The 1972 legislation had proved ambiguous with respect to the appropriate administrative and judicial procedures to be followed in cases where EPA objected to a permit that a state with an approved program proposed to issue.\textsuperscript{235} The 1977 Amendments revised section 402 to clarify that EPA was to assume permitting authority when a state refused to revise its permits to meet the objections of the EPA Administrator.\textsuperscript{236}

The 1977 Amendments authorized a number of modifications and extensions to the revised feasibility-based standards. For point sources other than publicly owned treatment works, the Amendments permitted EPA to extend the deadline for BAT standards until 1987 for polluters making use of innovative technology with potential for industry-wide application\textsuperscript{237} and allowed EPA to modify BAT standards for pollutants not classified as toxic if the modification would not interfere with the goal of fishable and swimmable water quality.\textsuperscript{238} For publicly owned treatment works, the 1977 Amendments permitted EPA to modify the secondary treatment standard for systems that discharged into deep marine waters\textsuperscript{239} and extended the secondary

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\item A water quality standard applicable to the pollutant exists;
\item the modified requirement will not interfere with attainment of the water quality standard;
\item the applicant has created a monitoring system to track the impact of its discharge;
\end{itemize}
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treatment deadline for facilities that were unable to complete needed construction by the original 1977 date.\textsuperscript{240}

For toxic pollutants, the 1977 Amendments revised section 307 to conform to the feasibility-based approach embraced in the 1976 settlement.\textsuperscript{241} The statute incorporated the list of sixty-five priority pollutants identified in the settlement,\textsuperscript{242} but authorized EPA to revise the list in the future.\textsuperscript{243} The new amendments directed EPA to promulgate BAT standards for all pollutants on the list.\textsuperscript{244} Although the standards were to be established for categories of point sources, the 1977 Amendments did not restrict them to the twenty-one categories covered by the 1976 settlement decree.\textsuperscript{245}

With respect to the section 404 program for the deposit of dredge and fill material, the changes were more modest. Congress embraced the regulation of wetlands,\textsuperscript{246} but authorized the issuance of general permits for deposits of dredge and fill materials that have only minimal environmental impacts.\textsuperscript{247} Furthermore, Congress allowed states to assume responsibility for administration of the section

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  \item the modified requirement will not result in any additional requirements on any other source;
  \item all applicable pretreatment requirements will be enforced;
  \item a schedule of actions will eliminate the discharge of toxic pollutants into the treatment works;
  \item the modified standard will not increase the discharge above the amount specified in the applicant’s permit;
  \item the applicant will use any funds available to achieve the effluent reduction.
\end{itemize}

\textit{Id.}\textsuperscript{240}

\textsuperscript{240} \textit{Id.} sec. 45, § 301(i), 91 Stat. at 1584 (codified as amended at 33 U.S.C. § 1311(i)). Section 45 also established a parallel extension for other point sources that discharged into a publicly owned treatment works that was entitled to the section 45 extension.


\textsuperscript{242} \textit{Id.} at 354. In revising the list, EPA was to consider the following factors: toxicity of the pollutant, its persistence, its degradability, the usual or potential presence of the affected organisms in any waters, the importance of the affected organisms, and the nature and extent of the effect of the toxic pollutant on such organisms. Clean Water Act of 1977, sec. 53(a), § 307(a)(1), 91 Stat. at 1589 (codified as amended at 33 U.S.C. § 1317(a)(1)).

\textsuperscript{243} Hall, supra note 241.


\textsuperscript{246} \textit{Id.} sec. 67(b), § 404(e), 91 Stat. at 1600 (codified as amended at 33 U.S.C. § 1344(e)).
404 permit program in those areas that did not fall within the traditional definition of navigable waters.\textsuperscript{248}

Congress made a half-hearted effort to revive the planning process for nonpoint sources. It amended section 208 by authorizing appropriations to pay one-half of the cost incurred by farmers who implemented best management practices (BMPs).\textsuperscript{249}

Congress also made some minor changes to the enforcement provisions of the Act. The 1977 Amendments authorized enforcement actions against persons whose discharges into publicly owned treatment works violated the pretreatment standards of the Act.\textsuperscript{250} The 1977 Amendments further endorsed the use of delayed compliance orders for dischargers who had applied for permits but could not meet BPT standards by 1977.\textsuperscript{251} The legislation also authorized enforcement actions against persons who violated the requirements of a permit for the deposit of dredge and fill material.\textsuperscript{252}

In 1976, the Supreme Court had narrowly construed the broad waiver of federal immunity in the 1972 legislation,\textsuperscript{253} holding that the directive to comply with “all Federal, state, interstate, and local requirements respecting control and abatement of water pollution” covered only substantive standards and did not include procedural mechanisms like permits.\textsuperscript{254} The 1977 Amendments overruled this decision and expanded the waiver to include “administrative authority, and process and sanctions.”\textsuperscript{255} Nonetheless, the Supreme Court later adhered to its rule of strict construction, holding that the

\textsuperscript{248} Id. § 404(g), 91 Stat. at 1601 (codified as amended at 33 U.S.C. § 1344(g)).

\textsuperscript{249} Id. sec. 35, § 208(j)(2), 91 Stat. at 1580 (codified as amended at 33 U.S.C. § 1288(j)(2)). Professor Rodgers offers a concise but clear critique of this program: “Pay- ing half of the cleanup costs . . . not otherwise commending themselves to the users is an unlikely way to provoke a steady raid on the treasury. Altruism, discounted by fifty percent, has yet to win its first political campaign.” 2 Rodgers, \textit{supra} note 66, at § 4-9.

\textsuperscript{250} Clean Water Act of 1977, sec. 54(b), § 309(f), 91 Stat. at 1591 (codified as amended at 33 U.S.C. § 1319(f)).

\textsuperscript{251} Id. sec. 56(a), (c), § 309(a)(2), (5), 91 Stat. at 1592–93 (codified as amended at 33 U.S.C. § 1319(a)(2), (5)).

\textsuperscript{252} Id. sec. 67(c)(2)(C), § 309(c)(1), 91 Stat. at 1606 (codified at 33 U.S.C. § 1319(c)(1)(A)).


\textsuperscript{255} Clean Water Act of 1977, secs. 60, 61(a), § 313(a)–(b), 91 Stat. at 1597, 1598 (codified as amended at 33 U.S.C. § 1323(a)–(b) (2000)).
amended waiver did not authorize monetary penalties against the United States except as a sanction for violating a judicial order.\footnote{256} A contemporaneous analysis of the 1977 Amendments characterized them as “extensive fine tuning of a complex statute.”\footnote{257} According to the former Associate General Counsel for Water at EPA, the new statute “eased a number of the burdens” that the 1972 Act had imposed on the agency and the courts and “clarified many of the uncertainties of the prior legislation.”\footnote{258} At the same time, he noted, the 1977 Amendments “imposed some additional responsibilities” on governmental agencies responsible for implementing the statute, “on the industries and others who must comply with the new requirements,” and on the “taxpayers [who] are financing the cleanup of our nation’s waters.”\footnote{259}

A somewhat less sympathetic assessment of the 1977 legislation might describe the Amendments as accepting those minimal feasibility-based standards that had not proved too costly, while ignoring the ultimate objectives of the 1972 Act. Complete attainment of the no-discharge goal of the 1972 Act\footnote{260} may have been impossible, but the original mandate to achieve BAT standards was a pragmatic implementation of that objective. Even where the total elimination of water pollution was unattainable, the 1972 Amendments tried to insure that pollution was at least minimized to the extent that costs permitted.\footnote{261} The 1977 Amendments abandoned that goal as a requirement applicable to all pollutants discharged by a point source\footnote{262} and even granted modifications, waivers, and extensions from the original, more modest stage of reductions.\footnote{263} Moreover, after loosening the feasibility-based standards, Congress did nothing to address the ambient-based goals of the 1972 statute. The move to BAT standards for

\footnote{257}{Hall, supra note 241, at 372.}
\footnote{258}{Id.}
\footnote{259}{Id.}
\footnote{261}{Federal Water Pollution Control Act Amendments of 1972, sec. 2, § 101(a) (1), 86 Stat. at 816 (codified at 33 U.S.C. § 1251(a)(1)).}
\footnote{262}{See supra notes 226–30 and accompanying text.}
\footnote{263}{See supra notes 237–40 and accompanying text.}
toxic pollutants reflected an abandonment of the policy to eliminate the discharge of toxic pollutants in toxic amounts, and nothing in the 1977 law seemed designed to force EPA to use section 303 to move toward the ambient goal of fishable and swimmable waters throughout the nation.  

2. Municipal Wastewater Treatment Construction Grant Amendments of 1981

As the name suggests, the primary aim of the Municipal Wastewater Treatment Construction Grant Amendments of 1981 was to modify the program providing federal support for the construction of publicly owned treatment works. However, the 1981 Amendments also affected the regulatory provisions of the Federal Water Pollution Control Act, or as it had been called since 1977, the Clean Water Act. They further weakened and diluted the feasibility-based standards of the 1972 and 1977 legislation, while making modest improvements in the water quality standards.

The driving force behind the 1981 Amendments was the need to reauthorize the federal grant program for publicly owned treatment works, and Congress authorized annual appropriations of $2.4 billion through fiscal year 1985. The authorization represented a slight reduction in federal expenditures for the construction of treatment works in fiscal years 1981 through 1983. More significantly, the 1981 Amendments reduced the federal share of construction project costs from seventy-five percent to fifty-five percent beginning with grants made after October 1984. Congress did, however, authorize an expansion of the federal share for a limited number of projects that involved the use of innovative technology. In addition,
1981 legislation made a variety of technical changes in the construction grant program.\textsuperscript{271}

A few important changes applicable to the regulatory requirements of the Clean Water Act appeared in the 1981 Amendments. Statutory changes eliminated entirely the stricter standards that were scheduled to become applicable to publicly owned treatment works in 1983,\textsuperscript{272} declared that certain biological treatment processes “shall be deemed the equivalent of secondary treatment,”\textsuperscript{273} and expanded the availability of waivers of secondary treatment requirements for publicly owned treatment works that discharge into the ocean.\textsuperscript{274} The Amendments did mandate revision of the state water quality standards, but the mandate to revise did not extend to the TMDLs that implemented the standards.\textsuperscript{275}

Basically, the 1981 Amendments continued the pattern of diluting the feasibility-based standards of the 1972 legislation without substituting a commitment to protect water quality. They reduced federal support for construction of treatment works, eliminated the 1983 standards for publicly owned treatment works, and expanded the ex-

\textsuperscript{271} See, e.g., id. sec. 2(a), § 201(g)(1), 95 Stat. at 1623 (codified prior to amendment at 33 U.S.C. § 1281(g)(1) (1976)) (allowing grants for “new interceptors and appurtenances, and infiltration-in-flow correction”); id. sec. 5, § 201(n), 95 Stat. at 1624 (codified at 33 U.S.C. § 1281(n)(1) (2000)) (allowing grants “to address water quality problems due to the impacts of discharges from combined storm water and sanitary sewer overflows”); id. sec. 6, § 201(o), 95 Stat. at 1625 (codified at 33 U.S.C. § 1281(o)) (requiring a capital financing plan that addresses “future requirements for waste treatment services . . . for a period of no less than ten years”); id. sec. 11, § 204(a)(6), 95 Stat. at 1627 (codified at 33 U.S.C. § 1284(a)(6)) (allowing the use of “brand name or equal” specifications); id. sec. 12, § 204(d), 95 Stat. at 1627 (codified at 33 U.S.C. § 1284(d)) (requiring that the engineering firm supervising construction maintain its relationship with the agency for which the work is constructed for one year following the completion of construction).

\textsuperscript{272} Municipal Wastewater Treatment Construction Grant Amendments of 1981, sec. 21(b), § 301(b)(2)(B), 95 Stat. at 1632 (repealing 33 U.S.C. § 1311(b)(2)(B) (1976)); see supra note 91 and accompanying text.

\textsuperscript{273} Id. sec. 23, § 304(d)(4), 95 Stat. at 1632 (codified at 33 U.S.C. § 1314(d)(4) (2000)).

\textsuperscript{274} Id. sec. 22, § 301(h), (j)(1), 95 Stat. at 1632 (codified at 33 U.S.C. § 1311(h), (j)(1)).

\textsuperscript{275} Id., sec. 24, § 303(c), 95 Stat. at 1632 (codified at 33 U.S.C. § 1313a). The Conference Committee deleted the reference to total maximum daily loads that had been included in the Senate bill. H.R. Conf. Rep. No. 97-408, at 26 (1981), \textit{reprinted in} 1981 U.S.C.C.A.N. 2656, 2669. Section 24 did preclude any construction grants in states that failed to complete the review and revision process within three years “except where the State has in good faith submitted such revised water quality standards and the Administrator has not acted to approve or disapprove such submission within one hundred and twenty days of receipt.” Municipal Wastewater Treatment Construction Grant Amendments of 1981, sec. 24, § 303(c), 95 Stat. at 1632 (codified at 33 U.S.C. § 1313a).
ceptions to the secondary treatment requirement, but did little to improve ambient-based standards. The demand for new water quality standards was only a gesture without a requirement for controls sufficient to meet those standards.


In the 1980s Congress again revised the Clean Water Act with the Water Quality Act of 1987.\textsuperscript{276} For publicly owned treatment works, the 1987 statute replaced the construction grant program with a revolving loan fund. For other point sources, Congress retained the feasibility-based approach of prior legislation, but the new amendments again extended deadlines and added a variety of other modifications of the statutory requirements. The 1987 Amendments did, however, address three problems that had escaped effective regulation under earlier legislation: toxic pollutants, pollution from nonpoint sources, and stormwater discharges. In addition, Congress expanded the options available to EPA in enforcing the statute.

Authorization levels for the construction grant program had been declining throughout the 1980s,\textsuperscript{277} and the 1987 law brought the program to a gradual end.\textsuperscript{278} In its place, Congress established a

\textsuperscript{276} Water Quality Act of 1987, Pub. L. No. 100-4, 101 Stat. 7. In addition to the provisions discussed in the text, see \textit{id.} sec. 310, § 308(b), 101 Stat. at 41 (codified at 33 U.S.C. § 1318(b) (2000)) (obligating the Administrator to require the owner or operator of any point source to maintain records and to provide any other necessary information, granting the Administrator right of entry to any premises in which an effluent source is located, making any information obtained available to the public unless the Administrator finds that it must be kept confidential, and making all information reported available to authorized committee of Congress upon request); \textit{id.} sec. 315, § 314(a), 101 Stat. at 49 (codified at 33 U.S.C. § 1324) (requiring states to submit specified information on their lakes to the Administrator on a biennial basis and requiring the Administrator to submit a report to Congress on the status of water quality in lakes in the United States); \textit{id.} sec. 317, § 320, 101 Stat. at 61 (codified at 33 U.S.C. § 1330) (allowing each state to nominate to the Administrator an estuary of national significance and to request a management conference to develop a comprehensive management plan for the estuary); \textit{id.} sec. 403, § 402(n), 101 Stat. at 66 (codified at 33 U.S.C. § 1342(n)) (allowing state to submit a permit program for a portion of the discharges into the navigable waters of the state).

\textsuperscript{277} See 33 U.S.C. § 1287. The maximum authorization was $7 billion for the 1975 fiscal year, and the amount steadily declined until the grant program was eliminated after the 1990 fiscal year. \textit{Id.}

\textsuperscript{278} Water Quality Act of 1987, sec. 211, § 207, 101 Stat. at 21 (codified at 33 U.S.C. § 1287). Construction funding was reduced from $2.4 billion in fiscal years 1986–88 to $1.2 billion for fiscal years 1989 and 1990. Congress did not authorize any additional appropriations for grants after 1990. \textit{See id.}
new system of revolving loan funds to assist states and local governments with capitalization grants.\textsuperscript{279}

The 1987 Amendments modified the existing feasibility regime in a variety of ways. They extended the final deadlines for compliance with BAT and BCT until 1989\textsuperscript{280} and specified five pollutants for which EPA could—with the concurrence of the state—modify best available technology when the modification would not interfere with protection of public water supplies or fishable and swimmable water quality.\textsuperscript{281} Congress also made minor revisions to the exemption from secondary treatment for publicly owned treatment works discharging into marine waters\textsuperscript{282} and allowed publicly owned treatment works additional time to apply for extensions of the deadline for secondary treatment.\textsuperscript{283} For other point sources, the 1987 Amendments extended the deadline for complying with feasibility-based standards by use of innovative technology,\textsuperscript{284} and codified EPA regulation allowing variances from BAT for point sources that are fundamentally different with respect to the factors EPA considered in setting the standards for the categories to which they are assigned.\textsuperscript{285}

Even though EPA had never used section 302, the 1987 Amendments created an exception to the ambient-based standards that could be established under that section.\textsuperscript{286} After the revision, the Administrator could, “with the concurrence of the state,” modify the additional controls needed to achieve the fishable and swimmable standard for a period of not more than five years.\textsuperscript{287} EPA could grant the modification if it represented the “maximum degree of control within

\textsuperscript{279} Id. sec. 212(a), §§ 601–607, 101 Stat. at 21 (codified at 33 U.S.C. §§ 1381–1387) (adding Title VI to the Federal Water Pollution Control Act).
\textsuperscript{280} Id. sec. 301, § 301(b), 101 Stat. at 29 (codified at 33 U.S.C. § 1311(b)(2)(C)–(F)).
\textsuperscript{281} Id. sec. 302, § 301(g), 101 Stat. at 30 (codified at 33 U.S.C. § 1311(g)(1)).
\textsuperscript{282} Id. sec. 303, § 301(h), (j), 101 Stat. at 33 (codified at 33 U.S.C. § 1311(h), (j)).
\textsuperscript{283} Id. sec. 304(a), § 301(i), 101 Stat. at 34 (codified at 33 U.S.C. § 1311(i)(1)).
\textsuperscript{284} Water Quality Act of 1987, sec. 305, § 301(k), 101 Stat. at 34 (codified at 33 U.S.C. § 1311(k)).
\textsuperscript{285} Id. sec. 306(a), § 301(n), 101 Stat. at 35 (codified at 33 U.S.C. § 1311(n)). The Supreme Court had ruled that the law prior to the 1987 Amendments allowed variances for plants with fundamentally different factors. Chem. Mfrs. Ass’n v. NRDC, 470 U.S. 116, 134 (1985).
\textsuperscript{286} See supra notes 117–21 and accompanying text.
\textsuperscript{287} Water Quality Act of 1987, sec. 308(e), § 302(b), 101 Stat. at 39 (codified at 33 U.S.C. § 1312(b)(2)). These requirements are the same as those required to obtain a variance from BAT standards. See 33 U.S.C. § 1311(e).
the economic capability of the owner” and resulted in “reasonable further progress” toward the requirements of section 302.288

Advances in the ability to detect small concentrations of water pollutants increasingly confirmed that the BAT approach to toxic water pollutants had failed to achieve the Clean Water Act policy of prohibiting the discharge of toxic pollutants in toxic amounts.289 The 1987 Amendments included three provisions aimed at toxic pollutants; they required states to establish numerical limits for water quality standards applicable to toxic pollutants, to identify waters that failed to achieve toxic water pollutant standards because of discharges from point sources, and to implement individual control strategies for those point sources to insure that the water quality standards are achieved.

A substantial obstacle to achieving water quality standards for toxic pollutants was the widespread use of narrative criteria in the standards.290 To make the process of converting water quality standards into enforceable effluent limits easier, section 308(d) of the 1987 Amendments required states to use EPA water quality criteria to establish water quality standards for toxic pollutants and to use “specific numeric criteria” for the standards for toxic pollutants.291

The establishment of numerical criteria in state water quality standards for toxic pollutants provided the basis for a new effort to achieve those standards. The first step in the new effort required states to identify and to submit to the EPA Administrator lists of waters that failed to meet water quality standards.292 The most important of these lists required states to identify those waters where the standards were not expected to be achieved “due entirely or substantially to discharges from point sources of any toxic pollutants listed.”293

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288 Water Quality Act of 1987, sec. 308(e), § 302(b), 101 Stat. at 39 (codified at 33 U.S.C. § 1312(b)(2)).
289 Houck, supra note 185, at 10,539 (“[B]y the mid-1980s Congress was again turning to the challenge of upgrading the nation’s waters. . . . The bad news was that the continuing declines were substantial and, worse, that 14,000 stream miles, 638,000 acres of lakes, and 900 square miles of estuaries had ‘acute toxic problems.’”).
291 Id. sec. 308(d), § 303(c)(2), 101 Stat. at 39 (codified at 33 U.S.C. § 1313(c)(2)(B)).
292 Id. sec. 308(a), § 304(l)(1), 101 Stat. at 38 (codified at 33 U.S.C. § 1314(l)(1)).
293 Id. The other two lists covered waters where toxic water quality standards were not attained, 33 U.S.C. § 1314(l)(1)(A)(i), and any waters that failed to achieve the fishable and swimmable goal. Id. § 1314(l)(1)(A)(ii). See generally Houck, supra note 185, at 10,547–49.
Having identified both waters where discharges from point sources were causing violations of water quality standards for toxic pollutants and the specific point sources that were contributing to the problem, states then had to develop and submit to the EPA Administrator an “individual control strategy” for each of those point sources.\textsuperscript{294} “[I]n combination with existing controls on point and nonpoint sources of pollution,” the individual control strategies had to be sufficient “to achieve the applicable water quality standard[s]” within three years.\textsuperscript{295} If the state failed to submit the individual control strategies required by the 1987 Amendments or if the EPA Administrator disapproved the state submission, the Administrator was responsible for implementing the new requirements.\textsuperscript{296}

The 1987 Amendments launched another attempt to control pollution from nonpoint sources. Congress made “expeditious” control of pollution from nonpoint sources a “national policy”\textsuperscript{297} and directed states to make another effort to address problems stemming from nonpoint sources.\textsuperscript{298} The new section required states to identify waters that failed to meet water quality standards\textsuperscript{299} because of pollution from nonpoint sources and to prepare management plans to achieve those water quality standards.\textsuperscript{300} Congress did not, however, mandate that management programs include regulatory limits on nonpoint sources,\textsuperscript{301} and the new section gave EPA only limited authority to ensure compliance with the new directive. Each state had to submit to EPA for approval a report identifying the waters that failed to meet water quality standards because of nonpoint source pollution.\textsuperscript{302} The report also had to identify the categories of nonpoint sources that


\textsuperscript{295} Id.

\textsuperscript{296} Id. sec. 308(a), § 304(l)(3), 101 Stat. at 38 (codified at 33 U.S.C. § 1314(l)(3)).

\textsuperscript{297} Id. sec. 316(b), § 101(a)(7), 101 Stat. at 60 (codified at 33 U.S.C. § 1251(a)(7)).

\textsuperscript{298} Id. sec. 316(a), § 319(b)(1), 101 Stat. at 52 (codified at 33 U.S.C. § 1329(b)(1)).

\textsuperscript{299} Id. § 319, 101 Stat. at 52 (codified at 33 U.S.C. § 1329); see Daniel R. Mandelker, \textit{Controlling Nonpoint Source Water Pollution: Can It Be Done?}, 65 CHI.-KENT L. REV. 479 (1989); Fentress, supra note 211.

\textsuperscript{300} Water Quality Act of 1987, sec. 316(a), § 319(a), 101 Stat. at 52 (codified at 33 U.S.C. § 1329(a)).

\textsuperscript{301} See id. § 319(b)(2)(B), 101 Stat. at 53 (codified at 33 U.S.C. § 1329(b)(2)(B)). Instead, the management programs had to include “[a]n identification of programs (including, as appropriate, nonregulatory or regulatory programs for enforcement, technical assistance, financial assistance, education, training, technology transfer, and demonstration projects) to achieve implementation of the best management practices by the categories, subcategories, and particular nonpoint sources.” Id.

\textsuperscript{302} Id. § 319(a)(1)(A), 101 Stat. at 52 (codified at 33 U.S.C. § 1329(a)(1)(A)).
contributed to the failure to meet the water quality standard and to set forth a management plan for achieving the standard.\textsuperscript{303} If a state failed to make a submission or if the submission was inadequate, EPA could identify the impaired waters, but the agency was not authorized to prepare a federal management plan. Instead, the EPA Administrator was to “report to Congress on his actions.”\textsuperscript{304} 

The 1987 legislation also included new provisions regarding stormwater discharges.\textsuperscript{305} Stormwater discharges from agricultural runoff were newly exempted from the definition of point sources,\textsuperscript{306} and Congress also added an exemption from the permit requirement for stormwater discharges from oil, gas, and mining operations.\textsuperscript{307} For other point sources, the 1987 Amendments confirmed the applicability of the permit requirement for stormwater discharges.\textsuperscript{308} However, Congress delayed its implementation until 1994 for municipalities with populations of fewer than 100,000\textsuperscript{309} and phased in the permit requirements for larger cities and industrial point sources.\textsuperscript{310} Industrial polluters and large publicly owned treatment works had to obtain permits,\textsuperscript{311} and municipal storm sewers had to eliminate non-stormwater discharges into storm sewers.\textsuperscript{312} 

Finally, the 1987 Amendments expanded the enforcement options available to EPA under the Clean Water Act. The new law increased the maximum civil penalty, gave EPA authority to impose

\textsuperscript{303} Id.

\textsuperscript{304} Id. § 319(d)(3), 101 Stat. at 55 (codified at 33 U.S.C. § 1329(d)(3)).


\textsuperscript{306} 33 U.S.C. § 1362(14); see supra note 234 and accompanying text.


\textsuperscript{308} Id. sec. 405, § 402(p), 101 Stat. at 69 (codified at 33 U.S.C. § 1342(p)).

\textsuperscript{309} Id. § 402(p)(1)–(2), 101 Stat. at 70 (codified at 33 U.S.C. § 1342(p)(1)–(2)).

\textsuperscript{310} Id. § 402(p)(4), 101 Stat. at 70 (codified at 33 U.S.C. § 1342(p)(4)).

\textsuperscript{311} Id. § 402(p)(2)(B)–(D), (3), 101 Stat. at 69 (codified at 33 U.S.C. § 1342(p)(2)(B)–(D), (3)).

\textsuperscript{312} Id. § 402(p)(3)(B), 101 Stat. at 70 (codified at 33 U.S.C. § 1342(p)(3)(B)).
some penalties administratively, and strengthened the criminal prohibitions of the statute.

The maximum civil penalty increased from $10,000 to $25,000 per day of violation.\textsuperscript{313} At the same time, however, Congress clarified that the maximum penalty applied per incident rather than per pollutant. The 1987 Amendments declared that “a single operational upset” was to be treated as a single violation even if it led to the violation of more than one pollution parameter.\textsuperscript{314}

Following a pattern begun in the Resource Conservation and Recovery Act of 1976,\textsuperscript{315} the 1987 Amendments also allowed EPA and the Corps of Engineers to impose some civil penalties administratively.\textsuperscript{316} Under the 1987 Amendments, the maximum penalty that can be imposed administratively varies according to the procedures that the agency has to follow and the appropriate venue for judicial review.\textsuperscript{317} The maximums for a Class I penalty are $10,000 per violation and $25,000 per proceeding.\textsuperscript{318} In a Class I penalty, the agency has to provide the alleged violator an opportunity for a hearing; however, the hearing does not have to satisfy the requirements for a hearing under the Administrative Procedure Act.\textsuperscript{319} and judicial review is available in the district court.\textsuperscript{320} The maximums for a Class II penalty are $10,000 per day of violation and $125,000 per proceeding.\textsuperscript{321} When a Class II penalty is assessed, the agency must give the alleged violator an opportunity for a hearing that satisfies the Administrative Procedure Act requirements, and judicial review is available in the


\textsuperscript{314} Water Quality Act of 1987, sec. 314(a), § 309(g)(3), 101 Stat. at 47 (codified at 33 U.S.C. § 1319(g)(3)).

\textsuperscript{315} See 42 U.S.C. § 6928(a) (2000).

\textsuperscript{316} Water Quality Act of 1987, sec. 314(a), § 309(g)(1), 101 Stat. at 46 (codified at 33 U.S.C. § 1319(g)(1)).

\textsuperscript{317} Id.

\textsuperscript{318} Id.


\textsuperscript{320} Water Quality Act of 1987, sec. 314(a), § 309(g)(8)(A), 101 Stat. at 48 (codified at 33 U.S.C. § 1319(g)(8)(A)).

\textsuperscript{321} Id.
court of appeals.\textsuperscript{322} Before either class of penalty is assessed, the agency must provide public notice of the proposed penalty and interested persons may offer comments, request a hearing, and seek judicial review.\textsuperscript{323} An administrative sanction under the new provision or a “comparable” state law precludes either a civil enforcement action or a citizen suit designed to collect a civil penalty.\textsuperscript{324}

Congress also amended the criminal penalties of the Clean Water Act in the 1987 Amendments. The Amendments increased the penalties for negligent and knowing violations and expanded them to cover violations involving the introduction of pollutants into a sewer system or publicly owned treatment works.\textsuperscript{325} They also increased the penalty for making false statements or falsifying a monitoring device\textsuperscript{326} and created a new felony—punishable by imprisonment for up to fifteen years—for any knowing violation of the Clean Water Act when the violator knew that the violation would place another in imminent danger of death or serious bodily injury.\textsuperscript{327}

Of the 1987 legislation’s changes, one can describe only the expanded enforcement options as an unambiguous improvement in the regulatory regime of the Clean Water Act.\textsuperscript{328} Otherwise, the 1987 Amendments continued the pattern of weakening the feasibility-based standards of the Clean Water Act without forcing the adoption of ambient-based standards to address the widespread failure to achieve water quality standards. The federal funding that had produced installation of secondary treatment by most publicly owned treatment works ceased, and new exceptions were added to the feasibility-based standards. Congress even delayed the imposition of the permit requirement for stormwater discharges, a requirement that should have

\textsuperscript{322} Id.
\textsuperscript{323} Id. § 309(g)(4), 101 Stat. at 47 (codified at 33 U.S.C. § 1319(g)(4)).
\textsuperscript{324} Id. § 309(g)(6), 101 Stat. at 47 (codified at 33 U.S.C. § 1319(g)(6)).
\textsuperscript{325} Id. sec. 312, § 309(c)(1)–(2), 101 Stat. at 42–43 (codified at 33 U.S.C. § 1319(c)(1)–(2)).
\textsuperscript{326} Water Quality Act of 1987, sec. 312, § 309(c)(4), 101 Stat. at 44 (codified at 33 U.S.C. § 1319(c)(4)).
\textsuperscript{327} Id. § 309(c)(3)(A), 101 Stat. at 43 (codified at 33 U.S.C. § 1319(c)(3)(A)).
\textsuperscript{328} However, the enforcement amendments failed to address the Supreme Court’s restrictive interpretation of the waiver of federal immunity to monetary penalties imposed by state administrative agencies. See supra note 216 and accompanying text. The omission is somewhat surprising because the 1986 amendments to the Resource, Conservation, and Recovery Act had subjected federal agencies to administrative penalties for violations of that statute. See 42 U.S.C. § 6961 (2000). Presumably, environmental activists regarded the federal violations of hazardous waste regulations as a greater problem than federal violations of water pollution control regulations.
taken effect in 1977. At the same time, Congress neglected to substitute meaningful ambient-based controls to achieve either the fishable and swimmable goal of the federal statute or state water quality standards. The 1987 Amendments continued to accept the feasibility-based approach for toxic pollutants, crafted an additional exception under section 302, and failed to require states to regulate pollution from nonpoint sources even when that pollution contributed to the violation of water quality standards. The “individual control strategies” approach for point sources causing violations of water quality standards for toxic pollutants was an innovative one. However, the effectiveness of this innovation was limited; it only applied to violations resulting “entirely or substantially” from point source discharges of toxic pollutants, and it did not clearly impose an ongoing obligation to revise the individual control strategies until the water quality standard was achieved.

II. REVIVAL OF WATER QUALITY STANDARDS IN THE COURTS

As Part I has described, Congress shifted the regulatory strategy of federal water pollution control legislation to a feasibility-based model in 1972, and that approach has remained the dominant focus of federal regulation for more than three decades. In the 1990s, however, judicial decisions revived water quality standards as a supplement to the feasibility-based standards. Moreover, the future of ambient-based controls remains one of the principal questions regarding the scope of federal water pollution controls in the twenty-first century.

By the 1990s, many water quality problems remained despite implementation of the feasibility-based standards for point sources. Environmentalists urged EPA to require further reductions in pollution to achieve the water quality standards established under section 303. When the agency was reluctant to use section 303, environmental groups filed suits seeking to force EPA to act. Decisions of lower federal courts held that EPA must identify waters that fail to meet water quality standards and prepare TMDLs for those waters when states fail to perform their responsibilities under section 303.

330 EPA has construed the obligation as an ongoing one, but a number of states have viewed section 304(l) as imposing a one-time requirement. See Percival et al., supra note 54, at 651.
As noted above, EPA moved slowly to implement the requirements of section 303. The agency did not even identify the pollutants for which the calculation of TMDLs was appropriate until late 1978. Once EPA identified the pollutants, states were to designate waters that failed to meet water quality standards within 180 days. States, however, generally ignored that requirement; moreover, forcing further action was difficult. The Clean Water Act provision allowing citizen suits to demand the performance of nondiscretionary duties applied only to duties imposed on EPA, and EPA’s duties arose only when the agency disapproved the waters or the TMDLs submitted by a state. EPA took the position that its duty to prepare TMDLs arose only when a state submitted an inadequate TMDL, and not when the state submitted no TMDLs at all.

As early as 1984, the Seventh Circuit Court of Appeals articulated the theory that ultimately forced EPA to act. In a citizen suit challenging the failure of EPA to prepare TMDLs for Lake Michigan, the court ruled that a failure to submit TMDLs “over a long period of time” could “amount to the ‘constructive submission’ by that state of no TMDLs.” When the state’s delay was sufficient to constitute a constructive submission of no TMDLs, EPA had a nondiscretionary duty to approve or to disapprove the submission, and the agency could be ordered to perform that duty in a citizen suit. If EPA approved the submission, review of that decision was available under the Administrative Procedure Act. If EPA disapproved the submission, the agency had a nondiscretionary duty to prepare a TMDL within thirty days.

The 1984 decision did little to force either the state or EPA to prepare TMDLs. In the 1990s, however, environmental groups initiated a series of actions designed to force EPA to act. They eventually filed suits challenging the agency’s failure to prepare TMDLs for at least thirty-nine states.

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331 See supra notes 194–98 and accompanying text.
333 Id. § 1313(d)(2).
334 Id. § 1365.
335 Id. § 1313(b)(1).
336 Scott v. City of Hammond, 741 F.2d 992, 996 (7th Cir. 1984).
337 5 U.S.C. § 704 (2000) (“[F]inal agency action for which there is no other adequate remedy in a court [is] subject to judicial review.”).
The first suit of the 1990s involved Alaska. Alaska had prepared no TMDLs. The district court ruled that the state’s failure to submit TMDLs for over a decade was a “constructive submission” of “no TMDLs” and triggered a mandatory duty that EPA prepare the TMDLs. In its appeal to the Ninth Circuit Court of Appeals, EPA did not seek review of the “constructive submission” ruling; instead, the appeal challenged the plaintiff’s standing and certain aspects of the remedy granted by the district court.

As the Alaska appeal was pending, EPA adopted a regulation to implement section 303. The regulation required states to submit biennial revisions to their identifications of waters not meeting water quality standards and to their priority rankings of those waters. It did not, however, set a deadline by which the TMDLs for the identified waters had to be established, nor did it obligate EPA to prepare TMDLs when a state failed to act.

Environmental groups increasingly turned to litigation to speed the pace of preparation of TMDLs. The U.S. District Court for the District of Minnesota held that the state’s submission of forty-three loads was sufficient to satisfy the state’s duty to submit TMDLs in accordance with its priority ranking of waters in the state, and a district court judge in New York ruled that the adequacy of the state’s submission of TMDLs had to be reviewed under the Administrative Procedure Act rather than the citizen suit provision of the Clean Water Act. In other states, however, environmental groups had more success. A district court rejected a twenty-five-year schedule for preparation of TMDLs in Idaho, and district court judges in Georgia and Louisiana ordered EPA to prepare TMDLs according to a fixed schedule.

341 Id. at 1381.
342 Alaska Ctr. for the Env’t v. Browner, 20 F.3d 981, 984 (9th Cir. 1994).
343 Surface Water Toxics Control Program and Water Quality Planning and Management Program, 57 Fed. Reg. 33,039 (July 24, 1992) (codified as amended at 40 C.F.R. § 130.7 (2004)).
344 See Houck, supra note 198, at 190–93.
The litigation prompted further action by EPA. The agency asserted its authority (but not its duty) to act when states failed to identify waters that did not meet water quality standards. A 1997 EPA memorandum recommended that regional offices negotiate schedules of eight to thirteen years for states to prepare TMDLs. That same year, the agency negotiated agreements with several states and entered into a number of consent decrees that required preparation of TMDLs over periods ranging from five to twenty years.

In an effort to generate a consensus on section 303, EPA appointed an advisory committee to study the TMDL program. A majority of the members of the committee approved a final report generally endorsing the agency’s approach. The committee report recommended that EPA require states to prepare TMDLs on an eight- to fifteen-year schedule.

In July 2000, EPA revised its rule on preparation of total maximum daily loads. The new rule required states to develop more comprehensive lists of waters that failed to meet water quality standards. It then obligated the states to specify what reductions were necessary from both point sources and nonpoint sources if the standards were to be achieved. Finally, the states had to develop schedules to achieve the water quality standards within ten years, although EPA could grant a five-year extension. However, the new rule stopped short of requiring regulatory controls on nonpoint sources of pollution; instead, states could rely on incentives and other voluntary controls so long as the state plan provided “reasonable assurance” that the water quality standard would be achieved.


351 See EPA, supra note 339.


353 Id. at i.

354 Revisions to the Water Quality Planning and Management Regulation and Revisions to the National Pollutant Discharge Elimination System Program in Support of Revisions to the Water Quality Planning and Management Regulation, 65 Fed. Reg. 43,586 (July 13, 2000).

355 Id. at 43,664.

356 See id. at 43,667.

357 Id. at 43,666.

358 Id. at 43,668.
The adoption of the revised rule was the high-water mark for the implementation of section 303. The rule attracted criticism from a variety of sources, and it never became effective. Congress postponed the original effective date until at least October 2001,\textsuperscript{359} and the Bush administration granted a further extension until April 2003.\textsuperscript{360} In March 2003, EPA finally revoked the July 2000 rule with a vague promise of future reforms.\textsuperscript{361}

Recent litigation suggests that the courts are unlikely to force EPA to create an effective ambient-based program under section 303. The Ninth Circuit did confirm EPA’s authority to prepare TMDLs for a river polluted only by nonpoint sources of pollution,\textsuperscript{362} but both it and the Tenth Circuit have limited the “constructive submission” theory to cases where the state has submitted no TMDLs at all.\textsuperscript{363} The Second Circuit deferred to an agency interpretation that allows total maximum “daily” loads under the Clean Water Act to be determined on an annual rather than a daily basis.\textsuperscript{364} The Fifth Circuit ruled that a district court’s referral of a section 303 lawsuit to a special master was improper,\textsuperscript{365} and the Eleventh Circuit held that a district court exceeded its discretion when it ordered EPA to prepare an implementation plan for the TMDLs the agency had established for the state of Georgia.\textsuperscript{366} In addition, the Idaho Supreme Court invalidated an innovative TMDL that allowed effluent trading between point and nonpoint sources because the state agency had not used rulemaking procedures to establish the TMDL.\textsuperscript{367}


\textsuperscript{360} Effective Date of Revisions to the Water Quality Planning and Management Regulation and Revisions to the National Pollutant Discharge Elimination System Program in Support of Revisions to the Water Quality and Planning Regulations; and Revision of the Date for State Submission of the 2002 List of Impaired Waters, 66 Fed. Reg. 53,044 (Oct. 18, 2001).

\textsuperscript{361} Withdrawal of Revisions to the Water Quality Planning and Management Regulation and Revisions to the National Pollutant Discharge Elimination System Program in Support of Revisions to the Water Quality and Planning Regulation, 68 Fed. Reg. 13,608 (Mar. 19, 2003).

\textsuperscript{362} Pronsolino v. Nastri, 291 F.3d 1123, 1141 (9th Cir. 2002).

\textsuperscript{363} S.F. BayKeeper v. Whitman, 297 F.3d 877, 882 (9th Cir. 2002); Hayes v. Whitman, 264 F.3d 1017, 1022–23 (10th Cir. 2001).

\textsuperscript{364} NRDC v. Muszynski, 268 F.3d 91, 98 (2d Cir. 2001). The court did remand the case to EPA for an explanation of why an annual basis was appropriate in that case.

\textsuperscript{365} Sierra Club v. Clifford, 257 F.3d 444, 446 (5th Cir. 2001). The author was the special master to whom the Louisiana litigation had been referred.

\textsuperscript{366} Sierra Club v. Meiburg, 296 F.3d 1021, 1032–34 (11th Cir. 2002).

The litigation of the 1990s stimulated the preparation of TMDLs, but the current push to achieve water quality standards appears to have largely run its course. States and EPA have developed a large number of TMDLs, and that trend is likely to continue until the deadlines established in the various schedules and consent decrees have passed. But EPA is unlikely to face judicial pressure to prepare additional TMDLs. Now that the states have begun to submit TMDLs, the courts of appeals are increasingly holding that the “constructive submission” theory is unavailable to force preparation of loads for all waters that fail to meet water quality standards. Without the threat that EPA will be forced to prepare the TMDLs if a state fails to act, one reasonably can expect that states will be slow to prepare them for waters where achievement of water quality standards will require politically difficult choices. Moreover, the courts have shown little inclination to force implementation of TMDLs once they are established. Without such judicial pressure, EPA is unlikely to require states to establish regulatory limits on nonpoint sources for waters where control of those sources is necessary to achieve water quality standards.

III. Federal Water Pollution Control Legislation: An Assessment

Most assessments give the Federal Water Pollution Control Act, or the Clean Water Act, as it came to be called, mixed reviews. Feasibility-based controls on point sources have significantly reduced the pollutants in the effluent those sources discharge, but the Act has not achieved either of its principal goals: It has not eliminated all discharges into the navigable waters, nor has it produced fishable and swimmable waters throughout the United States. Furthermore, the Act has failed to establish an effective system of ambient-based controls for those areas where feasibility-based controls have failed to achieve water quality standards; in addition, no effective regulatory system addresses water pollution from nonpoint sources.

368 See supra note 363 and accompanying text.
369 See supra note 366 and accompanying text.
The reduction in discharges from point sources has been substantial. The waste streams in nearly all publicly owned treatment works are now subject to secondary treatment before they are discharged into navigable waters. Moreover, the restraints imposed on industrial point sources go beyond BPT—the functional equivalent of secondary treatment. For conventional pollutants, these sources must satisfy standards based on BCT; for other pollutants, BAT defines the effluent limit. As a result, far fewer pollutants are entering the nation’s waters from municipal or industrial sources.

The most obvious shortcoming of the Clean Water Act standards is the failure to achieve the no-discharge goal of the 1972 Amendments. The exceptions to the goal began in the definitional section, which confined the goal to discharges from point sources. Even within the regulated category, no-discharge has proved an unattainable goal. The 1977 Amendments saw a de facto abandonment of the goal in the creation of the conventional pollutant category, the acceptance of the BAT strategy for toxic pollutants, and the exception for publicly owned treatment works discharging into ocean waters. Four years later, Congress even eliminated the second stage of pollutant controls for publicly owned treatment works. In short, the vision of “Spaceship Earth” with no throughputs proved financially unattainable for wastewater streams.

The Clean Water Act also has failed to produce clean water throughout the nation, whether cleanliness is defined by the federal goal of fishable and swimmable waters or the water quality stan-
standards established by the states.\footnote{Id. \S 1313(a).} Section 302\footnote{Id. \S 1312.} has proved unworkable, leaving EPA no practical mechanism to implement the fishable and swimmable standard. For a brief period in the 1990s, litigation forced EPA and the states to begin preparing TMDLs to achieve state water quality standards,\footnote{See supra notes 339–58 and accompanying text.} but the burst of energy for ambient-based controls seems to be waning. The individual control strategies required by the 1987 Amendments involved an innovative attempt to focus on waters impaired by discharges of toxic pollutants from point sources.\footnote{See \S 1314(a)(1); supra notes 289–90 and accompanying text.} The flaw in the process was the lack of clear statutory language imposing an ongoing obligation to achieve water quality standards for toxic pollutants so long as point sources were responsible for the failure to achieve those standards.

Economists and others frequently have objected to the inefficiency of the feasibility-based controls of the Clean Water Act.\footnote{See, e.g., William J. Baumol & Wallace E. Oates, Economics, Environmental Policy, and the Quality of Life 212–14 (1979) (recommending a cost-benefit strategy); Note, Technology-Based Emission and Effluent Standards and the Achievement of Ambient Environmental Standards, 91 Yale L.J. 792, 792 (1982).} Feasibility-based standards, they claim, have forced “treatment for treatment’s sake” by requiring the installation of expensive pollution control equipment even when it is not needed to achieve desired water quality in less polluted areas. Even where feasibility-based controls do improve water quality, these critics assert that the costs of the controls often exceed the benefits they produce. Finally, they argue that imposing stricter feasibility-based standards on new sources discourages construction of new plants which, even absent the stricter requirements, are almost always environmentally superior to existing ones.

Of course, the criticism in the preceding paragraph is a challenge more to the goals of the Clean Water Act rather than to its success or failure in implementing those goals. Moreover, the criticism ignores the political and practical virtues of feasibility-based controls. Politically, feasibility-based controls are attractive both to the regulated community and to heavily populated states with numerous pollution sources because they impose the same pollution costs on all polluters and they avoid widespread economic dislocation. Practically, feasibility-based controls are easier to establish and to enforce than ambient-based controls. As a result, they are more likely to be implemented.
Despite the many qualifications that have been made to feasibility-based standards under the Clean Water Act, they have achieved far more significant reductions in water pollution than any of the ambient-based controls. Indeed, much of the power of the economic critique comes from comparing the imperfect and partial reform that feasibility-based controls have achieved with the ideal state that would be achieved if water quality standards were perfectly implemented.\textsuperscript{385}

Ultimately, the imperfections of the Clean Water Act reflect a failure of political will. Congress has lacked the courage to pursue either of the principal ambitions of the statute. When the statute’s feasibility-based provisions have offended powerful constituencies, Congress has consistently created exceptions to them. At the same time, Congress has been unwilling to supplement the feasibility-based controls with an ambient-based system that will achieve either the fishable and swimmable goal proclaimed in the statute or the water quality standards established by the states.

IV. Lessons for Future Regulation

The history of water pollution control legislation in the United States over the last five-and-a-half decades presents a mixed picture of success and failure. From that history, however, one can distill a variety of fundamental lessons regarding the potential and the pitfalls of water pollution legislation, and indeed of other forms of environmental regulation. The discussion that follows examines twenty such lessons, grouping them into the overlapping categories of regulatory philosophy, regulatory strategy, and regulatory implementation.

A. Lessons of Regulatory Philosophy

1. Eliminating Public Perception of Water Bodies as a Commons Is Essential to Achieving Regulatory Goals

When regulated entities assume they are entitled to use water bodies as a disposal source, they naturally demand that the burden of limiting that use fall on the government.\textsuperscript{386} By contrast, the burden of justifying activity that degrades a resource naturally falls on the person


\textsuperscript{386} See generally Garrett Hardin, \textit{Tragedy of the Commons}, 162 SCIENCE 1243 (1968) (examining public versus private rights).
causing the degradation when water bodies are seen as a separate thing owned collectively by the public.

In the United States, pollution from nonpoint sources presents the most obvious example of this resistance to effective water pollution control. In part, the exclusion of nonpoint sources arises from the difficulty of controlling pollution that enters water bodies from diffuse rather than discrete sources, but the philosophical basis runs much deeper. United States environmental law has always backed away from direct federal control of land use, and land use controls are the basis for effective control of water pollution from nonpoint sources. Nowhere is this aversion to federal land use regulation more ingrained than with respect to agricultural pollution.387 Agricultural runoff escapes regulation as pollution from a nonpoint source, but Congress has even excluded obvious point sources such as irrigation return flows and agricultural stormwater drainage from the federal regulatory system.388 United States water pollution law apparently accepts that farmers are free to use their land as they see fit even if those uses adversely affect water quality. Of course, this reluctance to impose pollution control costs on agriculture is not limited to water pollution. In a variety of areas, United States environmental law treats agricultural enterprises more favorably than other businesses that impose externalities on the community as a whole.389

2. Cost-Benefit Analysis Is a Barrier to Effective Regulation

Regulated entities frequently appeal to cost-benefit analysis to defeat or to delay regulation, arguing that it is a prerequisite to ra-

387 See supra notes 111–14, 232–34 and accompanying text.
388 33 U.S.C. § 1362(14); see supra note 234 and accompanying text; see also Fishermen Against the Destruction of the Env’t, Inc. v. Closter Farms, Inc., 300 F.3d 1294, 1297 (11th Cir. 2002) (farm’s discharge to lake falls within agricultural exemptions of the Clean Water Act even though the stormwater discharged by the farm is pumped into the lake rather than flowing naturally). But see Cnty. Ass’n for Restoration of the Env’t v. Henry Bosma Dairy, 305 F.3d 943, 955 (9th Cir. 2002) (manure-spreading vehicles, manure-spreading fields, and ditches used to store or transfer waste from livestock operations are point sources because they are part of concentrated animal feeding operations). For a proposal to extend the regulatory reach of the Clean Water Act to pollution from agricultural sources, see Douglas R. Williams, When Voluntary, Incentive-Based Controls Fail: Structuring a Regulatory Response to Agricultural Nonpoint Source Water Pollution, 9 WASH. U. J.L. & POL’Y 21 (2002). For a favorable analysis of EPA regulations covering concentrated animal feeding operations, see Rebecca P. Lewandowski, Note, Spreading the Liability Net: Overcoming Agricultural Exemption with EPA’s Proposed Co-Permitting Regulation Under the Clean Water Act, 27 VT. L. REV. 149 (2002).
389 See generally Ruhl, supra note 111.
tional pollution control. However, Professor Rodgers demonstrated more than twenty years ago that costs rationally may be considered in a variety of ways without engaging in formal cost-benefit analysis.390 In the Clean Water Act391 and other environmental statutes,392 Congress frequently has directed EPA to consider costs in relation to their impact on the financial viability of polluters who will have to bear the expenses of pollution control.

The 1965 Amendments to the Federal Water Pollution Control Act show the dangers of the cost-benefit approach for water pollution control.393 After seven years, states had adopted some water quality standards but almost no reductions in pollution loadings. Had the process continued, one reasonably could have anticipated many more years of arguments about how great a reduction in pollution was required and who should bear the costs of those reductions.394

The demand for formal cost-benefit analyses of environmental regulations began with an executive order by President Reagan.395 Throughout the 1980s, the Office of Management and Budget (OMB) used the executive order to delay and to dilute environmental regulations.396 At times, the OMB even enforced the executive order in flagrant violation of statutory mandates.397

Perhaps the most important objection to the demand for formal cost-benefit analysis stems from recognition that the uncertain process of calculating costs and benefits makes the analysis highly manipulable.398 Given the concentrated costs and diffuse benefits of any par-

390 William H. Rodgers, Benefits, Costs, and Risks: Oversight of Health & Environmental Decisionmaking, 4 Harv. Envtl. L. Rev. 191, 204–10 (1980). When human life is at stake, Congress frequently has directed certain goals be achieved regardless of cost. Id. at 195. Moreover, when choosing among alternate means of achieving legislatively mandated goals, regulators can compare costs to select the most cost-effective alternative. Id. at 204.


392 See Rodgers, supra note 390, at 210.

393 See supra notes 39–44 and accompanying text.

394 Such arguments continue today with respect to the TMDL program. See supra notes 354–69 and accompanying text.


398 For a summary of some of the theoretical and practical difficulties in using cost-benefit analysis in the environmental context, see Rodgers, supra note 390, at 193–201. For a trenchant criticism of the use of cost-benefit analysis in environmental regulation, see
tical environmental regulation, dispassionate consideration of costs and benefits seems unlikely. Thus, United States water pollution law has wisely accepted the precautionary principle, a preference for avoiding environmental degradation when avoidance is possible without serious damage to the macroeconomic system.

3. Politics Drives Regulatory Legislation

Certainly, the growth of an environmental movement was critical to securing the Clean Water Act and other environmental legislation of the 1970s, but particular political realities have exerted—and continue to exert—a major influence on federal water pollution control legislation for three decades. The specific political compromise that produced the 1972 legislation has continued to shape the federal framework even though nonpoint sources are responsible for an increasing share of contemporary water pollution problems.

The political imperative to minimize displacement of state and local law has been a significant barrier to the achievement of water quality standards throughout the last third of the twentieth century. To alleviate the water quality problems that remain in the United States, regulators should use a water basin approach. But many of the nation’s water basins cross state lines, and so effective controls require cooperation not only between states and the federal government, but also among states. A far easier model would be a federal agency with authority to establish regulations for water basins that cross state lines.


399 The costs of environmental regulations ordinarily fall on a relatively small group that must comply with controls; by contrast, the benefits are widely dispersed among those who use the water body or other environmental mediums.


401 See supra notes 70–87 and accompanying text; see also supra notes 161–73 and accompanying text.


403 See supra notes 141, 145, 212–16 and accompanying text; see also supra notes 131–45 and accompanying text.

The reluctance to impose meaningful regulations on farmers is another product of political reality. It originates with the need to include the farming states of the Midwest in the coalition that produced the Federal Water Pollution Control Act Amendments of 1972 and its subsequent modifications.

For a brief period, the judicial mandate to prepare TMDLs raised hopes that a new political coalition of environmentalists and point source dischargers might develop a meaningful ambient-based approach to water pollution control. Those hopes, however, have faded as recent decisions seem less likely to force aggressive actions.

4. Research Is Important

Lack of scientific information has frustrated the achievement of the goals of the Clean Water Act in many ways. In establishing feasibility-based standards, EPA generally had to rely on information supplied by the regulated industries; those industries had obvious incentives to exaggerate the costs and to question the effectiveness of alternatives to current industry practices. As attention has shifted to water quality standards, a principal obstacle to achieving clean water is scientific uncertainty. EPA and the states lack reliable information about the actual state of water quality as well as about the complicated processes of achieving the desired water quality. Governmental funding of research should be seen not as a subsidy to regulated industries, but as a check on their claims that effective controls are impossible or infeasible.

B. Lessons of Regulatory Strategy

1. An Environmental Impetus Is Necessary to Produce Statutory and Regulatory Reform

In the United States, neither an organized environmental movement nor a gradually worsening environmental problem has been sufficient to produce significant statutory and regulatory reform. The system seems to require some external event to convince the relevant political groups that change is required. Frequently, some environmental mishap serves this function.

405 See supra notes 111–14, 232–34 and accompanying text.
406 See supra notes 359–69 and accompanying text.
407 The best known examples involve the environmental remediation statutes. The Torrey Canyon and Santa Barbara oil spills led to the 1970 oil pollution statutes, see supra text
In the case of the Clean Water Act, well-publicized incidents like the burning of the Cuyahoga River\footnote{See David Zwick & Marcy Benstock, Water Wasteland 1 (1971). For an argument that the “fable” of the burning Cuyahoga River has been widely misunderstood, see Jonathan H. Adler, Fables of the Cuyahoga: Reconstructing a History of Environmental Protection, 14 Fordham Envtl. L.J. 89 (2002).} coincided with Supreme Court decisions reviving the Refuse Act.\footnote{Solid Waste Agency v. U.S. Army Corps of Eng’rs, 531 U.S. 159, 175 (2001) (Stevens, I., dissenting).} Together, they helped prompt Congress to take a dramatic new approach to water pollution control in 1972.\footnote{See supra notes 70–98 and accompanying text.}

By contrast, no similar urgency has driven the statutory revisions since 1972; not surprisingly, they have produced only incremental changes. In 1977, the regulated community feared costs and deadlines, while environmentalists lamented the slow progress on toxic pollutants. The result was a compromise. Polluters got relief from costs and deadlines, and Congress directed EPA to establish BAT standards for at least sixty-five toxic pollutants.\footnote{See supra Part I.C.1.} The 1981 Amendments came at the beginning of the Reagan presidency. Congress reduced the federal share for construction grants, but exempted publicly owned treatment works from the requirement to go beyond secondary treatment.\footnote{See discussion supra Part I.C.2.} The 1987 Amendments continued the pattern of extended deadlines and reduced funding.\footnote{See supra notes 276–85 and accompanying text.} Congress improved administrative enforcement and made gestures toward ambient-based standards and controls.\footnote{See supra notes 286–330 and accompanying text.} But without a political imperative for fundamental change, neither of the ambient-based reforms had much substance.

2. Regulatory Paradigms Can Become Too Entrenched

This lesson is the reverse of the previous one. When reform does occur, the particular regulatory strategy chosen is likely to endure long after the problems that produced it are no longer the most important ones. While this situation may afflict regulators in many a le-
gal field, it certainly is acute in the continually evolving environmental arena. At least since 1988, informed observers have recognized that solving the water pollution problems in the United States requires ambient-based effluent standards and controls on nonpoint sources. However, the feasibility-based focus on the Clean Water Act has made it difficult, if not impossible, for EPA to solve either of these problems. At the same time, the exclusion of nonpoint sources from the regulatory framework has made it more difficult to develop effective trading schemes that could reduce the cost of attaining water quality standards in waters where feasibility-based controls are insufficient to achieve the ambient standards.

3. A Regulatory Floor Is Essential to Achieving Water Quality Goals

Without a regulatory base, environmental improvement is unlikely to occur. Indeed, the absence of regulation perversely favors the polluter that can externalize some of its costs to the environment. The contrast between point and nonpoint sources provides an instructive example. Pollution loads from point sources have diminished as publicly owned treatment works have implemented secondary treatment and industrial polluters have complied with feasibility-based requirements to implement best practicable technology, best conventional technology, and best available technology. As a result, pollution from nonpoint sources constitutes an ever greater portion of the remaining pollution, and EPA has no effective mechanism to address the problem. No analogous, feasibility-based requirements apply to nonpoint sources of water pollution. In 1972, Congress substituted area-wide planning for regulation of nonpoint sources; the 1977 Amendments offered to pay some of the costs that farmers would incur by instituting best management practices; and the 1987 Amendments required new state plans for controlling nonpoint sources without mandating the use of regulatory controls. None of

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416 See supra notes 142–45 and accompanying text.
417 See supra note 249 and accompanying text.
418 See supra notes 297–304 and accompanying text. The 1990 Amendments to the Coastal Zone Management Act, 16 U.S.C. §§ 1451–1465 (2000), require states with federally approved coastal zone management programs to develop “management measures for nonpoint source pollution to restore and protect coastal waters.” Id. § 1455b(a)(1). To receive federal approval, a state program must include “management measures” that will “protect coastal waters.” Id.
these approaches has produced a reduction in pollution from non-point sources comparable to the reductions achieved by point sources. Unless EPA is granted authority to impose enforceable regulations on nonpoint sources, the TMDLs now being prepared also are likely to fail to achieve water quality standards in areas where non-point sources are a major portion of the water quality problem.

4. Ambient-Based Controls Are Ultimately Needed to Achieve Ambient Goals

Feasibility-based controls are unlikely to bring the environment to optimal conditions. Eliminating all pollution is extremely expensive even when it is technologically achievable, and so the regulated community is likely to be successful when it resists higher levels of feasibility-based controls unless they are necessary to protect public health. As a result, additional ambient-based controls will be needed to achieve ambient goals in areas of pollution concentration.

Some of the failures of the Clean Water Act illustrate this need for ambient-based controls. Because nonpoint sources remained outside the regulatory framework, some water pollution problems would have remained in the United States even if the no-discharge goal of the Clean Water Act419 had been achieved. Moreover, the costs associated with the complete elimination of pollution in waste streams made the no-discharge goal impractical in most cases. Without an enforceable scheme of ambient-based controls, the failure of many water bodies to satisfy water quality statutes was predictable in the 1970s and is verifiable today.

5. Unexpected Consequences Will Require Revision to the Regulatory Scheme

Beyond expecting that most regulated entities will seek to advance their own self-interest, no legislator or administrator can accurately predict how individuals will respond to the mix of incentives and penalties that a regulatory system entails. Consequently, the need for mid-term correction of regulatory programs is always foreseeable.

The construction grant program for publicly owned treatment works aptly illustrates this phenomenon. The program aimed to enable local governments to achieve secondary treatment of their existing discharges. Many local governments, however, used it to expand

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419 33 U.S.C. § 1251(a)(1); see supra note 74 and accompanying text.
systems to support development in ways that actually increased pollution loadings.

The controls on toxic pollutants provide another example from the Clean Water Act. Originally, section 307 required elimination of all dangerous discharges of toxic pollutants. When attaining the goal proved both scientifically difficult and extremely expensive, Congress adopted a pragmatic compromise. It substituted a strict, feasibility-based limit that applied to a broad array of toxic pollutants.

6. State and Local Governments Are Unlikely to Install Adequate Pollution Controls Without Financial Assistance from the National Government

The Clean Water Act documents the importance of financial assistance to governmental polluters. Most publicly owned treatment works now use secondary treatment only because the federal government paid the lion’s share of the cost of constructing the new treatment facilities. Local governments have been much slower to treat stormwater discharges because they have had to bear the cost. Local governments face especially great demands on their limited resources. Environmental impacts usually are a cumulative product of many sources, and polluters frequently can impose the bulk of a pollution problem on those downstream. Not surprisingly, therefore, the benefits of environmental expenditures are likely to receive a lower priority than other expenditures whose benefits are concentrated more locally. Given the difficulties of forcing environmental compliance on governmental actors, cost sharing seems a desirable way to obtain compliance from local entities.

7. Effective Enforcement Is an Essential Element of a Successful Regulatory Scheme

Without effective enforcement alternatives, environmental regulations perversely favor those who flout regulatory requirements. Congress always has been more willing to legislate hortatory language and even strict regulatory requirements than to establish effective enforcement mechanisms, but the United States has made progress toward effective enforcement. The 1948 and 1956 legislation estab-

\[^{420}\text{See supra notes 109–10 and accompanying text. For a summary of some of the exceptions to the pretreatment requirement, see supra notes 239–40 and accompanying text.}\]

lished an awkward conferencing system for combating interstate pollution problems, and the 1965 Amendments provided for the establishment of water quality standards without a system for mandating enforceable controls on those whose pollution resulted in waters that failed to meet the standards. Real progress began with the 1972 Amendments; they authorized substantial civil penalties as well as criminal prosecutions, even though they required costly judicial actions to impose the sanctions. Even more importantly, the 1972 statute authorized environmental groups to enforce the statute when EPA failed to perform its responsibilities. The 1987 Amendments made administrative enforcement more meaningful by authorizing administrative imposition of civil penalties.

The main defect in the current system for enforcing the Clean Water Act is the lack of a mechanism for ensuring uniform levels of enforcement across the nation. Funding limitations force EPA to concentrate on major rather than routine violations. Thus, the consequences for violating federal water pollution control requirements vary according to the political dynamics of individual states. At a minimum, the federal government should ensure enforcement that captures the economic gain that the polluter realized from its non-compliance. Ideally, the federal government should assume responsibility for taking enforcement action against all violations of federal law. If a state retains primary responsibility for enforcement, EPA should have sufficient resources to allow the agency to take effective action when the state’s response is inadequate.

C. Lessons of Regulatory Implementation

1. Feasibility-Based Controls Are the Most Effective Way to Achieve Prompt Reductions in Pollution Loadings

The imposition of best practicable and secondary treatment controls produced dramatic reductions in pollution loadings from point sources. Even today, the most obvious way to reduce pollution load-

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422 See supra notes 17–31 and accompanying text.
423 See supra notes 39–44 and accompanying text.
424 See supra notes 156–58 and accompanying text.
425 See supra notes 159–60 and accompanying text.
426 See supra notes 315–24 and accompanying text.
ings in impaired waters substantially is to require nonpoint sources to comply with best management practices, a rough equivalent to the best practicable control technology imposed on point sources. The scientific, financial, and political obstacles to achieving water quality standards in the most polluted waters of the United States are significant; they would be substantially reduced if controls on non-point sources were similar to the ones that the 1972 legislation required point sources to implement by 1977.

2. Feasibility-Based Controls Are Unlikely to Eliminate Substantially All Pollution

A variety of technological, economic, and political factors contribute to this conclusion. The technology for elimination of all pollution is scientifically complex and seldom commercially viable. At a minimum, it is very expensive, and the costs generally fall on politically powerful constituencies.

The dream of the Federal Water Pollution Control Act Amendments of 1972 was to eliminate discharges from point sources. None of the feasibility-based standards of the Clean Water Act was successful in imposing zero discharge limits for all pollutants. Moreover, the cost of moving from best practicable technology (the average of existing plants) to best available technology (the best of existing plants) often produced only modest reductions in pollution loads at very high costs. Given this reality, the compromise of the Clean Water Act—avoiding these costs for common pollutants except where necessary to achieve water quality standards—makes sense. Unfortunately, the Clean Water Act failed to complement this reasonable concession to reality with a meaningful program of ambient-based controls.

3. Exceptions to the Regulated Universe Are Likely to Frustrate Achieving the Desired Ambient Environment

Feasibility-based controls require uniform reductions among classes of polluters. If one group of polluters is exempted from the feasibility-based standards, those entities that have already incurred control costs will have to pay higher costs to achieve ambient goals in heavily polluted areas.

Nonpoint sources offer the most obvious example from water pollution control regulation of the danger of exemptions to the regulated universe. The 1972 decision to exempt nonpoint sources from regulatory controls was rooted in political compromise, but justified on policy grounds: the inability to treat pollution from diffuse non-
point sources and the difficulty of enforcing controls on nonpoint sources. Although each policy justification contained a kernel of truth, neither obstacle renders it impossible to establish enforceable controls on pollution from nonpoint sources. Together, however, they have been employed to justify the continued exclusion of pollution from nonpoint sources from the regulatory system even though that exclusion means that water quality goals cannot be achieved in many areas. Indeed, now that substantial controls have been placed on point sources, the exclusion of nonpoint sources has become the primary reason why so many waters still fail to achieve water quality standards.

Similarly, the statutory and regulatory exceptions to the universe of point sources have increased the number of water quality-related problems. The most obvious example here is the congressional exclusion of agricultural stormwater discharges and return flows from irrigated agriculture from the definition of point source. If those sources had to get discharge permits, those permits would have to contain limits that would ensure that the discharges did not cause violations of water quality standards.

4. Indirect Regulations Rarely Produce Optimal Results

Regulations encourage regulated entities to minimize the cost of compliance. When regulations attack a problem indirectly, regulated entities gain additional room for maneuvering.

The section 404 program is probably the best example from the Clean Water Act of the phenomenon of indirect regulation. The primary reason for a separate dredge and fill permit program was to allow the Corps of Engineers to continue to control navigation. Once the program expanded to include wetlands, environmentalists began to use it to protect the other environmental values. Unfortunately, however, the program is still tied to the deposit of dredge and fill materials rather than to the environmental impacts of development activities on the wetlands. As a result, developers often can bypass the permit requirement by destroying the wetland character of an area before they begin their developments.

428 See Menell & Stewart, supra note 175, at 505.
5. Judicial Innovation Can Stimulate Legislative and Administrative Action

The pattern of judicial innovation leading regulatory reform is one frequently repeated in federal water pollution control regulation. From the interpretation of the Refuse Act to the inclusion of wetlands within the section 404 permit program, to the best available technology approach to toxic pollutants, to the revival of water quality standards, innovative judicial interpretations have prompted new reforms. The judicial opinions generally have not provided the final reform, but they often have stimulated further legislative revisions or new regulations. For those who hope for new water-quality-based controls, the judiciary’s retreat from demanding effective TMDLs is a discouraging sign that the acceptance of poor water quality may continue for the foreseeable future.

6. Delays in Achieving Regulatory Goals Are Inevitable

In water pollution legislation, Congress frequently has set ambitious goals that EPA regularly has failed to meet on the schedule set by the legislation. The reasons for these failures include scientific uncertainty, insufficient agency resources, and use of legal remedies by the regulated community to postpone costs that cannot be avoided. The problem is one that water pollution control legislation never has addressed effectively. The list of deadlines that have been missed is long. It includes identification of toxic pollutants and pollutants for which TMDLs are appropriate, promulgation of discharge limits for toxic pollutants, establishment of feasibility-based standards, designation of water bodies that fail to meet water quality standards, and establishment of TMDLs. On this point, the Clean Water Act could profitably follow the lead of the 1984 Amendments to the Resource Conservation and Recovery Act. Under that statute, failure to meet regulatory deadlines triggered strict statutory standards rather than continuing the status quo.

431 See generally Houck, supra note 55 (discussing cases interpreting water pollution regulations).
432 See supra notes 57–66 and accompanying text.
433 See supra notes 201–04 and accompanying text.
434 See supra notes 185–93 and accompanying text.
435 See discussion supra Part II.
7. Federalism Encourages Cumbersome Approaches to Environmental Regulation

The commitment to preserve state authority whenever possible makes it extremely difficult to establish a national program to achieve ambient environmental goals. When environmental problems do not always follow state boundaries, state regulators can have a parochial view of the problem. The complicated procedure of state submission of environmental regulations for federal approval is a cumbersome process at best. Moreover, the limited ability of the federal government to force compliance with federal mandates or to enforce standards once they have been set exacerbates the ineffectiveness of the process.

The “cooperative federalism” of water pollution control legislation illustrates each of these obstacles to an effective national program to improve water quality. The great river basins transcend state lines. However, states issue the permits that translate federal technology-based standards into specific effluent limits, and states are the primary drafters of the controls necessary to bring waters to acceptable levels of water quality. Of course, states have to submit their permit programs and regulations to EPA for approval, but that process of review, revision, and approval delays rather than advances compliance dates. The federal government’s limited coercive authority accentuates the tendency toward delays; in some cases, EPA’s legal authority to require effective regulations is unclear or non-existent. But even when EPA’s legal authority is unquestioned, certain practicalities limit the options of the federal agency. EPA can revoke a state’s delegation of authority to administer the discharge permit program under section 402, but Congress has not funded or staffed the federal agency to administer the programs when states fail. As a

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437 See, e.g., 33 U.S.C. § 1251(b) (2000) (recognizing, preserving, and protecting “the primary responsibilities and rights of states to prevent, reduce, and eliminate pollution”).
438 See id. § 1342(b); supra notes 168–70 and accompanying text.
439 33 U.S.C. § 1251; see supra notes 131–41 and accompanying text.
440 33 U.S.C. § 1313(d) (requiring EPA to prepare TMDLs when EPA disapproved a state submission, but making no express provision for the failure of the state to submit a TMDL).
441 Nothing in the CWA authorizes EPA to establish regulatory limits on nonpoint sources of pollution, even when such limits are needed to achieve water quality standards.
result, EPA never has revoked a state’s authority to administer the section 402 program when the state has failed to perform its obligations. Similarly, the federal government always can enforce the Clean Water Act, but EPA relies overwhelmingly on state enforcement despite evidence suggesting that states collect civil penalties for only a fraction of the violations they discover.

The Mississippi River presents the most dramatic example of the limitations of federalism because it drains to the Gulf of Mexico from the Rocky Mountains in the west, Minnesota in the north, and the Appalachian Mountains in the east. Obviously no single state can address these problems, and the federal response is equally fragmented. Essentially, the federal government is limited to review of state plans and state permit programs; even that review is divided among several EPA regions. The likelihood of a coordinated response from such a fragmented regulatory system is minimal.

The solution is an obvious one that perceptive observers recognized in the debates that led to enactment of the Federal Water Pollution Control Act of 1948 and the revisions of the early 1960s. Achieving clean water in interstate waterways requires a federal regulatory authority with the power to establish, to administer, and to enforce water pollution controls. Unfortunately, five-and-a-half decades of legislation have conditioned the political system to continue an indirect approach to the problem.

Controls at basin levels are necessary to solve serious ambient quality problems. Ambient-based controls present greater scientific difficulties than feasibility-based controls. They require regulators to consider the interaction between multiple sources of pollution and a dynamic body of water. As a result, effective ambient controls require

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443 See 33 U.S.C. § 1319(a)(1), (3). But see id. § 1319(g)(6) (limiting federal authority to bring judicial action to assess a civil penalty when a state is diligent by prosecuting a civil action or a state has assessed a civil penalty under a “comparable state law”).

444 See Andreen, supra note 7, at 229–30.

445 The most extreme example is the Mississippi River basin, which reaches into at least six EPA regions. For most of its length, the Mississippi River itself is the dividing line between EPA regions.

446 See, e.g., Brett Barrouquere, DEQ Blasted for Its Rate of Enforcement: Agency Says Not Every Citation Requires Penalty, SUNDAY ADVOCATE (Baton Rouge, La.), Apr. 13, 2003, at A-1 (indicating that Louisiana and Texas imposed civil penalties for only four percent of environmental violations); Geoff Dutton, State EPA Criticized in Study: Enforcement Lacking, FEDERAL AGENCY SAYS, COLUMBUS DISPATCH (Ohio), June 15, 2003, at D-1 (describing Ohio enforcement as “below-average”).

447 See Andreen, supra note 7, at 251.
a regulatory body with authority to consider the totality of the ambient environment.

The Supreme Court’s exclusion of isolated wetlands from the definition of navigable waters complicates the expansion of federal authority on some issues but not on this one. The great river basins meet the traditional tests for navigability, and controlling the pollution of their tributaries is necessary to protect the water quality in interstate waters. The failure here is one of political will, not one of legal doctrine.

The Supreme Court decision is likely to result in wetland controls that are less direct and less effective. Uncertainty over the reach of the Court’s rationale will encourage new legal challenges. Some recent decisions suggest that most wetlands will remain subject to federal regulatory authority, but the issue will remain clouded until the Supreme Court resolves it conclusively. Moreover, states are likely to adopt different levels of control for wetlands that escape federal regulation, and EPA has little leverage to encourage a unified approach.

448 See supra notes 2–5 and accompanying text.

449 The Courts of Appeals for the Fourth and Sixth Circuits have extended Clean Water Act jurisdiction to all water bodies with a hydrological connection to a navigable water body. See Treacy v. Newdunn Assocs., LLP, 344 F.3d 407, 417 (4th Cir. 2003), cert. denied, 541 U.S. 972 (2004); United States v. Rapanos, 339 F.3d 447, 453 (6th Cir. 2003), cert. denied, 541 U.S. 972 (2004); United States v. Deaton, 332 F.3d 698, 708 (4th Cir. 2003), cert. denied, 541 U.S. 972 (2004). In cases involving the Oil Pollution Act, the Fifth Circuit Court of Appeals has required a showing that the water body into which the discharge occurred was adjacent to a navigable water. See In re Needham, 354 F.3d 340, 347 (5th Cir. 2003).

8. Incentives Matter

Governments establish regulations because environmental controls increase costs of regulated entities without improving their revenues. Predictably, regulated entities try to minimize those costs. Regulations work most effectively when cooperation is less costly than defiance.

The Clean Water Act has few incentives to encourage compliance. Feasibility-based regulations impose costs uniformly across industry groups. Because polluters defer all costs until the regulations are finally enacted, they have tended to use administrative and judicial appeals to delay them for as long as possible. At the same time, the division of enforcement between state and federal agencies means that polluters frequently avoid monetary penalties for violations. Such a system perversely imposes no financial burden on violators as compared to those who have complied with the regulatory requirements. Finally, the complicated division of regulatory authority encourages states to minimize federal intrusions by securing federal approval of their programs, confident that they can delay controversial actions without fear that the federal government will reassume responsibility.

Congress and EPA should experiment with economic incentives in efforts to meet water quality standards. At least two possibilities are immediately apparent. Allowing point sources to trade pollution reductions with other point sources and to purchase them from non-point sources could be a cost-effective way to achieve water quality standards.\footnote{For an example of a permit that allows trading between point sources, see 35 Env’t Rep. (BNA) 486 (2004) (news report of wastewater utility that was the first to receive a single 402 permit that covered four facilities and allows for trading of pollution credits).} In addition, the system should reward polluters who participate in plans to achieve water quality standards. The government should exempt them from future reductions until they have had a reasonable time to amortize their prior investments.

9. Individual Polluters Can Achieve Pollution Reductions Beyond Those that Are Likely to Be Imposed on a Category of Sources

Implementation of individualized controls is scientifically complicated and time consuming. Consequently, they are best delayed until after the imposition of a general regulatory floor based on feasibility-based controls.
An illustration of the potential for greater reductions from individual sources comes from the individual control strategies required by section 304(l). Individual sources often can achieve reductions beyond the best available technology for an entire category of sources. This phenomenon produces some optimism that even serious water quality problems can be solved if the scope of the problem is first reduced by imposing feasibility-based controls on all pollution sources that contribute to water quality problems. Unfortunately, states treated the mandate for individual control strategies as a one-time requirement, and the mandate applied only to waters where point sources were causing water quality violations. It should become an ongoing requirement for each permit renewal for any point source. Moreover, it should be extended to nonpoint sources that contribute to the failure to achieve water quality standards in a particular water body.

Conclusion

The Clean Water Act presents a mixed picture of success and failure. The statute has produced major reductions in effluent discharges from point sources, and Congress has established enforcement mechanisms to require compliance with the regulatory standards. On the other hand, significant water quality problems remain, and the statute has not addressed them effectively. In part, these problems result from the exclusion of nonpoint sources from the regulatory regime, and in part, they stem from the lack of an effective system of ambient-based controls.

Ultimately, the failures of the Clean Water Act are political ones. Part IV of this Article suggests various ways that it could be made more effective, but Congress has yet to implement them. Of course, the current inability to build a political consensus for effective water pollution control may not last forever. The lessons of past efforts at water pollution control can equip environmentalists to advocate more effective solutions when reform again becomes possible. Moreover, the lessons also may assist with other pollution problems as well. Because the issues raised in water pollution also exist in other statutes, a useful hypothesis would be to generalize the lessons summarized above as guidelines for pollution control. Of course, testing that hypothesis will require careful examination of the development and operation of those other pollution control statutes.
RESURRECTING ENVIRONMENTAL JUSTICE: ENFORCEMENT OF EPA’S DISPARATE-IMPACT REGULATIONS THROUGH CLEAN AIR ACT CITIZEN SUITS

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Abstract: The environmental justice movement aims to eradicate disparate siting of environmental hazards in minority and low-income communities. Prior to the Supreme Court’s decision in Alexander v. Sandoval, environmental justice advocates had focused their efforts on enforcement of EPA’s disparate-impact regulations. These regulations prohibit recipients of federal funding from administering any program that has the effect of racial discrimination. However, the Sandoval decision declared that no private right of action existed to enforce the regulations. Despite this significant setback, the regulations may still be enforceable in circumstances where an appropriate statutory handle exists. For example, section 110(a)(2)(E) of the Clean Air Act requires states to provide assurances that their plans comply with federal law. To the extent the disparate-impact regulations remain valid federal law, they may be enforced through actions to compel EPA to reject plans that do not include the requisite assurances. This Note explores the substantive and procedural issues surrounding such actions.

INTRODUCTION

At just over two decades old, the environmental justice movement is a relatively young movement.¹ Having arisen in response to

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the phenomenon known as “environmental racism,” the environmental justice movement merged two previously isolated social problems: environmental deterioration and racial injustice. The movement has gained considerable momentum as minority and low-income communities continue to bear a disproportionate burden of environmental hazards, as compared to more affluent, Caucasian communities. The disparity arose in large part because of NIMBYism, the “not-in-my-backyard” mentality most communities feel when faced with the siting of an environmental hazard. Because of the diminished resources and the disenfranchisement of minority and low-income communities, they are frequently subjected to a significantly greater proportion of environmental hazards.

Disproportionate environmental burdens generally manifest themselves in three distinct ways: (1) disparate siting and permitting of hazardous facilities; (2) disparate enforcement of environmental statutes and regulations; and (3) disparate remediation of contaminated sites. Not surprisingly, these communities also suffer from de-
teriorated health and increased mortality rates as a result of these “disparate impacts.”

Environmental justice attempts to resolve this disparity by incorporating social equity considerations into environmental decisionmaking and enforcement.

While early environmental justice litigation focused on claims brought under the Equal Protection Clause of the Fourteenth Amendment, a more recent trend has been to bring private actions under Title VI of the Civil Rights Act of 1964. Specifically, past suits have sought to enforce disparate-impact regulations promulgated by the Environmental Protection Agency (EPA) pursuant to EPA’s Title VI authority. Recent decisions by the Supreme Court and the Court of Appeals for the Third Circuit, however—both holding that Title VI regulations confer no implied right of action—have severely restricted, if not altogether eliminated, citizens’ ability to privately enforce these regulations.

Although these recent decisions have led many commentators to believe that achievement of environmental justice through private enforcement of disparate-impact regulations has been foreclosed, there is reason to believe that these disparate-impact regulations may still be privately enforceable in limited circumstances where Congress has provided an appropriate statutory “handle.” One such handle may be section 110(a)(2)(E) of the Clean Air Act (CAA), which requires each state to provide assurances, prior to EPA approval, that the state is not prohibited by federal law from carrying out its proposed state im-

9 See, e.g., Gauna, supra note 1, at 30; Core, supra note 8, at 191–92.
10 See supra note 8, at 194 & n.16.
13 See Sandoval, 532 U.S. at 293; South Camden III, 274 F.3d at 790–91.
15 See discussion infra Part II.
plementation plan (SIP).\textsuperscript{17} Assuming arguendo that EPA’s disparate-impact regulations constitute valid federal law,\textsuperscript{18} the provision prohibits EPA from approving portions of SIPs that would result in racial discrimination.\textsuperscript{19} Should such a SIP be approved, the CAA’s citizen suit provision could arguably provide a means of compelling the Administrator to reject SIPs found to violate section 110(a)(2)(E).\textsuperscript{20}

This Note will outline the structure and arguments of such a citizen suit. Part I.A briefly explores the history of the environmental justice movement, focusing on enforcement mechanisms. Part I.B examines the recent developments regarding implied rights of action, including the recent limitations imposed by decisions in the Supreme Court and the Third Circuit. Part II then suggests that while these recent decisions have led many to believe that EPA’s disparate-impact regulations are no longer privately enforceable, there may be a statutory avenue through which these regulations can still be privately enforced: section 110(a)(2)(E) and the citizen suit provision of the CAA. Finally, Part III explores the substantive and practical challenges that may be faced in enforcing these regulations via a CAA citizen suit. The Note ultimately concludes that there are strong legal arguments to be made that EPA must reject SIPs that fail to provide necessary assurances of their compliance with disparate-impact regulations, and that EPA can therefore be compelled to do so through citizen-initiated litigation.

\textbf{I. History of Environmental Justice Advocacy}

When the environmental justice movement began, advocates believed that the Equal Protection Clause of the Fourteenth Amendment, which provides that “no state shall make or enforce any law which shall . . . deny to any person within its jurisdiction the equal protection of the laws,”\textsuperscript{21} was plaintiffs’ best strategy for challenging environmentally discriminatory action.\textsuperscript{22} Such constitutionally based litigation, however, posed a unique obstacle due to the requirement that a

\begin{itemize}
  \item \textsuperscript{17} \textit{Id.}
  \item \textsuperscript{18} \textit{See discussion infra} Part II.A and note 165.
  \item \textsuperscript{19} \textit{See discussion infra} Part II.B.
  \item \textsuperscript{20} \textit{See discussion infra} Parts II.B, III.
  \item \textsuperscript{21} U.S. Const. amend. XIV, § 1.
  \item \textsuperscript{22} Core, \textit{supra} note 8, at 194 & n.16 (noting several cases that challenged, on Equal Protection grounds, decisions to site environmentally hazardous facilities in minority communities).
\end{itemize}
plaintiff prove discriminatory intent.\textsuperscript{23} In other words, a plaintiff was required to show that defendants acted with an explicit racially discriminatory purpose.\textsuperscript{24} Even where the effects of state action are discriminatory, however, it is nearly impossible to show that the state acted with the express intent of causing such discrimination—indeed, in many cases, states genuinely do not intend the discriminatory effects of their policies. Yet, regardless of whether the discriminatory distribution of environmental harm is intended or not, the effect is the same, and the need for a remedy just as pressing.

Given the difficulty of proving discriminatory intent, environmental justice plaintiffs shifted their focus to certain regulations promulgated under Title VI of the Civil Rights Act of 1964,\textsuperscript{26} which explicitly proscribed disparate impacts, regardless of intent.\textsuperscript{27} Title VI consists of two parts, both of instrumental value to environmental justice: section 601 prohibits agencies that receive any kind of federal financial assistance from discriminating against individuals based on race;\textsuperscript{28} section 602 states that agencies are “directed to effectuate the provisions of section [601] . . . by issuing rules, regulations, or orders of general applicability.”\textsuperscript{29} Pursuant to this authority, in 1973 EPA promulgated “disparate-impact” regulations that prohibited recipients of EPA funding from engaging in acts that had discriminatory effects.\textsuperscript{30}

\begin{thebibliography}{99}
\bibitem{23} Id. at 194–95.
\bibitem{24} Colopy, supra note 1, at 146.
\bibitem{25} Core, supra note 8, at 194–95; see also Eileen Gauna, An Essay on Environmental Justice: The Past, the Present, and Back to the Future, 42 Nat. Resources J. 701, 704 (2002) (noting that, in studies demonstrating the existence of environmental racism, “[f]or obvious reasons, direct evidence of racial targeting is nowhere to be found”).
\bibitem{27} See Bradford C. Mank, Title VI, in The Law of Environmental Justice 23, 24 (Michael B. Gerrard ed., 1999); Core, supra note 8, at 197–99.
\bibitem{28} 42 U.S.C. § 2000d. “No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.” Id.
\bibitem{29} Id. § 2000d-1.
\bibitem{30} Nondiscrimination in Programs or Activities Receiving Federal Assistance from the Environmental Protection Agency, 40 C.F.R. § 7.35(b) (2004). The regulation reads:

A recipient shall not use criteria or methods of administering its program or activity which have the effect of subjecting individuals to discrimination because of their race, color, national origin, or sex, or have the effect of defeating or substantially impairing accomplishment of the objectives of the program or activity with respect to individuals of a particular race, color, national origin, or sex.

Id.
Private litigation under EPA disparate-impact regulations appeared at one time to be a promising avenue for the environmental justice movement. The reduced burden meant that plaintiffs needed only to allege a causal connection between a facially neutral policy and a disproportionate and adverse impact on minorities. However, the strategy was short-lived. In 2001, the Supreme Court held in Alexander v. Sandoval that there was no implied private right of action to directly enforce agencies’ Title VI disparate-impact regulations. Efforts to privately enforce the regulations were further curtailed following a decision in the Third Circuit holding that EPA’s disparate-impact regulations are not enforceable under § 1983 either.

A. Avenues of Enforcement

1. Administrative Enforcement

While a private individual’s right to administrative adjudication has not been limited by the courts, there is some question as to the efficiency and effectiveness of the administrative process. In 1993, EPA created the Office of Civil Rights (OCR) at the urging of President William Jefferson Clinton, who shortly thereafter promulgated an Executive Order on environmental justice. Executive Order 12,898 directed agencies to make environmental justice a priority by instructing them to incorporate environmental justice aims into their missions and to specifically address their Title VI responsibilities. OCR was created with the intent that it would assist in securing compliance with EPA’s disparate-impact regulations.

31 See Core, supra note 8, at 197–99.
32 E.g., Powell v. Ridge, 189 F.3d 387, 393 (3d Cir. 1999) (“[A] plaintiff in a Title VI disparate impact suit bears the initial burden of establishing a prima facie case that a facially neutral practice has resulted in a racial disparity.”).
33 See Core, supra note 8, at 236, 242.
36 See, e.g., Worsham, supra note 1, at 647–48.
37 See id. at 647.
An individual who believes there has been a violation of EPA’s disparate-impact regulations may file a complaint with OCR. Following the filing of a compliant, OCR is required to respond within twenty days by accepting, rejecting, or forwarding the complaint to the appropriate federal agency. If accepted, OCR will notify the involved parties and give each an opportunity to respond in writing to the alleged violations. Once the parties have had a chance to respond to the complaint, informal resolution is attempted. If unsuccessful, OCR will notify the alleged violator of the preliminary finding of noncompliance, advise the party how voluntary compliance might be achieved, and inform the party of its right to engage in compliance negotiation. The alleged violator then has fifty days to either comply with OCR’s recommendations or challenge the preliminary finding of noncompliance. Should the recipient fail to meet this deadline, OCR sends the violator and the Assistant Attorney General for Civil Rights a formal determination of noncompliance. The party found to be noncompliant then has ten days from the receipt of OCR’s formal determination to voluntarily comply; otherwise, OCR may begin a proceeding to terminate the party’s EPA funding.

Among the advantages to administrative enforcement is that the process is relatively easy and inexpensive to commence. To initiate administrative review, all a complainant needs to do is send a letter to OCR alleging discrimination by a recipient of federal funding. EPA then conducts the investigation at its own expense. Though legal counsel may be helpful to a complainant, it is not necessary. There are, however, many significant drawbacks to relying on administrative

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40 Id. § 7.120(a). The complaint must be filed within 180 days of the alleged discriminatory act. Id. § 7.120(b)(2).
41 Id. § 7.120(d)(1)(i).
42 Id. § 7.120(d)(1)(ii). The alleged violator has 30 days to submit a response. Id. § 7.120(d)(1)(iii).
43 Id. § 7.120(d)(2)(i).
44 Id. § 7.115(c)(1)(i)–(iii).
45 Nondiscrimination in Programs or Activities Receiving Federal Assistance from the Environmental Protection Agency, 40 C.F.R. § 7.115(d)(1)–(2) (2004).
46 Id. § 7.115(d)(2).
47 Id. §§ 7.115(e), 7.130(a)–(b).
49 Rechtschaffen & Gauna, supra note 48, at 353.
50 Id.
51 Id.
enforcement. First and foremost, OCR has been criticized for its ineffectiveness and inefficiency in providing victims of Title VI discrimination adequate relief, and for the secrecy of its investigations.\textsuperscript{52} Between September 1993 and August 1998, OCR came to no conclusion on at least one in every four complaints filed.\textsuperscript{53} Furthermore, it did not find that a single complaint had established a violation of Title VI.\textsuperscript{54} As of 2002, 121 claims had been filed with OCR, but only one case had been decided on its merits after an investigation.\textsuperscript{55} Such inefficiency and ineffectiveness is likely the result of an overworked and under-resourced staff.\textsuperscript{56} OCR, like similar civil rights offices in other agencies, is responsible for addressing all civil rights claims, not just those arising under Title VI. The enactment of subsequent civil rights statutes has led to an increase in the number of complaints filed, an increase that has not been matched by agency staffing or congressional appropriation.\textsuperscript{57}

Another drawback to administrative enforcement is that, aside from providing specific documentation and information at EPA’s request, a complainant has no right to participate in the agency’s investigation.\textsuperscript{58} Furthermore, there is also some question as to how vigorously EPA can be expected to pursue funding termination.\textsuperscript{59} Understandably, EPA is reluctant to remove federal funding that is used to reduce pollution.\textsuperscript{60} Ironically, termination of funding could adversely affect the very

\textsuperscript{52} Worsham, \textit{supra} note 1, at 647–48.
\textsuperscript{53} Id. at 648. Of the 58 complaints filed in this period, no conclusion was reached in at least 15 of them. \textit{Id.}
\textsuperscript{54} Id.
\textsuperscript{55} \textsc{Rechtschaffen \& Gauna, supra} note 48, at 354. The one decision reached was in the \textit{Select Steel} case, where EPA dismissed the Title VI claim, finding that no adverse discriminatory effect would accrue from a challenged facility otherwise in compliance with air quality standards. \textit{See Office of Civil Rights, EPA, File No. 5R-98-R5, Investigative Report for Title VI Administrative Complaint 42, http://www.epa.gov/civilrights/docs/ssdec_ir.pdf} (last visited Apr. 19, 2005).
\textsuperscript{56} \textit{See Mank, supra} note 27, at 27; \textit{Note, After Sandoval: Judicial Challenges and Administrative Possibilities in Title VI Enforcement}, \textit{116 Harv. L. Rev.} 1774, 1778 (2003).
\textsuperscript{57} \textit{Note, supra} note 56, at 1778.
\textsuperscript{58} \textsc{Rechtschaffen \& Gauna, supra} note 48, at 353; \textit{Mank, supra} note 48, at 22.
\textsuperscript{59} \textit{See Mank, supra} note 48, at 17–18; \textit{Long, supra} note 5, at 1171.
\textsuperscript{60} \textit{See Mank, supra} note 48, at 17–18; \textit{Colopy, supra} note 1, at 182 n.279; \textit{Long, supra} note 5, at 1171. In fact, EPA at times has admitted as much. \textit{Colopy, supra} note 1, at 182 n.279. In 1971, EPA Administrator William Ruckelshaus acknowledged that EPA’s reluctance to enforce compliance with Title VI stemmed from the agency’s belief that many regulated industries might view a termination of funding as a benefit and excuse not to comply with environmental regulations. \textit{Id.} In Administrator Ruckelshaus’s words: “[T]here are circumstances that can arise where it would seem that our ability to achieve the purposes of the Civil Rights Act flies in the face of our mandate by Congress to insure that water quality standards are
minority groups OCR is charged with protecting, providing a further disincentive for EPA to enforce disparate-impact regulations to their fullest extent.61

Recently, there have been indications that EPA may have a renewed commitment to environmental justice,62 though many are still skeptical.63 In June 2000, EPA jointly published two Title VI guidance reports intended to assist funding recipients with their permitting programs and outlining procedures for investigating Title VI administrative complaints.64 Particularly encouraging was the guidance reports’ statement that, “[funding recipients] are required to operate [their] programs in compliance with the non-discrimination requirements of Title VI and EPA’s implementing regulations.”65 At least one court has taken notice of this requirement.66 Commentators, however, have criticized the guidance reports as creating, rather than diminishing, obstacles to Title VI enforcement by failing to account for resource disparities and favoring funding recipients at nearly every phase of the administrative process.67

As an alternative to administrative enforcement, many Title VI plaintiffs have sought judicial enforcement of EPA’s disparate-impact regulations through private litigation. While private litigation has been crucial to the environmental justice movement, and to Title VI enforcement in particular, in light of recent federal decisions, such litigation has been severely limited.68

61 See Mank, supra note 48, at 18.
62 See Kyle W. La Londe, Who Wants to Be an Environmental Justice Advocate?: Options for Bringing an Environmental Justice Complaint in the Wake of Alexander v. Sandoval, 31 B.C. Envtl. Aff. L. Rev. 27, 38 n.76 (noting that in 2001, then-Administrator Christine Todd Whitman declared EPA to have “a firm commitment to the issue of environmental justice and its integration into all programs, policies, and activities, consistent with existing environmental laws”).
63 See infra note 67 and accompanying text.
64 Draft Title VI Guidance for EPA Assistance Recipients Administering Environmental Permitting Programs (Draft Recipient Guidance) and Draft Revised Guidance for Investigating Title VI Administrative Complaints Challenging Permits (Draft Revised Investigation Guidance), 65 Fed. Reg. 39,650 (June 27, 2000).
65 Id. at 39,657.
67 See Long, supra note 5, at 1213.
2. Judicial Enforcement

Judicial enforcement is often thought to better address the concerns of environmental justice complainants than administrative enforcement, but it is also not without its drawbacks. Among the advantages is that a litigant has far more rights than an administrative complainant, including the ability to direct one’s own investigation and potentially obtain equitable relief. A Title VI plaintiff is also entitled to reasonable attorney fees. Additionally, legal action may provoke political opposition to a particular project or siting decision in ways that administrative investigations cannot. The high cost of legal action, however, can act as a deterrent to the pursuit of court enforcement. Furthermore, given the courts’ somewhat “fractured” history of Title VI regulation, judicial enforcement presents significant risks. It would appear though, particularly given the criticism of administrative enforcement, that the benefits of seeking court enforcement far outweigh the burdens.

The first major Supreme Court treatment of Title VI with relevance to the disparate-impact regulation debate was Regents of the University of California v. Bakke. The Bakke decision is often thought to have declared that Title VI prohibits only intentional discrimination, for the Court stated that “Title VI must be held to proscribe only those racial classifications that would violate the Equal Protection Clause or the Fifth Amendment.” A year later the Court acknowl-

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69 See Mank, supra note 48, at 23–24.
70 Id. at 24.
71 Id.
72 Id.
73 See id.
74 See Alexander v. Sandoval, 532 U.S. 275, 298 (2001) (Stevens, J., dissenting) (referring specifically to the Court’s multitude of opinions in Guardians Ass’n v. Civil Serv. Comm’n, 463 U.S. 582 (1983)).
75 See Sandoval, 532 U.S. at 293; Rechtschaffen & Gauna, supra note 48, at 354.
76 Mank, supra note 48, at 23–24. This fact notwithstanding, the majority of Title VI enforcement is still brought administratively. Rechtschaffen & Gauna, supra note 48, at 354.
78 Id. at 287. But see discussion infra Part II.A. Subsequent decisions, including Sandoval, have interpreted this statement to limit Title VI’s protection to intentional discrimination, reasoning that, since the Equal Protection Clause only prohibits intentional discrimination, so too does Title VI. See Sandoval, 532 U.S. at 280–81. At least one commentator has observed, however, that this statement was made in dicta and that Bakke in fact does not reflect any congressional intent to limit the scope of Title VI to racial classifications that would violate the Equal Protection Clause. See Galalis, supra note 7, at 89–92; discussion infra Part II.A. Assuming arguendo, however, that Congress did intend to limit Title VI’s
edged, in Cannon v. University of Chicago, that to the extent that Title VI regulations provided protection against discrimination, be it disparate-impact and/or intentional discrimination, they created a private right of action to enforce those protections.\textsuperscript{79} Despite these decisions, the scope of Title VI protections was hardly settled. In 1983, the Court revisited the Bakke debate in Guardians Ass’n v. Civil Service Commission of New York.\textsuperscript{80} The Court’s decision in Guardians lacked a majority opinion and instead consisted of five separate and overlapping opinions, each differing slightly on the scope of the Title VI regulations.\textsuperscript{81} In his concurring opinion, Justice Powell speculated that, “[o]ur opinions today will further confuse rather than guide.”\textsuperscript{82} What some commentators have taken from Guardians is that among the various opinions, five justices implicitly agreed that Title VI regulations could prohibit disparate-impact discrimination.\textsuperscript{83} However, since this was

prohibition to racial classifications that violate equal protection, it still cannot be said that this prohibition is limited to intentional acts—Title VI was enacted before Washington v. Davis limited the Equal Protection Clause’s prohibition to intentional discrimination. Galalis, supra note 7, at 91–92.

\textsuperscript{79} See Cannon v. Univ. of Chi., 441 U.S. 677, 694, 696 (1979) (analogizing the Title IX issue before them to Title VI, the Court noted that “[i]n 1972 when Title IX was enacted, the critical language in Title VI had already been construed as creating a private remedy”).

\textsuperscript{80} 463 U.S. 582 (1983).

\textsuperscript{81} Id. at 584–607 (White, J., for the Court); id. at 607–12 (Powell, J., concurring); id. at 612–15 (O’Connor, J., concurring); id. at 615–34 (Marshall, J., dissenting); id. at 635–45 (Stevens, J., dissenting).

\textsuperscript{82} Id. at 608 (Powell, J., concurring). Indicating just how convoluted the opinions in Guardians were, one commentator attempted to clarify the decision in the following manner:

[T]wo justices in two opinions agreed that Title VI prohibited intentional and unintentional discrimination and seven justices in three opinions agreed that Title VI prohibited only intentional discrimination, but five justices in three opinions agreed that Title VI regulations could prohibit unintentional discrimination. Two justices in two opinions agreed that Title VI regulations could prohibit unintentional discrimination because Title VI prohibited unintentional discrimination, and three justices in one opinion agreed that Title VI regulations could prohibit unintentional discrimination even though Title VI itself prohibited only intentional discrimination.


\textsuperscript{83} See Guardians, 463 U.S. at 592–93 (White, J., for the Court); id. at 623 (Marshall, J., dissenting); id. at 643 (Stevens, J., dissenting, joined by Blackmun and Brennan, JJ.); see also Mank, supra note 48, at 33; Mattheisen, supra note 82, at 63; Smith, supra note 14, at 239.
not the holding of the Court, it has sustained little support in subse-
quent judicial decisions.\textsuperscript{84}

In contrast to the \textit{Guardians} decision, \textit{Alexander v. Choate} consisted
of one unanimous opinion.\textsuperscript{85} The \textit{Choate} Court declared that \textit{Guardians}
stood for two principles. First, “Title VI itself directly reached only in-
stances of intentional discrimination.”\textsuperscript{86} Second, the Court stated that
\textit{Guardians} also held that “actions having an unjustifiable disparate im-
 pact on minorities could be redressed through agency regulations de-
signed to implement the purposes of Title VI.”\textsuperscript{87} \textit{Choate}, particularly its
reading of \textit{Guardians}, would appear to be a unanimous endorsement of
agencies’ ability to promulgate disparate-impact regulations, despite
criticism that this reading of \textit{Guardians} relies on statements made in
dicta.\textsuperscript{88} In any event, these cases set the groundwork for the next envi-
ronmental justice task: determining whether disparate-impact regula-
tions were privately enforceable.

B. The Rise and Fall of the Implied Right of Action

In determining whether an implied right of action exists to en-
force a statute, the Supreme Court has employed a four-factor test
adopted from the 1975 case \textit{Cort v. Ash}.\textsuperscript{89} First, the statute must have
been enacted to benefit a class of which the plaintiff is a member;
second, there must be implicit or explicit evidence that Congress in-
tended to create the remedy; third, the judicial remedy must be con-
sistent with the underlying purpose of the legislative scheme; and
fourth, the federal right of action must not infringe on important
state concerns.\textsuperscript{90} The \textit{Cort} analysis has also been used to imply private

\textsuperscript{86} \textit{Id.} at 293.
\textsuperscript{87} \textit{Id.}
\textsuperscript{88} Mattheisen, \textit{supra} note 82, at 64–66 (arguing that because \textit{Choate} involved section
504 of the Rehabilitation Act of 1973 and \textit{Guardians} was a case concerning Title VI, the
analogy between the two statutes was made in dicta).
\textsuperscript{89} 422 U.S. 66, 78 (1975).
\textsuperscript{90} \textit{Id.}

In determining whether a private remedy is implicit in a statute not ex-
pressly providing one, several factors are relevant. First, is the plaintiff one of
the class for whose \textit{especial} benefit the statute was enacted—that is, does the
statute create a federal right in favor of the plaintiff? Second, is there any
indication of legislative intent, explicit or implicit, either to create such a rem-
edy or to deny one? Third, is it consistent with the underlying purposes of the
legislative scheme to imply such a remedy for the plaintiff? And finally, is the
cause of action one traditionally relegated to state law, in an area basically the
rights of action to enforce rules and regulations promulgated by administrative agencies. Should a rule or regulation pass the *Cort* factors, an implied right of action will be found if “the agency rule is properly within the scope of the enabling statute, and . . . implying a private right of action will further the purpose of the enabling statute.” Using this analysis and the Supreme Court’s Title VI decisions, courts in recent years have been asked to find an implied private right of action under Title VI that would allow plaintiffs to enforce disparate-impact regulations.

1. Chester Residents: Implying a Private Right of Action

Chester Residents Concerned for Quality Living brought suit against the Pennsylvania Department of Environmental Protection (PADEP), alleging that the department’s issuance of a permit to a soil remediation facility in the city of Chester violated, among other things, EPA’s disparate-impact regulations. The city of Chester, located in Delaware County, Pennsylvania, had a population of 42,000 people, sixty-five percent of whom were African American. The remainder of the county had a population of 502,000, over ninety percent of whom were Caucasian, and only 6.2% of whom were African American. According to plaintiffs, PADEP had granted five waste facility permits for sites in Chester, while only granting two permits for sites in the rest of the County. Additionally, plaintiffs alleged that the city of Chester had a permit capacity of 2.1 million tons of waste per year, as compared to the 1400 tons per year at non-Chester facilities. In ruling in favor of Chester Residents, the Court of Appeals for the Third Circuit declined to find an implied private right of action embedded in either Supreme Court precedent or its own precedent, despite the plaintiffs’ conten-
tion that one existed. Instead, it conducted its own analysis to find that an implied cause of action did indeed exist to enforce EPA's disparate-impact regulations. The court reasoned that: (1) EPA's disparate-impact regulations were within the scope of Title VI; (2) the Supreme Court factors from Cort v. Ash properly permitted implication of a private right of action; and (3) implying a private right of action furthered the purpose of Title VI.

Unfortunately, the Supreme Court never had the chance to address the issue. While on certiorari to the Court, Pennsylvania withdrew the challenged permits, leading the Court to dismiss the case as moot and vacate the Third Circuit’s decision. Though the Chester Residents decision was vacated and dismissed, it remains a significant case for environmental justice, as it was the first time any circuit addressed the issue of implied private rights of action to enforce EPA’s disparate-impact regulations. Furthermore, its analysis has been revived in subsequent decisions in the Third Circuit, such as Powell v. Ridge, where the court reiterated its conclusion in Chester Residents that an implied right of action exists under EPA’s disparate-impact regulations.

2. South Camden I: Continued Support for an Implied Right of Action

Three years after the decision in Chester Residents, the question of whether an implied right of action could be found to enforce EPA’s disparate-impact regulations was to be litigated once again. Plaintiffs in South Camden Citizens in Action v. New Jersey Dep’t of Environmental Protection (South Camden I) alleged that in granting a Clean Air Act permit to the St. Lawrence Cement Company (SLC) to operate a pollutant-emitting plant in the Waterfront South neighborhood of Camden, New Jersey, the New Jersey Department of Environmental Protection (NJDEP) violated EPA’s disparate-impact regulations. At the time suit was filed, ninety-one percent of Waterfront South’s residents

99 Id. at 931–33.
100 Chester Residents, 132 F.3d at 933–36.
101 Id. at 933–36.
103 See supra note 8, at 206.
104 Seif, 524 U.S. at 974.
105 supra note 8, at 206.
106 See 189 F.3d 387, 397–400 (3d Cir. 1999); see also supra note 8, at 206.
108 Id. at 451.
belonged to racial minorities. Not only was Waterfront South a minority community, it was also a low-income community: more than half the residents lived at or below the federal poverty level. Additionally, the neighborhood—which covered an area of less than one square mile—was already home to three county-run industrial sites, including a sewage plant and a trash-to-steam plant, two Superfund sites, four sites under investigation for the release of hazardous substances, and fifteen other sites identified by the NJDEP as contaminated. Despite these pre-existing hazards and the demonstrably poor health of Waterfront South’s residents, SLC was granted a permit that would have allowed its plant to emit particulate matter, mercury, lead, manganese, nitrogen oxides, carbon monoxide, sulfur oxide, volatile organic compounds, and radioactive material.

The court, in finding a violation of EPA’s Title VI regulations, issued a preliminary injunction vacating the permit granted to SLC, despite the fact that the facility was otherwise in compliance with EPA’s emissions limitations. This holding was predicated on two findings: (1) in addition to compliance with environmental standards, NJDEP had an obligation under Title VI to consider the racially discriminatory disparate impacts of issuing a permit to SLC; and (2) plaintiffs had established a prima facie case of disparate-impact discrimination based on race. The court’s decision relied heavily on precedents such as Chester Residents and Powell in declaring that an implied private right of

109 Id. Of Waterfront South’s 2132 residents, 63% were African American, 28% were Hispanic, and 9% were Caucasian. Camden County, in which Waterfront South was located, was over 75% Caucasian. Id. at 451, 459.
110 Id. at 459. The median income in Waterfront South was $15,082, a mere 38% of the county’s overall median income of $40,027. Id.
113 Included in the court’s findings of fact is a detailed account of the alarmingly poor health of the residents of Waterfront South. Id. at 460–68. Uncontested expert testimony showed that African American residents of Camden County suffered a higher cancer rate than the rest of the state. Id. at 461. Additionally, residents of Waterfront South reported an asthma rate twice that of the rate reported by residents in the rest of the city of Camden. Id.
114 Id. at 454, 469.
115 Id. at 468–69, 496, 505.
116 Id. at 474.
117 Id. at 493. The court further found that NJDEP had failed to meet its rebuttal burden of showing that it had a substantial legitimate justification or a legitimate nondiscriminatory reason for its practice. Id. at 495–97.
action existed to enforce EPA’s disparate-impact regulations.\textsuperscript{118} Though short-lived, the \textit{South Camden I} decision, particularly its declaration that there exists a privately enforceable right to compel permitting agencies to consider the disparate impacts of their actions, was a tremendous victory for environmental justice advocates.

3. \textit{Alexander v. Sandoval}: A Turning of the Tides for Implied Rights of Action

Just five days after the \textit{South Camden I} ruling, the Supreme Court handed down its decision in \textit{Alexander v. Sandoval}, finding that no implied private right of action exists to enforce disparate-impact regulations promulgated under section 602 of Title VI.\textsuperscript{119} Though not an environmental justice case, the Court’s decision in \textit{Sandoval} had sweeping consequences for private enforcement of all Title VI disparate-impact regulations.\textsuperscript{120}

Martha Sandoval challenged the Alabama Department of Public Safety’s decision to administer the state driver’s license test only in English, alleging that such a policy had the effect of discriminating based on national origin in violation of Title VI.\textsuperscript{121} The Court addressed only the issue of whether a private cause of action can be found to enforce section 602 disparate-impact regulations.\textsuperscript{122} In the 5 to 4 decision, Justice Scalia, writing for the majority, acknowledged that “private individuals may sue to enforce § 601 of Title VI and ob-

\textsuperscript{118} See \textit{South Camden I}, 145 F. Supp. 2d at 473–74. This decision was not reached in a vacuum, however. The court took special notice of a pending Supreme Court case, which it acknowledged could overturn its ruling should the Supreme Court decide the issue differently. Id. Absent a decision from the Supreme Court, however, the \textit{South Camden I} court was bound by Third Circuit precedent and ruled accordingly, despite SLC’s insistence that the Supreme Court would soon find that Title VI disparate-impact regulations do not give rise to implied rights of action. \textit{Id.} at 474.


\textsuperscript{120} \textit{La Londe}, supra note 62, at 27 (“On April 24, 2001, the Supreme Court dealt a major blow to the environmental justice movement. Its decision in \textit{Alexander v. Sandoval} changed the landscape of the environmental justice movement, overturning thirty years of precedent and forcing environmental justice advocates to search for new mechanisms to pursue their goals.” (footnote omitted)). \textit{See generally Core}, supra note 8 (explaining the environmental justice consequences of \textit{Sandoval}).

\textsuperscript{121} \textit{Sandoval}, 532 U.S. at 278–79. Alabama’s Department of Public Safety received federal funding from the United States Department of Justice and Department of Transportation, thereby subjecting itself to the provisions of Title VI. \textit{Id.} at 278.

\textsuperscript{122} \textit{Id.} at 279.
tain both injunctive relief and damages.”\textsuperscript{123} However, the Court stated that section 601 prohibited only intentional discrimination, not disparate impacts.\textsuperscript{124} Quoting \textit{Regents of University of California v. Bakke}, the Court noted that “§ 601 proscribe[s] only those racial classifications that would violate the Equal Protection Clause or the Fifth Amendment.”\textsuperscript{125} Therefore, the Court reasoned, the right to enforce disparate-impact regulations could not come from section 601, since such regulations prohibit conduct that is permitted under section 601.\textsuperscript{126} Instead, if a private right of action were to be found, it would need to be found in section 602 itself.\textsuperscript{127}

Turning its attention to an analysis of section 602, the Court found that, unlike section 601, section 602 lacked any “rights-creating language” indicative of a congressional intent to create a private right of action.\textsuperscript{128} Additionally, the Court determined that the language of section 602 did not appear to provide any congressionally intended private remedies.\textsuperscript{129} Absent any indication that Congress intended to create a private right of action or remedy under section 602, regulations promulgated under that section cannot create them, and therefore, the Court determined that no private right of action existed to enforce disparate-impact regulations.\textsuperscript{130}

The Court further implicitly criticized the application of the \textit{Cort} factors to regulations, declaring that agency regulations can merely invoke a private right of action that Congress has created in the text of the enabling statute, but they may not create a right where Congress has not, irrespective of the outcome of a \textit{Cort} analysis.\textsuperscript{131} To use

\textsuperscript{123} Id. (citing Cannon v. Univ. of Chi., 441 U.S. 677 (1979), which, in finding a private right of action under Title IX, analogized the statute to Title VI of the Civil Rights Act of 1964).

\textsuperscript{124} Id. at 280–81.

\textsuperscript{125} Id. (alteration in original) (internal quotation marks omitted). The Court also relied on \textit{Guardians and Alexander v. Choate} as affirmation of this principle.

\textsuperscript{126} Id. at 285.

\textsuperscript{127} \textit{Sandoval}, 532 U.S. at 286. The right to enforce disparate-impact regulations, in Justice Scalia’s own words, “must come, if at all, from the independent force of § 602.” Id. (emphasis added). Justice Scalia’s language throughout the opinion hinted that perhaps administrative agencies lacked the authority to promulgate disparate-impact regulations under section 602, but as this issue was not raised by the parties, it was not discussed by the Court. \textit{See infra} text accompanying notes 135–38.

\textsuperscript{128} \textit{Sandoval}, 532 U.S. at 288–89.

\textsuperscript{129} Id. at 289–90.

\textsuperscript{130} Id. at 291, 293.

\textsuperscript{131} See id. at 291.
Justice Scalia’s analogy, “[a]gencies may play the sorcerer’s apprentice but not the sorcerer himself.”

In his dissent, Justice Stevens suggested that, despite the Court’s decision, plaintiffs seeking to enforce disparate-impact regulations, “in all likelihood must only reference § 1983 to obtain relief.” There is some question as to the validity of this statement, however, as some commentators have suggested that perhaps Sandoval eliminated the ability of plaintiffs to enforce disparate-impact regulations through § 1983 as well.

What is most striking about the Sandoval decision is Justice Scalia’s thinly veiled suggestion that agencies may lack the authority to promulgate disparate-impact regulations under section 602 of Title VI altogether. Even though the Court assumed, without deciding, that such regulations were in fact valid federal law, the majority displayed some concerns with this assumption. Wrote Justice Scalia:

[W]e must assume for purposes of deciding this case that regulations promulgated under § 602 of Title VI may validly proscribe activities that have a disparate impact on racial groups, even though such activities are permissible under § 601. Though no opinion of this Court has held that, five Justices in Guardians voiced that view of the law . . . . These statements are in considerable tension with the rule of Bakke and Guardians that § 601 forbids only intentional discrimination, but petitioners have not challenged the regulations here. We therefore assume for the purposes of deciding this

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132 Id.
133 Id. at 300. Enforcing disparate-impact regulations through § 1983 was an idea that Justice Stevens had suggested in previous opinions. See Guardians Ass’n v. Civil Serv. Comm’n, 463 U.S. 582, 638 (1983) (Stevens, J., dissenting); Cannon v. Univ. of Chi., 441 U.S. 677, 696–97 n.21 (1979); see also supra note 8, at 218–19. Section 1983 states:

Every person who, under color of any statute, ordinance, regulation, custom, or usage, of any State or Territory or the District of Columbia, subjects, or causes to be subjected, any citizen of the United States or other person within the jurisdiction thereof to the deprivation of any rights, privileges, or immunities secured by the Constitution and laws, shall be liable to the party injured in an action at law, suit in equity, or other proper proceeding for redress . . . .


134 See supra note 8, at 224–36.
136 See supra note 8, at 281–82.
Language throughout the opinion suggested that Justice Scalia did not believe this assumption was well grounded.\textsuperscript{138}

The implications of this decision are extensive, affecting everything from the environmental justice movement\textsuperscript{139} to broader civil rights concerns.\textsuperscript{140} Given the importance of judicial enforcement of environmental justice, the loss of a private right of action to enforce EPA’s disparate-impact regulations was a crushing blow.\textsuperscript{141} Therefore, environmental justice plaintiffs, no longer able to directly enforce disparate-impact regulations, took Justice Stevens’s suggestion, and focused their efforts on § 1983 actions as a means of private enforcement.\textsuperscript{142} While this strategy enjoyed some initial success, it too was short-lived.\textsuperscript{143}

4. \textit{South Camden II} and \textit{III}: Further Restricting Enforcement of Disparate-Impact Regulations

Following the Court’s decision in \textit{Sandoval}, which implicitly overruled the district court’s finding in \textit{South Camden I}, the parties to the \textit{South Camden I} litigation, were asked by District Judge Stephen Orlof-

\textsuperscript{137} \textit{Id.} (citations omitted). Absent a challenge to this assumption, the Court was unable to address its validity. One commentator has argued that, while perhaps an “unofficial holding” of the case, the Court in \textit{Sandoval} implicitly invalidated disparate-impact regulations on the ground that such regulations exceeded agencies’ authority under the enabling statute—Title VI of the Civil Rights Act of 1964. \textit{See} Laufer, \textit{supra} note 135, at 1627–35.

\textsuperscript{138} \textit{See} \textit{Sandoval}, 532 U.S. at 285 (“It is clear now that the disparate-impact regulations do not simply apply § 601—since they indeed forbid conduct that § 601 permits—and therefore clear that the private right of action to enforce § 601 does not include a private right to enforce these regulations.”); \textit{id.} at 286 (“[The right to enforce Title VI regulations] must come, if at all, from the independent force of § 602.”).

\textsuperscript{139} \textit{See generally} Core, \textit{supra} note 8.

\textsuperscript{140} \textit{See} Linda Greenhouse, \textit{In Year of Florida Vote, Supreme Court Also Did Much Other Work}, N.Y. Times, July 2, 2001, at A12 (noting that the \textit{Sandoval} decision “substantially limited the effectiveness of one of the most important civil rights laws, Title VI of the Civil Rights Act of 1964”).

\textsuperscript{141} \textit{See} Core, \textit{supra} note 8, at 239–42. Core argues that in denying an implied private right of action to enforce disparate-impact regulations, the \textit{Sandoval} decision essentially eliminated the possibility of using § 1983 to enforce the regulations as well. \textit{Id.} In other words, the Court’s decision “clos[ed] the courtroom door to Title VI disparate impact plaintiffs.” \textit{Id.} at 224.

\textsuperscript{142} S. Camden Citizens in Action v. N.J. Dep’t of Envtl. Prot., 145 F. Supp. 2d 505, 509 (D.N.J. 2001) [\textit{South Camden II}].

\textsuperscript{143} \textit{South Camden III}, 274 F.3d 771, 790–91 (3d Cir. 2001).
sky to submit briefs regarding the effect of the *Sandoval* ruling on the *South Camden I* decision.\textsuperscript{144} Specifically, the parties were asked to address whether Title VI disparate-impact regulations may still be enforced through § 1983, thereby entitling plaintiffs to injunctive relief.\textsuperscript{145} Having concluded that the *Sandoval* decision had not precluded plaintiffs from asserting a § 1983 claim,\textsuperscript{146} the District Court analyzed whether Title VI regulations created a federal right under which plaintiffs could assert a § 1983 violation.\textsuperscript{147} The court used the standards established by the Supreme Court in *Blessing v. Freestone*\textsuperscript{148} to determine whether disparate-impact regulations created federal rights.\textsuperscript{149} First, the court, relying on the Supreme Court decision *Wright v. City of Roanoke*, determined that agencies were capable of creating rights through their rulemaking authority, which had the “force and effect of law.”\textsuperscript{150} Then, applying the *Blessing* standard, the court concluded that EPA’s Title VI regulations created a right to be

\begin{itemize}
  \item \textsuperscript{144} *South Camden II*, 145 F. Supp. 2d at 509.
  \item \textsuperscript{145} Id.
  \item \textsuperscript{146} Id. at 518. The court, expressly heeding Justice Scalia’s admonition that courts are “bound by holdings, not language,” id. at 513, carefully parsed the *Sandoval* decision and concluded that the Supreme Court had not specifically addressed the § 1983 question. Id. at 513–18.
  \item \textsuperscript{147} Id. at 518–19.
  \item \textsuperscript{148} 520 U.S. 329 (1997). The *Blessing* standard, as quoted by the court in *South Camden II*, requires:

  First, Congress must have intended that the provision in question benefit the plaintiff. Second, the plaintiff must demonstrate that the right assertedly protected by the statute is not so “vague and amorphous” that its enforcement would strain judicial competence. Third, the statute must unambiguously impose a binding obligation on the States. In other words, the provision giving rise to the asserted right must be couched in mandatory, rather than precautionary, terms.

  Id. at 340–41.

  \item \textsuperscript{149} The *South Camden II* court distinguished its analysis from the analyses courts generally have applied when determining the presence of an implied right of action. An implied right of action analysis, the court noted, is conducted using the four *Cort* factors, including the presence of a congressionally intended remedy, so as to alleviate any concern that courts, rather than Congress, might be creating remedies for violations of statutes. When determining whether a right exists sufficient for a § 1983 claim, however, courts are less concerned with the existence of a congressionally intended remedy, since a private cause of action is already provided for in § 1983. Therefore, given this distinction, a court could find that a statute that does not create an implied right of action nonetheless contains rights that are enforceable under § 1983. *South Camden II*, 145 F. Supp. 2d at 520–24.

  \item \textsuperscript{150} Id. at 526–29 (citing *Wright v. City of Roanoke*, 479 U.S. 418 (1987) and *Chrysler Corp. v. Brown*, 441 U.S. 281 (1979)).
\end{itemize}
free from disparate impacts of environmental regulation, and that this right could be enforced through § 1983.\textsuperscript{151}

While this victory might have temporarily revitalized the environmental justice movement, it did not last.\textsuperscript{152} On appeal, the Court of Appeals for the Third Circuit reversed, finding that \textit{Sandoval} had implicitly foreclosed a § 1983 claim to enforce EPA’s disparate-impact regulations.\textsuperscript{153}

The Third Circuit’s reversal in \textit{South Camden III} criticized the district court’s reading and reliance on \textit{Wright v. City of Roanoke}.\textsuperscript{154} According to the court of appeals, \textit{Wright} concerned a regulation that defined a right already provided by Congress in the authorizing statute.\textsuperscript{155} The same could not be said for section 602 regulations, the court reasoned, since, as \textit{Sandoval} had explicitly stated, Title VI protections extend to intentional discrimination only; the statute, therefore, does not provide a right against disparate-impact discrimination.\textsuperscript{156}

Given this distinction, the court determined that the district court’s application of the \textit{Blessing} standard was erroneous.\textsuperscript{157} The question of whether a regulation creates a right enforceable under § 1983, the court reasoned, turns on whether that right was created by the statute authorizing the regulation, not any independent analysis of the regulation itself.\textsuperscript{158} Therefore, to the extent that \textit{Sandoval} found Title VI to proscribe only intentional discrimination, disparate-impact regulations could not be privately enforced under § 1983.\textsuperscript{159} The court thus reversed the district court’s decision.\textsuperscript{160} A few months later, the Supreme Court denied certiorari.\textsuperscript{161}

The \textit{South Camden III} decision confirmed what many had suspected: \textit{Alexander v. Sandoval} not only eliminated an implied private right of action to enforce disparate-impact regulations, it also foreclosed the possibility of using § 1983 as an enforcement mecha-

\textsuperscript{151} \textit{Id.} at 542, 549.
\textsuperscript{152} \textit{See generally South Camden III,} 274 F.3d 771 (3d Cir. 2001).
\textsuperscript{153} \textit{See id.} at 774.
\textsuperscript{154} \textit{Id.} at 782–83.
\textsuperscript{155} \textit{Id.}
\textsuperscript{156} \textit{Id.} at 788–89 (citing \textit{Alexander v. Sandoval}, 532 U.S. 275, 288–90 (2001)).
\textsuperscript{157} \textit{See id.} at 782–83.
\textsuperscript{158} \textit{See South Camden III,} 274 F.3d at 783, 790. “[I]f there is to be a private enforceable right under Title VI to be free from disparate impact discrimination, Congress, and not an administrative agency or a court, must create this right.” \textit{Id.} at 790.
\textsuperscript{159} \textit{Id.} at 790–91.
\textsuperscript{160} \textit{Id.} at 791.
nism. Following the Third Circuit’s decision and others like it, the momentum gained by the environmental justice movement following victories in *Chester Residents* and *South Camden I and II* quickly vanished.

II. The Viability of Disparate-Impact Suits After *Sandoval*

In light of the Supreme Court’s finding that no private right of action exists to enforce Title VI disparate-impact regulations, along with the Third Circuit’s finding that these regulations are not enforceable under § 1983, as well as the *Sandoval* majority’s suggestion that agencies may lack the authority to pass such regulations altogether, the environmental justice movement has encountered a considerable roadblock. While environmental justice has stalled in the wake of *Sandoval* and *South Camden III*, commentators may have signaled its death a bit prematurely. Disparate-impact regulations, if proven to still be valid exercises of administrative discretion under Title VI, and despite *Sandoval*’s assertions to the contrary, can still be enforced by private parties in certain, albeit narrow, circumstances.

A. EPA’s Title VI Disparate-Impact Regulations Remain Valid Federal Law

Contrary to the *Sandoval* Court’s assertion, *Bakke* did not hold that there was clear congressional intent to limit the scope of Title VI to intentional discrimination—rather, the *Bakke* Court’s Title VI analysis was, as the *Bakke* Court acknowledged, discussed in dicta. As Justice Scalia

162 See, e.g., Core, *supra* note 8, at 242.
163 See id. at 236 (noting that all the federal Courts of Appeals except one—the Court of Appeals for the Sixth Circuit—have found that purely regulatory rights cannot be enforced through § 1983).
164 See, e.g., Schofield, *supra* note 14, at 925–26 (concluding that short of an intentional discrimination suit, environmental justice plaintiffs are left to rely purely on administrative enforcement of Title VI regulations); Core, *supra* note 8, at 242 (noting that administrative enforcement is unlikely to fill the void left by the courts’ elimination of private actions under Title VI, and therefore concluding that activism and public awareness may be the best option); Smith, *supra* note 14, at 256 (concluding that the environmental justice plaintiff’s only viable option post-*Sandoval* is administrative enforcement).
165 See Galalis, *supra* note 7, at 86–100 (arguing that *Bakke* does not indicate congressional intent to limit Title VI to a prohibition of intentional discrimination, as suggested by *Sandoval*, but that rather, EPA’s disparate-impact regulations are valid exercises of administrative discretion according to the familiar *Chevron* test); see also discussion *infra* Part II.A.
166 See discussion *supra* Part I.B.3.
167 See Regents of the Univ. of Cal. v. Bakke, 438 U.S. 265, 281 (1978) (“In this Court the parties neither briefed nor argued applicability of Title VI . . . . Rather . . . they focused
noted in his majority opinion in Sandoval, courts are “bound by holdings, not language.” Therefore, since the Bakke Court’s Title VI discussion is dicta, it is neither the holding of the Court, nor binding upon other courts. Additionally, the plain language of Title VI indicates that Congress expressed no clear or unambiguous intent to limit the scope of “discrimination” to intentional discrimination. The legislative history of Title VI indicates that, due to disagreement among members of Congress as to the definition and scope of the term “discrimination,” Congress deliberately left the question unresolved, opting instead to defer the issue to agency discretion.

In the absence of clear congressional intent to limit the scope of Title VI, the validity of agencies’ disparate-impact regulations must be evaluated under the analysis set forth by the Supreme Court in Chevron, U.S.A. v. Natural Resources Defense Council, Inc. Under the Chevron analysis, a court must defer to a permissible agency interpretation of an ambiguous statute. Therefore, given the lack of clear congressional

169 See Galalis, supra note 7, at 90–91.
171 Galalis, supra note 7, at 95–97. Galalis further concludes that neither the underlying purpose of Title VI, nor subsequent legislative action, is any more helpful in identifying a clear, unambiguous congressional intent to limit the scope of Title VI to intentional discrimination. Id. at 97–100. Quite the contrary, subsequent legislative action may indeed indicate congressional ratification of Title VI disparate-impact regulations. Id. at 99–100.
173 Id. at 842–43. Chevron, which stands for the principle of judicial deference to agencies’ reasonable interpretations of statutory ambiguities, articulated a two-step analysis. First, a court must determine “whether Congress has directly spoken to the precise question at issue.” Id. at 842. If so, and the intent of Congress is clear, the analysis is finished and the agency must defer to the unambiguously expressed intent of Congress. Id. at 842–43. If not, however, the court may not simply impose its own construction of the statute; rather, it must engage in the second step of the analysis, which requires a determination of whether the agency has permissibly construed the statute. Id. at 843. If the agency’s construction is a permissible one—that is, if it is reasonable—the court must defer to it, even if the court believes it is not the only, or even best, construction the agency could have adopted. See id. at 843–44 & n.11. Should a regulation pass the first step of the Chevron analysis, it is nearly universally accepted that the agency will prevail on the second.

intent to restrict Title VI to intentional discrimination,\textsuperscript{174} and the fact that disparate-impact regulations are a permissible—that is, reasonable\textsuperscript{175}—construction of Title VI,\textsuperscript{176} EPA’s disparate-impact regulations are valid federal law post-\textit{Sandoval}.\textsuperscript{177}

B. \textit{Section 110 of the CAA Allows for Enforcement of EPA’s Title VI Disparate-Impact Regulations}

The fact that EPA’s disparate-impact regulations continue to constitute valid federal law is significant in that it allows enforcement of the regulations despite the loss of a private right of action. Necessary to such enforcement is the type of statutory handle found in section 110 of the Clean Air Act (CAA),\textsuperscript{178} which governs submission and approval of state implementation plans (SIPs).\textsuperscript{179}

As a means of achieving the National Ambient Air Quality Standards (NAAQS) promulgated under the CAA, Congress established a “cooperative federalism” scheme of regulation.\textsuperscript{180} Paramount to this scheme are the state implementation plans—indeed, SIPs are the principal component of EPA’s pollution control efforts.\textsuperscript{181} They must be created by each state and must outline the specific means by which that state will achieve the NAAQS. By statutory command, each SIP must provide, among other things: (1) enforceable emission limitations for individual sources and a timetable for compliance of those

\textsuperscript{174} See Galalis, \textit{supra} note 7, at 92–100 (arguing that the 88th Congress, at the very least, did not speak to whether Title VI concerned intentional or disparate-impact discrimination—that is, its intent was ambiguous—and at the most, explicitly intended Title VI to embrace both an intent and effects standard).


\textsuperscript{176} See \textit{Note}, \textit{supra} note 56, at 1783–85.

\textsuperscript{177} See Galalis, \textit{supra} note 7, at 101.

\textsuperscript{178} Clean Air Act, 42 U.S.C. §§ 7401–7671q (2000).

\textsuperscript{179} 42. U.S.C. § 7410 (2000). Section 7410(a)(1) reads in pertinent part:

\begin{quote}
Each State shall . . . adopt and submit to the Administrator . . . a plan which provides for implementation, maintenance, and enforcement of [any promulgated] primary standard . . . . In addition, such State shall adopt and submit to the Administrator . . . a plan which provides for implementation, maintenance, and enforcement of [any promulgated] secondary standard . . . .
\end{quote}

\textit{Id.} § 7410(a)(1).

\textsuperscript{180} See \textsc{Mark S. Squillace & David R. Wooley}, \textit{Air Pollution} 93 (3d ed. 1999).

\textsuperscript{181} \textsc{William H. Rodgers, Jr.}, \textit{Environmental Law} § 3.6, at 197 (2d ed. 1994).
sources; (2) procedures to review new sources; (3) procedures to monitor and analyze air quality; (4) assurances that the state has adequate personnel and funding to execute the implementation plan; and (5) assurances that the SIP will not operate in violation of any federal law.\footnote{182} Once submitted and approved by EPA, a SIP becomes a federal regulation with the force and effect of law,\footnote{183} and is binding upon the submitting state.\footnote{184}

Of particular interest to environmental justice plaintiffs is the requirement that SIPs provide assurances of their compliance with federal law.\footnote{185} Embodied in section 110(a)(2)(E) of the CAA, the provision states that “[e]ach [state implementation] plan shall . . . provide . . . necessary assurances that the State . . . is not prohibited by any provision of Federal or State law from carrying out such implementation plan or portion thereof.”\footnote{186} To the extent that EPA’s disparate-impact regulations constitute a “provision of Federal . . . law,” section 110(a)(2)(E) provides EPA with the authority—indeed, the nondiscretionary duty—to ensure that a submitted SIP will not result in environmental discrimination in violation of these regulations.\footnote{187}

Specifically, this “statutory handle” works as follows: section 110(a)(2)(E) of the Clean Air Act mandates that a state provide necessary assurances that its implementation plan will not operate in viola-
tion of any federal law. Since EPA’s Title VI disparate-impact regulations constitute a provision of federal law, a state is therefore required under the CAA to provide necessary assurances that its plan will not operate in violation of these disparate-impact regulations. While EPA has never explicitly stated what the “necessary assurances” clause requires of states, courts have determined that, at a minimum, this clause imposes an affirmative duty on states to provide a detailed demonstration upon which EPA can base a reasoned judgment as to the state’s compliance or noncompliance with the statute. The Court of Appeals for the First Circuit has stated that an “assurance” is an “act . . . that inspires or tends to inspire confidence,” dispelling any notion that the “shall” language of the clause might not place an affirmative duty on states. The Court of Appeals for the Second Circuit has found that, once fulfilled, a state’s duty to provide necessary assurances requires the Administrator to then make a “reasoned judgment” on the matter and provide a “detailed statement of his rationale.”

The nexus of the courts’ decisions makes clear that a state cannot sit idly by and hope to satisfy the necessary assurances required by section 110(a)(2)(E) of the CAA, nor can EPA fully approve a plan that fails to provide such assurances or provides inadequate assurances. In the Title VI context, states must demonstrate how their plans will operate in conformity with EPA’s disparate-impact regulations. The precise breadth of this requirement is unclear, but it is not unreasonable to expect states to provide scientific and demographic support for their assurances just as they would when demonstrating compliance with any other provision of the CAA. Such support might include emissions documentation, projected health and safety consequences, census data, and other relevant data.

189 See discussion supra Part II.A.
189 See Friends of the Earth v. EPA, 499 F.2d 1118, 1126 (2d Cir. 1974); NRDC v. EPA, 478 F.2d 875, 884 (1st Cir. 1973); see Rodgers, supra note 181, § 3.6, at 197.
191 NRDC, 478 F.2d at 883 (emphasis added).
192 Friends of the Earth, 499 F.2d at 1126 (finding that “[necessary assurances] call[] for the Administrator’s reasoned judgment . . . and direct[] the Administrator to provide a detailed statement of his rationale”) (emphasis added); see also NRDC, 478 F.2d at 884 (“The ‘necessary assurances’ clause seems to us to call less for rhetoric than for the Administrator’s reasoned judgment . . . .”).
193 See Friends of the Earth, 499 F.2d at 1126; NRDC, 478 F.2d at 883–84; see also 42 U.S.C. § 7410(k)(3) (granting Administrator authority for full and partial approval and disapproval of SIPs). But cf. The CLEAN AIR ACT HANDBOOK 36 (Robert J. Martineau, Jr. & David P. Novello eds., 1997) (noting that, in recognition of the fact that SIPs often start out generally and are later modified, EPA has determined that SIPs may be deemed “complete” if they are in at least 80% regulatory form).
data, and an analysis of where existing facilities lie in relation to minority populations. The totality of data would have to demonstrate an equal distribution of adverse environmental affects. Once a state has made such a demonstration, EPA must make a reasoned judgment, based on the facts provided by the state, as to whether the SIP will operate in conformity with the agency’s disparate-impact regulations.194 No such judgment can be made where there is an utter lack of assurances by the state, where the assurances provided are inadequate, or where there is any indication that a SIP might operate in violation of the disparate-impact regulations. In such a case, EPA would have no facts upon which to base a judgment, and therefore any judgment offered by EPA could not be considered “reasoned.”

If advocates could find a way to privately enforce 110(a)(2)(E), this provision could potentially resurrect the environmental justice movement.195 The practical issues involved in challenging EPA approval of a SIP that violates section 110(a)(2)(E) are discussed in the following section.

III. Enforcing Disparate-Impact Regulations Through the CAA

Exactly what section 110(a)(2)(E) means for states submitting SIPs and EPA’s SIP approval process is unclear, as the issue has yet to be litigated.196 Whether a plaintiff in such a suit would prevail is anything but certain. However, given the theoretical support for this type of challenge and the strong policy arguments advocating citizen involvement, there is reason to believe that at the very least, a citizen suit would help invigorate the environmental justice movement, perhaps even if the suit itself were unsuccessful.

What is certain is that a plaintiff challenging EPA approval of a SIP on the grounds that it violates section 110(a)(2)(E) can expect to encounter many obstacles familiar to environmental justice advocates, including the burden of having to establish both a statutory right to


195 See Lazarus & Tai, supra note 187, at 633; see also Hays & Wetzler, supra note 183, at 126–27; Galalis, supra note 7, at 77 n.132.

sue and constitutional standing to sue. Should these threshold obstacles be overcome, a plaintiff next would be faced with the Herculean task of prevailing on the merits, despite narrow standards of review and heavy burdens of proof.

A. Establishing a Statutory Right to Sue

Any attempt to privately enforce the CAA begins with the Act’s citizen suit provisions found in section 304. Recognizing that EPA may not be able to effectively monitor and prosecute every violation of the CAA, Congress enacted section 304 with the intention that citizen involvement would complement the administrative process.

Section 304 was intended to serve at least two distinct purposes: (1) strengthen enforcement of the CAA through citizen participation; and (2) motivate government agencies to be more vigilant in enforing the Act’s provisions. To these ends, section 304 permits “any person” to commence legal action against anyone “alleged to have violated . . . an emission standard or limitation,” as well as against the EPA Administrator for failure to perform any nondiscretionary act or duty.

The courts have recognized Congress’s intent in enacting this provision. As the Court of Appeals for the Second Circuit noted:

Congress made clear that citizen groups are not to be treated as nuisances or troublemakers but rather as wel-

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200 42 U.S.C. § 7604(a)(1). While section 304(a)(1) may be the more commonly utilized citizen suit provision of the CAA, it is probably of little help to the plaintiff seeking to challenge a SIP alleged to be in violation of EPA’s disparate-impact regulations. Although “emission standard or limitation” is broadly defined in section 304(f), 42 U.S.C. § 7604(f), and has been further broadened by the courts, it still is generally limited to “a state threshold or limit on emissions that is . . . aimed at attaining or maintaining air quality standards.” Greenbaum & Peterson, supra note 198, at 87. Therefore, it is unlikely that enforcement of a SIP’s assurance of compliance with disparate-impact regulations would be encompassed by this definition.
201 42 U.S.C. § 7604(a)(2) (“[A]ny person may commence a civil action on his own behalf—against the Administrator where there is alleged a failure of the Administrator to perform any act or duty under this chapter which is not discretionory in the Administrator . . . .”); see also discussion infra Part III.C.3.
comed participants in the vindication of environmental interests. Fearing that administrative enforcement might falter or stall, “the citizen suits provision reflected a deliberate choice by Congress to widen citizen access to the courts, as a supplemental and effective assurance that the [Clean Air] Act would be implemented and enforced.”

While courts generally have embraced the jurisdiction granted to citizens by Congress, they also have been careful to note that “Congress did not fling the courts’ door wide open,” but rather, limited access to “clear-cut violations by polluters or defaults by the Administrator.”

Section 304 remains the most direct route to the courts for private plaintiffs seeking to enforce CAA provisions, though it certainly is not the only one. Section 307(b)(1) provides that a “petition for review” of any “final action” by the Administrator, including approval of implementation plans, may be filed in the United States court of appeals for the appropriate circuit within sixty days of the action or approval in question. Additionally, under the judicial review provisions of the Administrative Procedure Act (APA), an individual may challenge SIP approval once administrative remedies have been exhausted.

Therefore, a plaintiff challenging approval of a SIP for failure to provide necessary assurances of compliance with EPA’s disparate-impact regulations has three means of establishing a right to sue: (1) bringing action under the CAA’s citizen suit provision, section 304(a)(2); (2) filing a petition for review with the court of appeals in the appropriate circuit under 307(b)(1) of the CAA; or (3) peti-

203 Carey, 535 F.2d at 172 (quoting Train, 510 F.2d at 700). Additionally, the Court of Appeals for the D.C. Circuit noted:

[Section 304] reflects Congress’s recognition that “[c]itizens can be a useful instrument for detecting violations and bringing them to the attention of the enforcement agencies and courts alike.” It was designed to provide a procedure permitting any citizen to bring an action directly against polluters violating the performance standards and emission restrictions imposed under the law or against the Administrator . . . .

Train, 510 F.2d at 699–700 (alteration in original) (footnote omitted).

204 Train, 510 F.2d at 700.


208 Id. §§ 553(e), 701–706; Squillace & Wooley, supra note 180, at 464.

209 These three approaches are discussed in greater detail in Part III.C.


211 Id. § 7607(b)(1).
tioning EPA directly to repeal the approval, and if unsuccessful, seeking judicial review under the APA.\footnote{5 U.S.C. §§ 553(e), 706.} Whichever method a plaintiff chooses as a means of getting into court, such an environmental justice suit will surely be challenged for lack of standing once there.

**B. Establishing Constitutional Standing to Sue**

Issues of standing address “[w]hether a party has a sufficient stake in an otherwise justiciable controversy to obtain judicial resolution of that controversy.”\footnote{Sierra Club v. Morton, 405 U.S. 727, 731 (1972).} While standing was once a highly liberal requirement, broadly interpreted by the courts, it recently has become a much more formidable obstacle for plaintiffs, in large part due to the Court’s decision in *Lujan v. Defenders of Wildlife*.\footnote{504 U.S. 555 (1992).} The standing obstacle is particularly burdensome in environmental cases where the harms are often abstract, and therefore not easily quantifiable.\footnote{See, e.g., Jon Owens, *Comparative Law and Standing to Sue: A Petition for Redress for the Environment*, 7 Envtl. Law 321, 326, 331 (2001).}

To establish standing, four elements must be met:\footnote{504 U.S. at 560–61.} (1) the plaintiff must have suffered an “injury in fact”; (2) there must be some “fairly traceable” causation between the plaintiff’s injury and the defendant’s action; (3) there must be a likelihood of redressability, should the court find in favor of the plaintiff; and (4) the plaintiff must satisfy the prudential requirements, including third-party standing, generalized grievances, and the zone-of-interests requirement, which states that the plaintiff’s injury must be within the “zone of interests” protected by the statute.\footnote{See, e.g., Fed. Election Comm’n v. Akins, 524 U.S. 11, 20 (1998); *Bennett*, 520 U.S. at 162; *Lujan*, 504 U.S. at 560–61; Allen v. Wright, 468 U.S. 737, 750–51 (1984); Warth v. Seldin, 422 U.S. 490, 499 (1975).} The Supreme Court has further held that the plaintiff has the burden of demonstrating each of these elements.\footnote{*Lujan*, 504 U.S. at 561 (“The party invoking federal jurisdiction bears the burden of establishing these elements.”); see also *Steel Co. v. Citizens for a Better Env’t*, 523 U.S. 83, 104 (1998); *Bennett*, 520 U.S. at 167–68.}
1. Injury in Fact

The first element of standing requires that the plaintiff demonstrate an “injury in fact” that is both “concrete and particularized . . . and . . . actual or imminent,” as opposed to merely “conjectural or hypothetical.”\(^\text{219}\) This strict injury-in-fact requirement, as articulated in \textit{Lujan}, has been tempered somewhat by the Court’s decision in \textit{Friends of the Earth v. Laidlaw Environmental Services}, in which the Court established that injury in fact could be satisfied by a showing that “aesthetic and recreational values . . . will be lessened by the challenged activity.”\(^\text{220}\)

Generally, the harms suffered by environmental justice plaintiffs—often including heightened safety risks, deteriorated health, and increased mortality rates—are not as abstract or unquantifiable as those of other environmental plaintiffs.\(^\text{221}\) Therefore, a plaintiff challenging SIP approval could likely satisfy injury in fact with a showing that approval of the SIP allows for siting and permitting that create imminent health risks, environmental harms, or aesthetic harms.

2. Causation

Causation requires a showing that there exists “a causal connection between the injury and the conduct complained of.”\(^\text{222}\) In other words, the injury has to be “fairly traceable to the challenged action of the defendant, and not the result of the independent action of some third party not before the court.”\(^\text{223}\) The “fairly traceable” standard does not require proof to a scientific certainty; rather, according to at least one circuit, “circumstantial evidence such as proximity to polluting sources, predictions of discharge influence, and past pollution . . . prove both injury in fact and [causation].”\(^\text{224}\) As noted by the Court in

\(^{219}\) \textit{Lujan}, 504 U.S. at 560 (internal quotation marks omitted).

\(^{220}\) 528 U.S. 167, 183 (2000) (internal quotation marks omitted). In \textit{Laidlaw}, plaintiffs, who lived anywhere from within one-quarter mile to twenty miles of the defendant’s facility were found to have suffered injury in fact because they felt that due to the defendant’s discharges in the water, they could no longer use the North Tyger River for recreational purposes, such as fishing, boating, birdwatching, hiking, and picnicking. \textit{Id.} at 181–83.

\(^{221}\) \textit{Compare South Camden I}, 145 F. Supp. 2d 446, 460–68 (D.N.J. 2001) (detailing the alarming adverse health effects that disproportionate siting and permitting of environmental hazards has had, and is projected to have, on the residents of Waterfront South), \textit{with Lujan}, 504 U.S. at 563–64 (alleging injury in fact based on an intent to visit the affected ecosystem at some unspecified future date).

\(^{222}\) \textit{Lujan}, 504 U.S. at 560.

\(^{223}\) \textit{Id.} (internal quotation marks and alterations omitted).

\(^{224}\) \textit{Friends of the Earth v. Gaston Copper Recycling}, 204 F.3d 149, 163 (4th Cir. 2000).
satisfying causation can be difficult where the plaintiff is not the object of the government’s action, but rather suffers injury as a result of “the government’s allegedly unlawful regulation (or lack of regulation) of someone else.”

Causation could prove to be a difficult obstacle for a plaintiff challenging EPA approval of an allegedly invalid SIP, since the harm might be construed to be caused, not by EPA, but by a third party not before the court, that is, the actual polluter. Properly framed, however, the “conduct complained of,” or the “challenged action,” is approval of a SIP that has failed to provide the necessary assurances against disproportionate siting and permitting. The harm then—the adverse effects of disproportionate siting and permitting as allowed by the SIP—is fairly, if not directly, traceable to EPA’s approval decision.

3. Redressability

To satisfy the redressability component of standing, a plaintiff must demonstrate that it is likely—as opposed to merely speculative—that the plaintiff’s injury can be redressed by a favorable decision. Like causation, redressability can be a more difficult burden to satisfy where the plaintiff is not the object of government regulation. Indeed, where the parties directly responsible for plaintiffs’ harms are not affected by a court’s ruling, redressability may be impossible to satisfy, as was the case in Lujan.

EPA, however, would be bound by a court’s ruling. Likewise, states are bound by the approval decisions of EPA. Therefore, a favorable decision to a challenge of SIP approval would be likely to redress a plaintiff’s complaint, thereby negating the concerns of the Lujan Court.

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225 Lujan, 504 U.S. at 561–62.
226 Id. at 561.
227 Id. at 561–62.
228 The primary reason the plaintiffs in Lujan failed the redressability requirement was that the third parties that funded the projects to which plaintiffs objected were not necessarily bound by any decree of the Secretary of the Interior, Manuel Lujan, Jr., whom the plaintiffs were suing. Therefore, any order of the Court imposed upon the Secretary would be unlikely to alter the third parties’ conduct, and would therefore, not redress the plaintiffs’ complaint. See id. at 568.
229 See supra note 184 and accompanying text.
4. Prudential Requirements

A plaintiff who satisfies the three constitutional standing requirements will not be significantly burdened by the prudential requirements. The limitations on third-party standing and generalized grievances will generally not affect plaintiffs residing in low-income and minority communities who challenge the disparate-impacts of a SIP, since the alleged harms in such cases are neither suffered solely by third parties nor by a large class of citizens.

The burden of satisfying the courts’ prudential requirements is further diminished—if not totally eliminated—for plaintiffs bringing action under section 304(a)(2) of the CAA. The Supreme Court has held that citizen suit provisions authorizing “any person” to commence legal action, such as section 304(a)(2), are indicative of Congress’s intent to establish the broadest possible zone of interests, limited only by the constitutional requirements of standing. Accordingly, citizen suit provisions negate the prudential requirements altogether. Therefore, establishing constitutional standing would be sufficient for the environmental justice plaintiff.

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230 The limitations on third-party standing require that plaintiffs assert only their own rights and interests and not the rights and interests of others. Warth v. Seldin, 422 U.S. 490, 499 (1975).

231 The prohibition against generalized grievances precludes standing where the asserted harm is “shared in substantially equal measure by all or a large class of citizens.” Id.

232 The harms alleged in the South Camden cases, for example, were limited to residents of the Waterfront South neighborhood, a community of 2132 individuals. South Camden I, 145 F. Supp. 2d 446, 451 (D.N.J. 2001). Given this relatively small number, and the fact that the suit was brought by the residents themselves and not by a third party, there were no problems with generalized grievances or third-party standing. See generally South Camden III, 274 F.3d 771 (3d Cir. 2001) (reaching a decision on the merits in each case, which necessarily required a finding that the threshold requirements of standing, both constitutional and prudential, had been satisfied); South Camden II, 145 F. Supp. 2d 505 (D.N.J. 2001); South Camden I, 145 F. Supp. 2d at 446.


234 See Raines, 521 U.S. at 820 n.3 (“We acknowledge . . . that Congress’ decision to grant a particular plaintiff the right to challenge an Act’s constitutionality . . . eliminates any prudential standing limitations . . . .”); see also Akins, 524 U.S. at 20; Bennett, 520 U.S. at 164.
C. Burdens of Proof and Standards of Review in a 110(a)(2)(E) Challenge

The precise scope of citizens’ role and EPA’s duty in ensuring that SIPs are properly approved and enforced is not clearly defined in the statute. Without question, EPA is “required to approve each State’s plan . . . if it satisfie[s] . . . conditions set forth in § 110(a)(2).” EPA’s duty is less clear, however, where a state’s plan does not totally satisfy the conditions of section 110(a)(2). EPA has the authority, for example, to approve only certain portions of a SIP, or to condition approval on further legislative action by the state.

Given this broad discretion and lack of clear standards, a citizen plaintiff’s job is a difficult one. Success undoubtedly will turn on how the arguments are framed. One must argue that SIP compliance with section 110(a)(2)(E) is as essential as any other provision of the CAA, including emission limitations. A plaintiff must convince a court that failure to provide necessary assurances of compliance with disparate-impact regulations is not within the scope of technical or scientific issues to which EPA retains discretionary decisionmaking power. Rather, because these necessary assurances are required by section 110(a)(2), such a failure prohibits EPA from approving a SIP in its entirety. Any alternative “interpretation of the Clean Air Act . . .

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236 Train v. NRDC, 421 U.S. 60, 65 (1975).
237 Some commentators have suggested that the Administrator has a nondiscretionary duty to disapprove SIPs that are not in compliance with section 110(a)(2). See Edward P. Murphy, Note, McCarthy v. Thomas: Are States Bound When Approval of an SIP Is Merely Conditional?, 25 Golden Gate U. L. Rev. 249, 257 n.60 (1995) (suggesting that “a citizen suit may be brought against the EPA for improperly approving a SIP”). Courts, however, have granted EPA considerable leeway in deciding whether to approve or disapprove SIPs. See, e.g., Conn. Fund for the Env’t, Inc. v. EPA, 696 F.2d 169, 173 (2d Cir. 1982) (noting that EPA has “considerable discretion in deciding whether to approve a SIP or SIP revision”).
238 42 U.S.C. § 7410(k)(3) (“If a portion of the plan revision meets all the applicable requirements of this chapter, the Administrator may approve the plan revision in part and disapprove the plan revision in part.”).
239 Id. § 7410(k)(4) (“The Administrator may approve a plan revision based on a commitment of the State to adopt specific enforceable measures by a date certain, but not later than 1 year after the date of approval of the plan revision.”).
240 Indeed, the task of challenging SIP approval for failure to comply with section 110(a)(2)(E) should not be underestimated. To date, EPA has never found a violation of Title VI regulations where a facility is otherwise in compliance with the CAA. E-mail from Robert R. Kuehn, Professor of Law, University of Alabama School of Law, to the author (Feb. 25, 2004, 17:05:41 EST) (on file with author). Perhaps the fact that SIP approval has never been tested on these grounds is evidence of just how difficult the task is perceived to be. However, even if unsuccessful, there may be tremendous value in bringing an action. Even a losing suit would, at the very least, breathe much-needed life into the environmental justice debate.
is contrary to the structure of the Act as a whole, and . . . if accepted, it would vitiate the public policy underlying the enactment . . . as set forth in the Act and in its legislative history.”

A plaintiff’s job is made more difficult still by the burdens the court places on plaintiffs challenging SIP approval. Should a plaintiff choose to bring a civil action under either the judicial review provisions of the APA, or the CAA’s petition for review of final agency action provision, the agency’s decision will be reviewed under an “arbitrary or capricious” standard. Should the suit be brought under the citizen suit provision of the CAA, the plaintiff will have only a slightly more enviable task of demonstrating that EPA’s approval violated a nondiscretionary duty of the Administrator. The burdens and standards of review applicable to each are discussed in the following sections.

1. Judicial Review Provisions of the APA

Under section 706(2)(A) of the APA, a reviewing court may overturn agency action in certain circumstances including, and of particular relevance to an environmental justice plaintiff, when such action is found to be “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.” Unfortunately, the case law is not very clear as to exactly what this standard means or how it is to be applied. What is certain, however, is that while the standard of review is narrow, it is not one of total deference.

The Supreme Court has interpreted the “arbitrary or capricious” standard to require setting aside agency action where “the agency has

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241 NRDC v. Train, 545 F.2d 320, 324 (2d Cir. 1976).
244 See 5 U.S.C. § 706(2)(A); BCCA Appeal Group v. EPA, 355 F.3d 817, 824 (5th Cir. 2003); Sierra Club v. EPA, 314 F.3d 735, 739 (5th Cir. 2002).
246 See infra note 274 and accompanying text.
. . . entirely failed to consider an important aspect of the problem, [or] offered an explanation for its decision that runs counter to the evidence before the agency.”\textsuperscript{250} When framed in this manner, the standard could be tremendously favorable to an environmental justice plaintiff. In light of EPA and OCR’s renewed commitment to environmental justice, and Executive Order 12,898, which has instructed agencies to be more mindful of their section 602 duties,\textsuperscript{251} environmental justice is clearly intended to be an “important aspect” of facility siting and permitting. Therefore, when EPA approves a SIP that does not provide necessary assurances of compliance with EPA’s disparate-impact regulations, the action is arguably arbitrary and capricious and must be set aside for “fail[ure] to consider an important aspect of the problem.”\textsuperscript{252} Likewise, where there is any indication that a SIP would potentially operate in violation of the disparate-impact regulations, an approval could be thought to “run counter to the evidence before the agency.”\textsuperscript{253}

The APA’s judicial review provisions, however, contain several pitfalls. First, a plaintiff generally may only obtain judicial review of an agency decision once administrative remedies have been exhausted.\textsuperscript{254} This would require petitioning EPA directly to repeal or amend the approval prior to seeking review by a court.\textsuperscript{255} Additionally, the availability of judicial review may be limited by section 701(a)(2), which states that review is not afforded to action that is “committed to agency discretion by law.”\textsuperscript{256} The courts’ recent trend toward committing more action to agency discretion, thereby eroding the presumption of reviewability,\textsuperscript{257} makes this exception a significant concern for the environmental justice plaintiff. Finally, courts tend to defer to agency action, especially when a decision involves an “evaluation of complex scientific data within [the agency’s] technical expertise.”\textsuperscript{258} It could accordingly be

\textsuperscript{250} \textit{State Farm}, 463 U.S. at 43.
\textsuperscript{252} \textit{State Farm}, 463 U.S. at 43.
\textsuperscript{253} \textit{Id}.
\textsuperscript{254} \textit{Rechtschaffen \& Gauna, supra note 48, at 278–79}.
\textsuperscript{255} See supra note 212 and accompanying text.
\textsuperscript{256} 5 U.S.C. § 701(a)(2) (2000). For further discussion on the scope of EPA’s discretion, see infra discussion Part III.C.3.
\textsuperscript{257} See 3 \textit{Davis \& Pierce, supra note 248, § 17.7. There is, however, reason to believe that even action committed to agency discretion is reviewable, since section 706(2)(A) permits a court to set aside agency action where such action is found to be “an abuse of discretion.” 5 U.S.C. § 706(2)(A) (2000); see also 3 \textit{Davis \& Pierce, supra note 248, § 17.6, at 131.}
\textsuperscript{258} See BCCA Appeal Group v. EPA, 355 F.3d 817, 824 (5th Cir. 2003).
argued that the dispersion of adverse impacts permitted by a particular SIP fall within this realm of agency expertise.

2. Petition for Review of Final Agency Action: Section 307(b)(1) of the CAA

The “arbitrary or capricious” standard used to evaluate challenges to agency action brought under the APA is the same standard courts use in evaluating petitions for review of final agency action brought under section 307(b)(1) of the CAA.\(^{259}\) Therefore, in order to prevail on the merits, a plaintiff would need to make the same arguments as those discussed in the previous section, namely, that EPA has acted arbitrarily or capriciously by approving a SIP that fails to provide necessary assurances of the plan’s compliance with Title VI disparate-impact regulations.

Like the judicial review provisions of the APA, section 307(b)(1) contains rigid procedural requirements. The major procedural limitation is that a plaintiff must file a petition for review with the court of appeals in the appropriate circuit within sixty days of SIP approval.\(^{260}\) While the express grant of jurisdiction to the court of appeals may attract some plaintiffs,\(^{261}\) for others, the inflexibility of the sixty-day requirement may be a deterrent, if not an outright prohibition. Such plaintiffs would be better served by challenging SIP approval under the more flexible citizen suit provisions of the CAA.

3. Citizen Suit Provision of the CAA

Section 304(a)(2) of the CAA\(^ {262}\) provides plaintiffs the greatest flexibility in challenging SIP approval, though the outcome of such a suit is far from certain. A significant advantage to section 304(a)(2) is that, unlike section 307(b)(1), there is no prescribed time limit within which action must commence.\(^ {263}\) A potential drawback, however, is that primary jurisdiction for section 304 actions is specifically granted to the federal district courts, whereas primary jurisdiction for section

\(^{259}\) 42 U.S.C. § 7607(b)(1) (2000); e.g., BCCA Appeal Group, 355 F.3d at 824; Sierra Club v. EPA, 314 F.3d 735, 739 (5th Cir. 2002); see Squillace & Wooley, supra note 180, at 465.
\(^{260}\) 42 U.S.C. § 7607(b)(1).
\(^{261}\) Indeed, section 307(b)(1) has proved to be a popular route for plaintiffs. See, e.g., Kamp v. Hernandez, 752 F.2d 1444, 1449 (9th Cir. 1985); Conn. Fund for the Env’t, Inc. v. EPA, 696 F.2d 169, 171 (2d Cir. 1982); Friends of the Earth v. EPA, 499 F.2d 1118, 1120 (2d Cir. 1974).
\(^{263}\) Compare 42 U.S.C. § 7604, with id. § 7607(b)(1).
307 actions is specifically granted to the local circuit court of appeals.\footnote{Compare 42 U.S.C. § 7604(a), with id. § 7607(b)(1).} Therefore, when available, a plaintiff challenging SIP approval may often be best served by challenging approval on both grounds, as the courts have found that the circuit courts of appeals have exclusive jurisdiction over such actions.\footnote{E.g., Virginia v. United States, 74 F.3d 517, 524 (4th Cir. 1996).}

A second advantage to section 304(a)(2) actions is that the standard of review is not the onerous “arbitrary or capricious” standard, as is the case with actions brought under section 307(b)(1) of the CAA and the judicial review provisions of the APA.\footnote{See discussion supra Part III.C.1–2.} Instead, a plaintiff will have to demonstrate that by approving the challenged SIP, the EPA Administrator failed to perform a nondiscretionary duty—specifically, disapproving SIPs or portions thereof that fail to comply with the CAA.

Given the broad discretion courts have traditionally granted agency decisionmaking and SIP approval in particular, this is by no means an easy task. While courts have offered support for the idea that EPA does not have discretion to approve invalid SIPs, the precise scope of the Administrator’s nondiscretionary duty is not well-defined, which has led to conflicting notions of what is required of the Administrator when deciding whether to approve a submitted SIP.\footnote{42 U.S.C. § 7604(a)(2) (“[A]ny person may commence a civil action on his own behalf—against the Administrator where there is alleged a failure of the Administrator to perform any act or duty under this chapter which is not discretionary with the Administrator . . . .”).}

The nondiscretionary duty doctrine is most often applied to time-sensitive decisions of the Administrator.\footnote{Compare Squillace & Wooley, supra note 180, at 472 (“[W]here the Administrator approves a SIP which violates the law one can say that the Administrator failed to perform his nondiscretionary duty to disapprove a SIP which violates the law.”), and Murphy, supra note 237, at 257 n.60 (suggesting that “a citizen suit may be brought against the EPA for improperly approving a SIP”), with Rodgers, supra note 181, § 3.4, at 185–88 (excluding disapproval of an invalid SIP from a list of recognized nondiscretionary duties, and noting the broad discretion granted by the courts to EPA regarding SIP approval decisions).} For example, the Administrator has a nondiscretionary duty to publish reports and regulations by specified deadlines\footnote{See Rodgers, supra note 181, § 3.4, at 185–86.}, and to make approval decisions on SIPs in a timely fashion.\footnote{See, e.g., NRDC v. EPA, 797 F. Supp. 194, 196 (E.D.N.Y. 1992) (finding that the Administrator has a “mandatory, nondiscretionary duty . . . to issue the required motor vehicle inspection and maintenance guidance by [the specified deadline]”).} The Administrator also has a nondiscretionary duty

\footnote{See, e.g., Citizens for a Better Env’t v. Costle, 515 F. Supp. 264, 271 (N.D. Ill. 1981).}
to either approve or disapprove SIPs according to the plan’s compliance with the requirements of section 110(a)(2).\textsuperscript{272} As to whether the requirements of section 110(a)(2) have actually been met, however, the Administrator retains considerable discretion.\textsuperscript{273} Therefore, while the Administrator’s decision as to compliance with section 110(a)(2) requirements can only be challenged as arbitrary or capricious,\textsuperscript{274} once a finding of 110(a)(2) compliance or noncompliance has been made, the Administrator then has a nondiscretionary duty to approve or disapprove the SIP accordingly.\textsuperscript{275} A failure to approve or disapprove in accordance with the Administrator’s section 110(a)(2) determination can thus be challenged under section 304(a)(2).\textsuperscript{276}

The Court of Appeals for the Ninth Circuit was one of the first courts to analyze the distinction between the Administrator’s nondiscretionary SIP approval duties and the substantive discretion exercised therein.\textsuperscript{277} In \textit{Kennecott Copper Corp. v. Costle}, the court acknowledged that “[t]he Administrator . . . retains a good deal of discretion as to the content of [a SIP approval] decision.”\textsuperscript{278} Specifically, the court noted that “the Administrator’s duty to approve a [SIP] revision depends . . . on whether it satisfies the other general requirements of section 110(a)(2).”\textsuperscript{279}

\begin{verbatim}
[I]t is beyond dispute that EPA has a mandatory duty to determine . . . whether the states’ plans comply with the [Clean Air] Act . . . . A review of the precedent reveals that the existence of a non-discretionary duty to determine timely whether the states’ SIP’s comply with the Act has been viewed as almost axiomatic.

\textit{Id.}
\end{verbatim}


\textsuperscript{273} See \textit{Kennecott Copper Corp.}, 572 F.2d at 1354.

\textsuperscript{274} See 5 U.S.C. § 706(2)(A) (2000). Given the discretionary nature of this decision, a challenge to the substance of the Administrator’s decision would therefore best be brought under section 307(b)(1). See discussion supra Part III.C.2.

\textsuperscript{275} See \textit{Kennecott Copper Corp.}, 572 F.2d at 1355.


\textsuperscript{277} \textit{Kennecott Copper Corp.}, 572 F.2d at 1349.

\textsuperscript{278} \textit{Id.} at 1354 (emphasis added). Even such a discretionary decision, however, is not entirely exempt from judicial review, as the APA authorizes courts to overturn any agency action, including discretionary action, if it is found to be “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.” 5 U.S.C. § 706(2)(A); discussion supra Part III.C.1; see also \textit{Kennecott Copper Corp.}, 572 F.2d at 1354–55.

\textsuperscript{279} \textit{Kennecott Copper Corp.}, 572 F.2d at 1354 (internal quotation marks omitted). Included among these “other general requirements” is of course a state’s section 110(a)(2)(E) duty to provide assurances that their plan will not operate in violation of valid federal law, such as EPA’s disparate-impact regulations. See supra Part II.A–B.
quirement” at issue was the mandatory inclusion of “emission limitations” as required by section 110(a)(2)(B). 280 In determining whether the emission limitations requirement was met, the court found that the Administrator was authorized to make a determination of “feasibility.” 281 Once that determination of feasibility was made, however, the court held that the Administrator then had a nondiscretionary duty to approve or disapprove the SIP accordingly. 282

The process outlined in Kennecott consists of two steps: first, the Administrator must determine, within the Administrator’s discretion, whether the plan complies with the requirements of section 110(a)(2). Then, the Administrator must either approve or disapprove the SIP in accordance with this determination. In Kennecott, the Administrator properly exercised this discretion in determining that the plaintiff had not satisfied the “emission limitations” requirement articulated in section 110(a)(2). 283 Following this determination, however, EPA no longer had discretion to approve or disapprove this portion of the SIP, but rather, had to act in accordance with the Administrator’s decision. 284 Implicitly, the Administrator also, therefore, did not have discretion to approve a SIP that did not include any emission controls, because such an omission would have been a per se violation of the “other general requirements of section 110(a)(2).” 285

Similarly, one might argue that, with respect to section 110(a)(2)(E), the Administrator’s discretion is limited to a determi-

281 Kennecott Copper Corp., 572 F.2d at 1354. “Feasibility” may not be the best word choice to describe this discretionary power—just two years earlier the Supreme Court may have implicitly found that EPA could not consider economic or technological feasibility in determining whether to approve a SIP. See Union Elec. Co. v. EPA, 427 U.S. 246, 257–58 (1976). The Court of Appeals for the Ninth Circuit, however, recognizing this potential conflict, distinguished Kennecott on the basis that the general language in Union Electric—suggesting that EPA may never consider feasibility in deciding whether to approve a SIP—was limited to the context of that case, namely, that “economic or technological feasibility could not be used to invalidate an SIP which imposed stricter standards than those set by the EPA for national ambient air quality.” Kennecott Copper Corp., 572 F.2d at 1356. Feasibility could implicitly, however, be used by EPA in determining whether a state had adequately satisfied its section 110(a)(2) obligations. See id. at 1354; see also Union Electric, 437 U.S. at 257–58.
282 Kennecott Copper Corp., 572 F.2d at 1355 (“Once the Administrator . . . has determined that the revised SIP either does or does not meet all the requirements of § 110(a)(2) there is a nondiscretionary duty to act in accordance with his determination.”).
283 Id. at 1354.
284 Id. at 1355.
285 See id. at 1354.
nation of whether a state’s “necessary assurances” will effectuate EPA’s Title VI disparate-impact regulations. Therefore, where the Administrator has found inadequate assurances of compliance with EPA’s Title VI regulations, the Administrator has a nondiscretionary duty to disapprove the SIP. Likewise, where such necessary assurances are absent altogether, the Administrator may not approve the SIP, because such an omission would be a per se violation of section 110(a)(2)(E).286

D. Policy Arguments in Support of Allowing 110(a)(2)(E) Challenges

In addition to the substantive arguments in support of allowing challenges to SIPs that fail to provide necessary assurances of compliance with EPA’s disparate-impact regulations, there are strong policy arguments to be made as well. Allowing private enforcement of section 110(a)(2)(E) preserves Congress’s intent to supplement the enforcement process through citizen participation, and it encourages increased vigilance by government agencies charged with enforcing CAA provisions.287

Of course, this policy argument leads to the counterargument that Congress restricted jurisdiction to challenges of the Administrator’s nondiscretionary duty as a means of insulating EPA from an excess of citizen challenges and to prevent an overburdened judiciary.288 It can, and should be argued, however, that there is a particularly compelling interest for allowing challenges to SIPs that fail to provide necessary assurances of their compliance with disparate-impact regulations.

First, in light of the Sandoval decision eliminating the private right of action to enforce the regulations289 and implicitly eliminating the use of § 1983,290 statutory handles such as section 110(a)(2)(E)

286 The obvious counterargument to this is that, while section 110(a)(2) explicitly requires that SIPs include emission control measures, there is no such explicit requirement for disparate-impact compliance. Rather, the requirement is only implied, as EPA’s disparate-impact regulations are merely among the “valid federal law[s]” with which SIPs must comply under section 110(a)(2)(E). See 42 U.S.C. § 7410 (2000).


288 See Kennecott Copper Corp., 572 F.2d at 1353. “[T]he non-discretionary duty requirement imposed by § 304 must be read in light of the Congressional intent to use this phrase to limit the number of citizen suits which could be brought against the Administrator and to lessen the disruption of the Act’s complex administrative process.” Id. (noting also the legislative history of the CAA citizen suit provision).

289 See supra note 130 and accompanying text.

290 See supra notes 134, 162 and accompanying text.
may very well be the only means of enforcing EPA’s disparate-impact regulations. However, while this policy argument may prevail among the lower courts, the fact that the Supreme Court has strongly hinted at the invalidity of disparate-impact regulations makes this argument a tough sell in front of the Sandoval majority.

Second, to the extent that disparate-impact regulations further environmental justice, enforcement of the regulations should be of great concern to the executive branch of the government. Executive Order 12,898 instructed every federal agency to “make achieving environmental justice part of its mission.” In the accompanying memorandum, President Clinton instructed EPA to ensure that, in reviewing proposed actions, the involved agency “has fully analyzed environmental effects on minority communities and low-income communities, including human health, social, and economic effects.” Additionally, in 2001, then-Administrator Christine Todd Whitman affirmed EPA’s strong commitment to environmental justice and the need to integrate its objectives into current programs and policies. Clearly, if environmental justice is of such great concern to the federal government, then citizen suits brought in its interest can hardly be lumped together with the frivolous challenges Congress sought to block when enacting the nondiscretionary duty provision.

Conclusion

The environmental justice movement, predicated on the notion that environmental harms should not be suffered disproportionately by low-income and minority communities, generated much of its initial momentum through citizen action and litigation. With the growth of the movement came increased environmental justice regulation, including EPA’s disparate-impact regulations. Those regulations, enacted pursuant to Title VI of the Civil Rights Act of 1964, proscribe recipients of federal funding from engaging in actions that create ra-

291 See supra text accompanying notes 135–38.
293 Rechtschaffen & Gauna, supra note 48, at 397.
294 See La Londe, supra note 62, at 38 n.76.
295 It should be noted, however, that one administration’s commitment to its own executive order cannot necessarily be implied to the next administration. Indeed, in light of the terrorist attacks of September 11, it could be difficult to persuade a court that Executive Order 12,898 continues to speak for the current administration’s priorities. Former Administrator Whitman’s comments are perhaps more persuasive, as she was an appointee of the current administration.
cially discriminatory effects. Courts, such as the Court of Appeals for the Third Circuit and the District Court for the District of New Jersey, were in turn asked to find an implied private right of action to enforce these disparate-impact regulations.

While early success suggested a promising future for the movement, environmental justice has stalled in recent years due to judicial decisions severely limiting individuals’ ability to commence private actions. The Supreme Court’s decision in *Alexander v. Sandoval* implicitly overruled those lower court decisions by finding that no implied right of action exists to privately enforce EPA’s disparate-impact regulations. Shortly thereafter, the Court of Appeals for the Third Circuit determined that the *Sandoval* decision had implicitly foreclosed enforcement of the regulations through § 1983 as well.

These decisions, coupled with the *Sandoval* majority’s suggestions that disparate-impact regulations may be invalid altogether, led many to believe that there no longer existed a potential for private environmental justice litigation. Instead, the frequently inefficient, and almost always ineffective, administrative enforcement procedures were presumed to be complainants’ sole recourse.

However, this simply is not the case. Although *Sandoval* eliminated the private right of action for enforcement of EPA’s disparate-impact regulations, these regulations still remain valid federal law, despite the *Sandoval* Court’s ill-founded assertions to the contrary. Therefore, private enforcement of EPA’s disparate-impact regulations is still possible through the application of novel legal arguments.

One of the clearest statutory handles for enforcement of EPA’s disparate-impact regulations can be found in section 110(a)(2)(E) of the Clean Air Act. Its requirement that states provide necessary assurances that their SIPs will not operate in violation of any provision of federal law means that, as a condition of approval, states must affirmatively demonstrate how their plans comply with EPA’s disparate-impact regulations. Where states provide no such assurances, inadequate assurances, or where there is indication that the plan will violate EPA’s disparate-impact regulations, the Administrator has a nondiscretionary duty to reject the plan to the extent it violates these regulations.

Complex practical issues are involved in challenging approval of SIPs that have not provided these requisite assurances. Although a plaintiff has at least three avenues to challenge approval, the best choice would likely be to attempt as many as possible. Joining a section 304(a)(2) claim with a 307(b)(1) claim, for example, would give a plaintiff the benefit of a direct path to a court of appeals as well as a more forgiving standard of review. Although defeating a standing
challenge may be easier for an environmental justice plaintiff than for traditional environmental plaintiffs, success on the merits of the suit will likely be more difficult. The necessary arguments essentially reduce to the claim that, because the Administrator has a nondiscretionary duty to disapprove SIP proposals which do not provide necessary assurances of their compliance with EPA’s disparate-impact regulations—thereby violating the provisions of section 110(a)(2)—EPA has acted either in violation of its nondiscretionary duty or arbitrarily and capriciously in approving such SIPs. More specifically, where a state cannot or chooses not to provide a detailed demonstration that its plan will not create racially discriminatory effects, EPA cannot make a reasoned judgment as to the plan’s compliance with the CAA. Therefore, should EPA approve such a plan, a plaintiff would have grounds to challenge the decision based on the SIP’s failure to comply with the CAA. Despite the clear obstacles to challenging SIP approval under section 110(a)(2)(E), a plaintiff should not be discouraged from doing so, for there are ample statutory provisions, precedent, and policy waiting for someone to leverage them in pursuit of environmental justice.
A PROPOSED NARROWING OF THE CLEAN WATER ACT’S CRIMINAL NEGLIGENCE PROVISIONS: IT’S ONLY HUMAN?

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Abstract: The Senate Subcommittee on Fisheries and Wildlife is considering an amendment to the Clean Water Act (CWA) that would require human endangerment for a finding of criminal negligence under section 309(c). This proposal is in reaction to United States v. Hanousek and United States v. Hong, seen by some as overly harsh punishment for mere “accidents,” contrary to the intent behind the CWA. Others have defended the decisions, arguing that requiring human endangerment for section 309(c) violations would unjustifiably excuse negligent conduct harmful to the environment and the public welfare. This Note reviews the criminal negligence standard under section 309(c), its application in Hanousek and Hong, and the major arguments proffered by the amendment’s proponents and opponents. It concludes that the amendment is ill-advised, risking failure to capture significant environmental harms and depriving prosecutors of leverage in plea-bargaining.

Introduction

The year 2003 saw debate in the Senate Subcommittee on Fisheries and Wildlife for the purpose of amending the Clean Water Act (CWA or the Act). The dominant proposed amendment would require that human endangerment be shown before criminal negligence for a violation of section 309(c) of the CWA could be found. The driving force behind this appears to be great concern among some regarding two recent federal appeals court cases dealing with section 309(c), a CWA criminal negligence provision, which have been seen by some as contrary to the intentions of the negligence provisions in the Act and

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as overly harsh punishment for mere “accidents.”³ Others, however, have argued that the decisions in these two cases, *United States v. Hanousek*⁴ and *United States v. Hong*,⁵ were justified and did not represent a significant departure from the traditional view of negligence under the CWA.⁶ These supporters further argue that amending section 309(c) to require human endangerment would unjustifiably excuse negligent conduct that could cause real harm to the environment and the public welfare.⁷ This Note will explore these arguments by first reviewing criminal negligence under section 309(c) of the CWA, its current application in *Hanousek* and *Hong*, and the major points of each side’s arguments. Finally, the Note concludes that the criminal negligence provision of section 309(c) should not be amended because section 309(c) fits the definition of public welfare legislation, and any other standard risks failing to capture significant environmental harms and deprives the system of prosecutorial discretion. Part I will explore the background of section 309(c) and the debate over whether violating it is a public welfare offense. Parts II and III will explain the decisions in *Hanousek* and *Hong* as well as relevant criticisms of those decisions. Parts IV and V will outline the arguments for and against explicitly enacting a heightened standard of negligence under section 309(c), and will demonstrate why the current standard is preferable.

I. THE “KNOWING” PROVISION OF SECTION 309(c): DOES A VIOLATION CONSTITUTE A PUBLIC WELFARE OFFENSE?

Since before the decisions in *Hanousek* and *Hong*, there has been a split among the federal courts of appeals regarding the standard of intent required for a knowing violation of section 309(c), a criminal provision of the CWA.⁸ The Court of Appeals for the Fifth Circuit has held that a violation of section 309(c) does not constitute a public welfare offense (PWO), and that therefore in order to hold a defen-
dant criminally liable for a “knowing” violation, it must be shown not only that his actions were intentional, but also that he was aware that they were unlawful.\textsuperscript{9} The Court of Appeals for the Ninth Circuit, on the other hand, has held that a violation of section 309(c) is a PWO, and that therefore in order for a defendant to be held criminally liable for a “knowing” violation, it must be shown only that his actions were intentional, but not that he knew they were unlawful.\textsuperscript{10} In order to later describe the controversy surrounding the level of intent required for criminally negligent violations in \textit{Hanousek}, it is crucial to first understand the controversy over the standard of intent for knowing violations, and whether or not a violation of section 309(c) is a PWO.\textsuperscript{11} Accordingly, this Part will first present the language of section 309(c), then outline the Supreme Court’s definition of a PWO, and finally discuss the two court of appeals cases differing over whether a violation is a PWO.

A. The Language of Section 309(c)

The Clean Water Act’s primary criminal enforcement provision, found in section 309(c), criminalizes both negligent and knowing violations of specified CWA provisions and permits relating thereto, as well as negligent or knowing activities that introduce pollutants into sewer systems and publicly owned treatment works.\textsuperscript{12} The inclusion of

\begin{itemize}
  \item \textsuperscript{9} \textit{Ahmad}, 101 F.3d at 391.
  \item \textsuperscript{10} \textit{Weitzenhoff}, 35 F.3d at 1284, 1286.
  \item \textsuperscript{11} See, e.g., \textit{Ahmad}, 101 F.3d at 391; \textit{Weitzenhoff}, 35 F.3d at 1284, 1286.
  \item \textsuperscript{12} 33 U.S.C. § 1319(c) (2000). One who commits a negligent violation is one who:

  (A) negligently violates [certain sections of the CWA], or any permit condition or limitation implementing any of such sections in a permit issued under [the CWA] . . . or

  (B) negligently introduces into a sewer system or into a publicly owned treatment works any pollutant or hazardous substance which such person reasonably knew or reasonably should have known could cause personal injury or property damage or . . . which causes such treatment works to violate any effluent limitation or condition in any permit issued [under the CWA] . . .

\textit{Id.} § 1319(c) (1). One who commits a knowing violation is one who:

  (A) knowingly violates [certain sections of the CWA], or any permit condition or limitation implementing any of such sections in a permit issued under [the CWA] . . . or

  (B) knowingly introduces into a sewer system or into a publicly owned treatment works any pollutant or hazardous substance which such person knew or reasonably should have known could cause personal injury or property damage or . . . which causes such treatment works to violate any effluent limitation or condition in a permit issued [under the CWA] . . .
negligent violations makes section 309(c) one of the few environmental statutes that criminalizes negligence.\textsuperscript{13} Under section 309(c), both negligent and knowing violations are punishable by substantial fines, imprisonment, or both for first offenses, and are subject to increased monetary or incarceration penalties for subsequent offenses.\textsuperscript{14}

B. “Knowing” Under Section 309(c) and PWOs

In interpreting the “knowing” provisions of section 309(c), courts have disagreed over the level of knowledge that an actor is required to have in order for his actions to be considered a violation, a determination that hinges on whether the violation is viewed as a PWO.\textsuperscript{15} Courts that consider violations to be PWOs require less knowledge on the part of the actor when finding a violation; those that do not consider violations to be PWOs require a showing that the violator’s act was knowingly unlawful.\textsuperscript{16}

1. What Is a PWO?

The public welfare offense doctrine modifies the traditional level of intent required both at common law and under conventional meth-

\textsuperscript{13} Id. § 1319(c)(2).

\textsuperscript{14} Those who commit negligent violations:

shall be punished by a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than 1 year, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment shall be by a fine of not more than $50,000 per day of violation, or by imprisonment of not more than 2 years, or by both.

\textsuperscript{15} See Hanousek II, 528 U.S. 1102, 1103 (2000) (Thomas, J., dissenting); Ahmad, 101 F.3d at 391; Weitzenhoff, 35 F.3d at 1284.

\textsuperscript{16} Ahmad, 101 F.3d at 391; Weitzenhoff, 35 F.3d at 1284.
ods of statutory construction. At common law and under conventional statutory construction, a defendant must have conventional mens rea, which requires that he must not only be aware of and have intended his conduct, but must also be aware that this conduct was criminal or involved “some wrongdoing.” The courts, however, have designated certain crimes as PWOs. In these cases, a court interprets Congress as having intended that the level of required mens rea be lowered for a violation, and that the defendant is not required to know that his actions are criminal in order to be found liable for them. Courts sometimes refer to such laws as public welfare statutes (PWSs). In determining whether a criminal provision is a PWS, a court looks to the character of the subject regulated and the seriousness of the corresponding punishments for violations. Typically, a PWS involves “conduct that a reasonable person should know is subject to stringent public regulation and may seriously threaten the community’s health or safety” or involves “dangerous or deleterious devices.” The nature of the regulated activity or substance in such a statute is so potentially harmful that the defendant should know that its character puts him “in responsible relation to public danger,”—that is, he should know from the nature of the item that there is a probability of strict regulation. For example, in United States v. International Minerals and Chemical Corp. the Supreme Court found that regulation of the shipping of hazardous materials as applied to acids was a PWS because the materials regulated were “dangerous or deleterious devices or products or obnoxious waste material [for which] the probability of regulation is so great that anyone who is aware that he is in possession of them or dealing with them must be presumed to be aware of the regulation.” Similarly, in United States v. Balint and in United States v. Freed, the Court found regulations of the sale of narcot-

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18 Id.
20 Staples, 511 U.S. at 606; Int’l Minerals, 402 U.S. at 564; Freed, 401 U.S. at 609; Balint, 258 U.S. at 252–53.
21 See Hanousek I, 176 F.3d 1116, 1121 (9th Cir. 1999).
22 Staples, 511 U.S. at 607, 616.
27 Id.
ics and regulations of hand grenades, respectively, to be PWSs because the materials that they regulated were so inherently hazardous that anyone in possession of them should be expected to be on notice that they were regulated.  

Dangerousness of the item alone, however, is not enough to make a regulation a PWS. If the item is dangerous but also “commonplace and generally available,” it may not be of a nature that would alert individuals to the probability of strict regulation. For example, in Staples v. United States, the Court found that although guns are potentially harmful and dangerous, the fact that gun ownership is common in the United States and can be a perfectly innocent activity meant that the regulation of guns was not a PWS. Moreover, regulations dealing with items that are not inherently dangerous are not PWSs. In Liparota v. United States, the Court found that a statute governing the illegal transfer of food stamps was not a PWS because food stamps are not inherently dangerous, and the holder of food stamps should not be expected to be aware of specific regulation pertaining to their transfer.

Finally, the Court considers the severity of punishments for violations of the regulation when determining whether or not the regulation is a PWS. While there is no bright-line rule as to what kinds of punishments might correspond to PWSs, the Court has noted that the first PWSs involved only small financial penalties or short sentences in jail, and never imprisonment in the state penitentiary. In Staples, the Court found that a statute whose penalty included up to ten years in prison was not intended to be a PWS, partly because of the substantial severity of the available punishment.

The final aspect of PWO analysis that is relevant here is that the Court has suggested—but has not held—that, under the PWO doctrine, a person might be found liable for a PWO by committing an act

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30 Id.
31 Id. at 610.
33 Id. at 432–33.
34 Staples, 511 U.S. at 616.
35 Id. at 616, 618.
36 Id. at 616.
of ordinary negligence. In *United States v. Balint*, the Court cited several examples of conduct that could be considered PWOs, including one example of criminal negligence:

> [W]here one deals with others and his mere negligence may be dangerous to them, as in selling diseased food or poison, the policy of the law may, in order to stimulate proper care, require the punishment of the negligent person though he be ignorant of the noxious character of what he sells.

The Court also explained the policy behind PWOs in terms of negligence in *United States v. Dotterweich* and *Morissette v. United States*. In *Dotterweich*, the Court stated that public welfare legislation “puts the burden of acting at hazard upon a person otherwise innocent but standing in responsible relation to a public danger.” In *Morissette*, it stated that, in PWOs, “the accused, if he does not will the violation, usually is in a position to prevent it with no more care than society might reasonably expect and no more exertion than it might reasonably exact from one who assumed his responsibilities,” and further that the purpose of PWOs was “to require a degree of diligence for the protection of the public which shall render violation impossible.” Thus, the Court has described PWO policy in terms of requiring reasonable care, and has cited examples of negligence that might constitute a PWO. However, none of these cases in which the Court analogized negligence to a PWO has involved the prosecution of an explicitly negligent action under a PWO.

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38 *Balint*, 258 U.S. at 252–53.

39 *Dotterweich*, 320 U.S. at 281.

40 *Morissette*, 342 U.S. at 256.

41 *Dotterweich*, 320 U.S. at 281.

42 *Morissette*, 342 U.S. at 256, 257 (quoting People v. Roby, 18 N.W. 365, 366 (Mich. 1884)).


44 *Morissette*, 342 U.S. at 248 (involving the knowing conversion of government property); *Dotterweich*, 320 U.S. at 278 (involving a violation of the Federal Food, Drug, and Cosmetic Act for knowingly shipping misbranded and adulterated drugs); *Balint*, 258 U.S. at 251 (involving the knowing sale of narcotics).
2. The Fifth Circuit: Knowing Violations of Section 309(c) Are Not PWOs

In United States v. Ahmad, The Court of Appeals for the Fifth Circuit held that “knowing” violations of section 309(c) are not PWOs, and therefore section 309(c)(2)(A) requires “knowledge as to each [element of the offense] rather than only one or two.” Following Staples, the court in Ahmad focused on whether “dispensing with mens rea would require the defendant to have knowledge only of traditionally lawful conduct,” and held that discharging in violation of sections 301 and 309(c)(3), thereby triggering the criminal provision of section 309(c), might reasonably be perceived as traditionally lawful conduct if the discharger did not know the nature of the substance he was discharging. The court reasoned, “[O]ne who honestly and reasonably believes he is discharging water may find himself guilty of a felony if the substance turns out to be something else.” Thus, because a defendant might not know that the substance he is dealing with is inherently hazardous, he cannot be expected to know that it is strictly regulated, and thus section 309(c) cannot be a PWS. The court also noted that violations of the CWA were punishable by significant prison time, indicating that it was not PWS. Therefore, because knowing violations are not PWOs, a defendant in the Fifth Circuit must act intentionally, knowing the nature of his acts and also knowing that these acts violate a criminal provision, in order to be found guilty of a section 309(c)(2) violation.

3. The Ninth Circuit: Knowing Violations of Section 309(c) Are PWOs

In United States v. Weitzenhoff, the Court of Appeals for the Ninth Circuit followed the reasoning of International Minerals and Staples to determine that violations of the “knowing” provision of section 309(c) were PWOs. In Weitzenhoff, the defendant knowingly discharged in violation of a permit issued under the CWA, but argued that this was

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45 United States v. Ahmad, 101 F.3d 386, 390 (5th Cir. 1996).
46 Id. at 391 (quoting Staples v. United States, 511 U.S. 600, 618 (1994)).
47 Id.
48 Id.
49 See id.
50 Id. Under section 309(c) violators may be punished by up to one year in prison if it is their first offense, and up to two years if it is their second. 33 U.S.C. § 1319(c)(1) (2000).
51 See Ahmad, 101 F.3d at 391.
52 United States v. Weitzenhoff, 35 F.3d 1275, 1283–86 (9th Cir. 1994).
not a criminal violation under section 309(c)(2) because he did not know the discharge violated his permit or the statute.\(^{53}\) Like the material regulated in *International Minerals*, the court held that the material regulated by the CWA in *Weitzenhoff* was “dangerous or deleterious,” such that “the probability of regulation is so great that anyone who is aware that he is in possession of them or dealing with them must be presumed to be aware of the regulation.”\(^{54}\) The material regulated by the CWA in *Weitzenhoff* was distinguished from the material regulated by gun control statutes in *Staples*.\(^{55}\) The court noted that the *Staples* Court distinguished guns from “obnoxious waste material,” regulation of which would be considered a PWS.\(^{56}\) Thus, the court in *Weitzenhoff* held that the CWA is more similar to the regulations in *International Minerals* because “the criminal provisions of the CWA are clearly designed to protect the public at large from the potentially dire consequences of water pollution,” and the object of regulation was not generally innocent, but rather “obnoxious waste material.”\(^{57}\) Because the nature of the object of section 309(c) was “obnoxious,” “deleterious,” and not “commonplace,” and because section 309(c) was “to protect the public at large,” the court determined that the regulation was a PWS.\(^{58}\)

II. *United States v. Hanousek*: Extending the Ninth Circuit’s Interpretation of Section 309(c) as a PWS to Negligent Violations

In *United States v. Hanousek*, the Court of Appeals for the Ninth Circuit extended the public welfare offense doctrine to include not only knowing violations but also negligent violations of section 309(c) of the CWA.\(^{59}\) The import of this decision is that ordinary negligence is enough to establish criminal liability under the CWA, at least in the Ninth Circuit.\(^{60}\) This broadening of the already controversial PWO doctrine to include negligent as well as knowing violations of the

\(^{53}\) *Id.* at 1283.

\(^{54}\) *Id.* at 1284 (quoting *United States v. Int’l Minerals & Chem. Corp.*, 402 U.S. 558, 565 (1971)).

\(^{55}\) *Id.* at 1286.

\(^{56}\) *Id.* at 1285.

\(^{57}\) *See Weitzenhoff*, 35 F.3d at 1286.

\(^{58}\) *Id.*

\(^{59}\) *Hanousek I*, 176 F.3d 1116, 1122 (9th Cir. 1999).

\(^{60}\) *Id.*
CWA has drawn criticism in the Senate, and is the major reason behind the proposed amendment.\textsuperscript{61}

A. The Hanousek Decision

In \textit{United States v. Hanousek}, the court held that negligent violations of section 309(c) are PWOs, and therefore, in order to establish a violation under section 309(c)(1)—the “negligence” provision of section 309(c)—the government must prove only that the defendant acted with ordinary negligence, as opposed to the higher standard of criminal negligence.\textsuperscript{62} Hanousek, a roadmaster of the White Pass & Yukon Railroad running between Skagway, Alaska, and Whitehorse, Yukon Territory, Canada, was responsible for “every detail” of the “safe and efficient” execution of a rock-quarrying project, the labor and equipment for which was provided by a contracting company.\textsuperscript{63} After Hanousek took over responsibility for the project, the contracting company under his supervision ceased taking measures to protect a petroleum pipeline running parallel to the tracks on which they were working.\textsuperscript{64} One day, an employee of the contracting company noticed that some rocks had caught the plow of the train, and had been deposited to the side of the tracks near the pipeline.\textsuperscript{65} He attempted to use a backhoe to remove the rocks, striking the pipeline, which ruptured and spilled 1000 to 5000 gallons of heating oil into the Skagway River.\textsuperscript{66}

Hanousek was convicted of a “negligent” violation under section 309(c)(1)(A), but argued on appeal that the jury should have been instructed that section 309(c)(1)(A) required a higher standard of “criminal negligence” as opposed to ordinary negligence.\textsuperscript{67} “Criminal negligence,” under Hanousek’s definition, is a significant “deviation from the standard of care that a reasonable person would observe in the situation,” as opposed to ordinary negligence, which the district court defined as “the failure to use reasonable care.”\textsuperscript{68} Hanousek first argued that criminal negligence standards should apply because Congress intended them to apply; alternatively, he argued that due process

\textsuperscript{61} See discussion infra Part IV.
\textsuperscript{62} \textit{Hanousek I}, 176 F.3d at 1120, 1122.
\textsuperscript{63} \textit{Id.} at 1119.
\textsuperscript{64} \textit{Id.}
\textsuperscript{65} \textit{Id.}
\textsuperscript{66} \textit{Id.}
\textsuperscript{67} \textit{Id.} at 1120.
\textsuperscript{68} \textit{Hanousek I}, 176 F.3d at 1120.
insulated him from liability because, as a roadmaster, he did not know nor was he in a position to know what was required of him by the CWA.\textsuperscript{69}

In rejecting Hanousek’s argument that Congress intended a criminal negligence standard to apply, the court looked to the plain language of the statute.\textsuperscript{70} Since the statute did not define the word “negligently,” the court concluded that Congress intended it to have its ordinary meaning: “failure to use such care as a reasonably prudent and careful person would use under similar circumstances.”\textsuperscript{71} The court noted that Congress had prescribed explicitly heightened negligence standards in other sections of the Clean Water Act, such as section 311(b), which applies to owners or operators of oil vessels or facilities in spills.\textsuperscript{72} Since Congress provided for high negligence standards in some instances, but not in the CWA’s general criminal negligence provision, the court concluded that Congress did not intend a higher standard of criminal negligence.\textsuperscript{73}

The court also rejected Hanousek’s argument that the application of ordinary negligence violated his due process rights because he did not have notice of what was required of him under the CWA.\textsuperscript{74} Instead, the court held that section 309(c) was a PWS, rendering such notice unnecessary.\textsuperscript{75}

In \textit{Hanousek}, then, a court for the first time extended the public welfare offense doctrine beyond mere knowing violations of the CWA to include negligent violations as well.\textsuperscript{76} In holding that a negligent violation could be a PWO, the court relied on dicta from \textit{United States v. Balint}, \textit{Morissette v. United States}, and \textit{United States v. Dotterweich}, all of which suggested that negligence could constitute a PWO.\textsuperscript{77} The court stated that these cases “established that a public welfare statute may subject a person to criminal liability for his or her ordinary negligence without violating due process.”\textsuperscript{78} Thus, because Hanousek was engaged in conduct where his mere negligence posed a danger to the

\textsuperscript{69} Id. at 1120–21.
\textsuperscript{70} Id. at 1120.
\textsuperscript{71} Id.
\textsuperscript{72} Id. at 1121 (citing 33 U.S.C. § 1321(b)(7)(D)).
\textsuperscript{73} Id.
\textsuperscript{74} Hanousek I, 176 F.3d at 1121–22.
\textsuperscript{75} Id. at 1122.
\textsuperscript{76} Id.
\textsuperscript{78} Hanousek I, 176 F.3d at 1121.
public at large—the supervision of a project and failure to instruct that the pipeline be protected—criminal sanctions could be applied even though he was unaware that his activity was proscribed. Furthermore, he might be found criminally liable for his negligence because he could have prevented the harm that his negligence caused with no more care and exertion than might be expected of any other reasonable person who assumed his responsibilities. Finally, the court put the burden to act upon Hanousek, not only because it was in the public’s interest to do so, but also because Hanousek should have been on notice that his activity was probably strictly regulated, given the dangerous nature of oil.

In holding that negligent violations could be PWOs, the court rejected Hanousek’s argument that he did not have the same kind of constructive notice as had the plaintiffs in Weitzenhoff who had obtained a CWA permit and thus reasonably should have been aware that the regulation applied. The court stated that the difference between Hanousek and the defendants in Weitzenhoff was “a distinction without difference,” and that “as long as the defendant knows that he is dealing with a dangerous device of a character that places him “in responsible relation to a public danger,” he should be alerted to the probability of strict regulation.” Because Hanousek knew that he was working close to a pipeline, he should have been alerted that his activity was likely regulated, making his negligence a PWO.

In sum, the Hanousek court reasoned that, because it is in the public interest that people dealing with material or activities regulated under a CWA criminal negligence provision be required to exercise due care, and because it is reasonable to expect people working with or around material regulated under the CWA to be on notice of probable regulation, criminal negligence under section 309(c) is a PWO. In order to violate section 309(c), then, a defendant is not required to know that his negligent activities violate the CWA; he must merely fail to exercise reasonable care.

79 See id. (citing Balint, 258 U.S. at 252–53).
80 See id. (citing Morissette, 342 U.S. at 256).
81 See id. at 1122 (citing Dotterweich, 320 U.S. at 281).
82 Id.; see United States v. Weitzenhoff, 35 F.3d 1275, 1286 (9th Cir. 1994).
83 Hanousek I, 176 F.3d at 1122 (quoting Staples v. United States, 511 U.S. 600, 607 (1994) (in turn quoting Dotterweich, 320 U.S. at 281)).
84 Id.
85 See id. at 1121–22.
86 See id.
B. Criticism of Hanousek

The decision in Hanousek has been criticized by academic observers, in Congress, and by two Supreme Court justices. The criticisms generally fall into two categories: criticisms of the view of CWA criminal provisions as public welfare legislation, and criticisms of the ordinary negligence standard imposed by the Court of Appeals for the Ninth Circuit. The criticisms address two sides of the same issue: if the CWA is not public welfare legislation, then necessarily a higher standard of knowledge than ordinary negligence would apply. Thus, under the critics' preferred interpretations of the CWA, Hanousek would have needed a higher level of knowledge, either of the law that he was breaking, or of the potential that his actions could cause harm.

1. Violations of Section 309(c) Should Not Be PWOs

Several commentators have argued that Hanousek is incorrect because negligent violations of the CWA should not be considered public welfare offenses. If section 309(c) is not considered a PWS, Hanousek would have had to have known that his negligent behavior was regulated before he could have been found to have violated it.

Perhaps the most notable criticism of Hanousek’s application of the public welfare offense doctrine appears in Justice Thomas’s dissent, joined by Justice O’Connor, from the Supreme Court’s denial of certiorari in that case. Justice Thomas argued that the CWA should not be considered a PWS because, although it does regulate some dangerous activities and substances, it also “imposes criminal liability for persons using standard equipment to engage in a broad range of

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88 See Hanousek II, 528 U.S. at 1103 (Thomas, J., dissenting).


90 See id.; Oversight Hearing, supra note 1 (colloquy among Sens. Domenici, Inhofe, and Breaux); White, supra note 87, at 111.

91 See Hanousek II, 528 U.S. at 1102 (Thomas, J., dissenting); Abate & Mancuso, supra note 87, at 336–38.

92 See Hanousek II, 528 U.S. at 1102–03 (Thomas, J., dissenting).

93 Id. at 1103–05 (Thomas, J., dissenting).
ordinary industrial and commercial activities. This fact strongly militates against concluding that the public welfare doctrine applies.”

Justice Thomas cited *Staples v. United States*, where the Court held that dangerous items that are commonplace and readily available should not be regulated under the public welfare offense doctrine, and analogized such regulation of ordinary things to the regulation of ordinary industrial activities in the CWA. Justice Thomas wrote, “I think we should be hesitant to expose countless numbers of construction workers and contractors to heightened criminal liability for using ordinary devices to engage in normal industrial operations.” Justice Thomas also noted the severity of the penalty imposed upon violators of the CWA, and juxtaposed that with the Court’s statement in *Morissette v. United States* that, for PWOs, “penalties commonly are relatively small, and conviction does no grave damage to an offender’s reputation.” He argued that the appeals court should have looked beyond whether a statute regulates a “conduct that is known to be subject to extensive regulation and that may involve a risk to the community” in determining whether it was a PWS. He also contended that the court should have considered such factors as the ordinariness of the substance or activity regulated by the CWA as well as the severity of the resulting punishment for violations.

Commentators agreeing with Justice Thomas have expressed disappointment that the majority did not grant certiorari in *Hanousek*. For example, Ronald Abate and Dayna Mancuso state that the application of the public welfare offense doctrine to negligent violations of the CWA extends the doctrine beyond its already erroneous application, in their opinion, to knowing violations of the CWA.

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95 Id. at 1103 (Thomas, J., dissenting).
96 See id. (Thomas, J., dissenting) (citing Staples, 511 U.S. at 611).
97 Id. (Thomas, J., dissenting).
98 Id. at 1103–04 (Thomas, J., dissenting). Negligent violators of the CWA, such as Edward Hanousek, Jr., may be punished by imprisonment for up to one year or by a fine of up to $25,000 per day of violation, or both. See 33 U.S.C. § 1319(c)(1) (2000); Hanousek I, 176 F.3d 1116 (9th Cir. 1999). Repeat offenders may be subject to up to two years in prison, or a fine of up to $50,000 per day of violation, or both. 33 U.S.C. § 1319(c)(1).
99 Hanousek II, 528 U.S. at 1104 (Thomas, J., dissenting) (quoting Morissette v. United States, 342 U.S. 246, 256 (1952)).
100 Id. (Thomas, J., dissenting).
101 Id. at 1103–04 (Thomas, J., dissenting).
102 Abate & Mancuso, supra note 87, at 339.
103 Id. at 336–37.
2. Ordinary Negligence Should Not Be a Ground for Criminal Liability

Other arguments against the interpretation of section 309(c) by the Court of Appeals for the Ninth Circuit in *Hanousek* assert that using ordinary negligence as a basis for criminal liability is illogical, either because it has limited deterrent value due to its deviation from the standard of criminal negligence in other environmental statutes, or because it is fundamentally unfair.104

a. An Ordinary Negligence Standard Has Limited Deterrent Value

One argument against the application of ordinary negligence in situations like the one in *Hanousek* focuses on the actor’s inability to foresee the deleterious result.105 Because Hanousek could not have been expected to foresee the oil spill, there is no deterrent value in holding him criminally liable for his negligence, and such punishment is thus harsh and unreasonable.106 Ordinarily, the logic behind holding some negligent actors criminally liable is that punishment of negligence will deter others from failing to exercise reasonable care, and that such deterrence will benefit the society as a whole.107 Critics of ordinary negligence as a standard for criminal violations of section 309(c) believe that these justifications do not apply to *Hanousek* because Hanousek’s actions represent accident more than a lack of foresight or care, and so there is no deterrent value in punishing him.108 They assert that Hanousek as a roadmaster could not have foreseen that rocks would be pushed into the train tracks, and that a backhoe operator of a contracting company he had hired would attempt to remove those rocks, accidentally puncturing an oil line in the process.109 Hanousek’s supervision could not be said to have caused the rupture, because there was a superseding cause, the train, which Hanousek could not have foreseen.110 In effect, this argument presumes

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105 Id. at 111–12.
106 Id. at 111.
107 Id. at 111.
108 Id. at 112.
109 Id. at 111; see Hanousek I, 176 F.3d 1116, 1119 (9th Cir. 1999).
110 White, supra note 87, at 112; see Hanousek I, 176 F.3d at 1119.
that Hanousek was not truly negligent, or that his negligence was insignificant.\textsuperscript{111}

Even if Hanousek’s supervision was in fact negligent, critics further argue that, by imposing criminal liability, the court overstepped the bounds that the Supreme Court set in previous cases finding criminal liability for violations of PWOs.\textsuperscript{112} The dicta in \textit{Morissette, Balint,} and \textit{Dotterweich,} critics argue, do not compel a finding that ordinary negligence should constitute a PWO, even if they do suggest that a violation of some higher standard of negligence could be a PWO.\textsuperscript{113} \textit{Morissette,} for example, stated that negligent actors may be found criminally liable if the negligent actor “is in a better position to prevent the violation with no more care or exertion than would be reasonably expected given his or her duties.”\textsuperscript{114} Critics argue that a higher standard of negligence should apply in the case of negligent violations that are PWOs.\textsuperscript{115} Punishing ordinary negligence such as the conduct in \textit{Hanousek} has little deterrent value because ordinary negligence involves less of a mental element than heightened standards of negligence such as recklessness or Hanousek’s “criminal negligence.”\textsuperscript{116} Because Hanousek could not have foreseen the spill, there was no mental element to his crime, and punishment of such a “criminal” serves no societal purpose and instead deters qualified individuals from taking risky jobs.\textsuperscript{117}

\textbf{b. Criminalizing Ordinary Negligence Is Incongruent with Other Environmental Statutes}

Other arguments that the decision in \textit{Hanousek} was erroneous focus on the standard of negligence articulated in environmental and oil regulation statutes other than the CWA.\textsuperscript{118} The only environmental statute other than the CWA that contains a criminal negligence provision is the Clean Air Act (CAA).\textsuperscript{119} In order to violate the criminal negligence provision of the CAA, the offender’s negligent behavior

\begin{itemize}
\item \textsuperscript{111} White, supra note 87, at 111–12.
\item \textsuperscript{112} Id. at 112; see \textit{Morissette v. United States,} 342 U.S. 246 (1952); \textit{United States v. Dotterweich,} 320 U.S. 277 (1943); \textit{United States v. Balint,} 258 U.S. 250 (1922).
\item \textsuperscript{113} \textit{See Hanousek I,} 176 F.3d at 1121; White, supra note 87, at 107, 112.
\item \textsuperscript{114} White, supra note 87, at 112 (citing \textit{Morissette,} 342 U.S. at 256).
\item \textsuperscript{115} See id. at 113.
\item \textsuperscript{116} See \textit{id.}
\item \textsuperscript{117} See \textit{id.}
\item \textsuperscript{118} \textit{See Oversight Hearing,} supra note 1 (colloquy among Sens. Peter Domenici, James Inhofe, and John Breaux); Johnston, supra note 104, at 266.
\item \textsuperscript{119} 42 U.S.C. § 7413(c)(4) (2000); see Solow & Sarachan, supra note 6, at 11,153 n.3.
\end{itemize}
must “place[ ] another person in imminent danger of death or serious bodily injury.” The requirement of imminent danger to a human being makes the negligence standard of the CAA higher than that of the CWA, and as a result, there have been very few prosecutions under this CAA provision. In his statement in support of the proposed amendment to the CWA, Senator Inhofe used the CAA provision as an example of what he believed environmental criminal negligence should look like.

The criminal negligence provisions of the CWA also can be seen as incongruent with laws that might work simultaneously with it, specifically, the limited liability section of the Oil Pollution Act of 1990 (OPA). Samara Johnston points out that, while the OPA provides for limited liability in a spill caused by ordinary negligence, the CWA’s criminal negligence provisions have no such limitation, and thus unlimited liability could apply to the same spill under the CWA. However, to reconcile these provisions, Johnston asserts that ordinary negligence actually is an appropriate standard for criminal liability under the CWA because prosecutorial and judicial discretion can limit liability to an appropriate level in the case of an oil spill governed by both the CWA and the OPA. Nonetheless, this discrepancy between the statutes exists and could potentially result in unfair or disparate results in the case of a spill that violates both the CWA and the OPA. In the Oversight Hearing colloquy discussing the CWA, Senator Breaux of Louisiana pointed out that unlimited liability could

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120 42 U.S.C. § 7413(c)(4).
121 See Solow & Sarachan, supra note 6, at 11,153 n.3.
122 Oversight Hearing, supra note 1 (statement of Sen. Inhofe). Senator Inhofe stated:

Unlike other environmental statutes—including the Clean Air Act—to be convicted of a negligent violation [of the CWA], a person does not have to be guilty of an intentional or a reckless act. The person—entirely by accident, without any forethought and without any malice or intent—may have caused a pollutant to spill into nearby waters and as a result could be sent to jail, convicted of a federal offense.

Id.

124 Johnston, supra note 104, at 282; see OPA § 1004(a). The OPA provides for unlimited liability in the presence of gross negligence or willful misconduct. OPA § 1004(c).
125 See Johnston, supra note 104, at 310.
126 Id. at 309–10.
attach to oil spills, and used this as the basis for his position in favor of amending the CWA.\footnote{127 See Oversight Hearing, supra note 1 (colloquy among Sens. Peter Domenici, James Inhofe, and John Breaux).}

c. An Ordinary Negligence Standard Is Fundamentally Unfair

The final argument against the ordinary negligence standard for criminal violations of section 309(c) is that it is fundamentally unfair and Congress did not intend it to apply.\footnote{128 Id.} Senators Domenici, Inhofe, and Breaux, in their colloquy in support of amendment, repeatedly emphasize the idea that criminal liability for ordinary negligence under the CWA is fundamentally unfair.\footnote{129 See id.} Senator Domenici refers to violations of the CWA’s criminal negligence provisions as “clear accidents involving ordinary people.”\footnote{130 Id.} Senator Inhofe states that a person “entirely by accident, without any forethought and without any malice or intent,” could be found criminally liable under the current CWA, and expresses his belief that this result is “an unintended consequence” of the Act.\footnote{131 Id.} Accordingly, the Senators advocate amending the CWA to explicitly require a higher standard of negligence, similar to that of the CAA, which would require “risk of physical harm to the public” for criminal prosecution.\footnote{132 Id.} Senator Inhofe expresses his belief that such an amendment would constitute “a more appropriate provision of negligent endangerment.”\footnote{133 Oversight Hearing, supra note 1 (colloquy among Sens. Peter Domenici, James Inhofe, and John Breaux).}

III. United States v. Hong and the Possibility of Status Offenses for Negligent Violations of the CWA

Further concerns about criminal negligence under the CWA have been raised in the wake of United States v. Hong, a decision holding that responsible corporate officers might be liable for their subordinates’ negligence under section 309(c) of the CWA.\footnote{134 United States v. Hong, 242 F.3d 528, 531 (4th Cir. 2001).} When read in light of Hanousek, critics have expressed concern that Hong raises the possibility of status offenses leading to criminal convictions: when a company has been ordinarily negligent, a responsible corporate
officer who had no part in or knowledge of the negligence might be successfully prosecuted.\textsuperscript{135}

A. The Hong Decision

In \textit{United States v. Hong}, the Court of Appeals for the Fourth Circuit affirmed a lower court decision that the responsible corporate officer doctrine applied to the CWA, meaning that a person who has authority to exercise control over a corporation’s activities causing discharges may be held liable if those discharges violate the CWA.\textsuperscript{136} Further, the court held that, in order to be liable as a responsible corporate officer, an individual need not be a formally designated corporate officer, but instead must be shown to bear “such a relationship to the corporation that it is appropriate to hold him criminally liable for failing to prevent the charged violations of the CWA.”\textsuperscript{137}

The defendant in \textit{Hong} had acquired a wastewater treatment facility in Richmond, Virginia, which was operated under the name of Avion Environmental Group.\textsuperscript{138} Hong was not a corporate officer and “avoided any formal association with Avion,” but he “controlled the company’s finances and played a substantial role in company operations.”\textsuperscript{139} Along with Avion’s general manager, Hong began to investigate possible wastewater treatment systems for the facility.\textsuperscript{140} Avion then purchased a treatment system component that Hong specifically had been told was intended to be used only as the final step in treating wastewater, and not as an independent treatment system.\textsuperscript{141} Apparently disregarding this information, Avion used the component as its only means of wastewater treatment.\textsuperscript{142} When the component became clogged, Hong was informed of the situation and performed an inspection.\textsuperscript{143} No additional components were installed, and Avion employees began discharging wastewater directly into the Richmond sewer system in violation of Avion’s permit.\textsuperscript{144}

\begin{footnotesize}
\begin{enumerate}
\item Solow & Sarachan, \textit{supra} note 6, at 11,154; \textit{see Hanousek I}, 176 F.3d 1116, 1121 (9th Cir. 1999).
\item \textit{Hong}, 242 F.3d at 531; \textit{see United States v. Iverson}, 162 F.3d 1015, 1025 (9th Cir. 1998).
\item \textit{Hong}, 242 F.3d at 531.
\item \textit{Id.} at 529.
\item \textit{Id.}
\item \textit{Id.} at 530.
\item \textit{Id.}
\item \textit{Id.}
\item \textit{Id.}
\item \textit{Hong}, 242 F.3d at 530.
\item \textit{Id.}
\end{enumerate}
\end{footnotesize}
In determining that Hong was guilty of a negligent violation of section 309(c)(1)(A), the court applied the responsible corporate officer doctrine, which is expressly authorized in the statute.\textsuperscript{145} Section 309(c)(1) provides that any \emph{person} who negligently violates a permit condition or limitation issued under the CWA, or who negligently introduces into a sewer system pollutants which caused violation of permit limitations or conditions, shall be guilty of a criminally negligent violation of the CWA.\textsuperscript{146} However, section 309(c)(6) expressly provides that, for the purpose of section 309(c), “the term ‘person’ means, in addition to” the standard definition under the CWA, “any responsible corporate officer.”\textsuperscript{147}

In determining whether Hong qualified as a corporate officer, the court reviewed previous decisions related to the responsible corporate officer doctrine.\textsuperscript{148} In \textit{United States v. Dotterweich}, the Supreme Court held that the responsible corporate officer doctrine applied to “all who had ‘a responsible share’ in the criminal conduct.”\textsuperscript{149} In \textit{United States v. Park}, the Court further held that a “responsible share” in criminal conduct could be shown by evidence that “defendant had, by reason of his position in the corporation, responsibility and authority either to prevent in the first instance, or promptly to correct, the violation complained of, and that he failed to do so.”\textsuperscript{150} A case in the Court of Appeals for the Ninth Circuit, \textit{United States v. Iverson}, specifically held that under the CWA a responsible corporate officer was any person who “has authority to exercise control over the corporation’s activity that is causing the discharges,” regardless of whether that person in fact exercised such control.\textsuperscript{151}

Applying this precedent to the case at hand, the \textit{Hong} court concluded that, although he was not a formally designated corporate officer, Hong met the definition of a corporate officer under the responsible corporate officer doctrine.\textsuperscript{152} In doing so, the court formulated the rule that “the pertinent question is whether the defendant bore such a relationship to the corporation that it is appropriate to hold him criminally liable for failing to prevent the charged violations

\begin{itemize}
\item \textsuperscript{145} \textit{Id.} at 530–31 (citing 33 U.S.C. § 1319(c) (6) (2000)).
\item \textsuperscript{146} 33 U.S.C. § 1319(c)(1).
\item \textsuperscript{147} \textit{Id.} § 1319(c)(6).
\item \textsuperscript{148} \textit{See Hong}, 242 F.3d at 531.
\item \textsuperscript{149} \textit{Id.} (quoting \textit{United States v. Dotterweich}, 320 U.S. 277, 279 (1943)).
\item \textsuperscript{150} \textit{Id.} (quoting \textit{United States v. Park}, 421 U.S. 658, 673–74 (1975)).
\item \textsuperscript{151} \textit{Id.} (quoting \textit{United States v. Iverson}, 162 F.3d 1015, 1025 (9th Cir. 1998)).
\item \textsuperscript{152} \textit{Id.}
of the CWA.” Because Hong controlled corporate operations, was involved in the problems with the treatment system, and was aware of its problems but did nothing to remedy them, he could be considered to have a responsible share in the criminal conduct, and could thus be held liable under the responsible corporate officer doctrine.

B. Criticism of Hong

Hong has been criticized primarily because the application of the responsible corporate officer doctrine in criminal negligence cases raises the possibility of prosecution for “status offenses.” That is, defendants successfully could be prosecuted “not for a proscribed act or failure to act, but in the accused’s having a ‘certain personal condition or being a person of a specified character.’” The responsible corporate officer doctrine raises this particular problem in the specific context of ordinary negligence, rather than in the context of a heightened standard of negligence such as criminal negligence. In the case of the heightened criminal negligence standard, a corporate officer must have “knowledge of the facts plus the authority to take action that would prevent a violation” in order to be held liable for negligence under the responsible corporate officer doctrine. Because criminal liability can be established by a showing of ordinary negligence under Hanousek, this raises questions about the application of the responsible corporate officer doctrine in CWA criminal negligence cases. Under simple negligence, a violation can occur if an offender has no knowledge of the problem but has not taken reasonable measures to prevent it; therefore, it is conceivable that corporate officers could be held liable for a corporation’s refusal to adopt certain precautions, merely because they happen to be the manager of a corporation that has committed an environmental violation. Solow and Sarachan state that, “[t]he concern is that the doctrine will be used to hold corporate officials and managers criminally negligent

153 Id.
154 Hong, 242 F.3d at 531–32.
155 Solow & Sarachan, supra note 6, at 11,154.
156 Id. at 11,154 n.14.
157 See id. at 11,154.
158 Id.
159 See Hanousek I, 176 F.3d 1116, 1122 (9th Cir. 1999); Solow & Sarachan, supra note 6, at 11,154.
160 Solow & Sarachan, supra note 6, at 11,154.
by virtue of their status as officials and managers without regard to their knowledge of, or causal role in, an environmental violation.”161

Additionally, *Hong* raises the possibility that non-designated corporate officers could be found liable for status offenses.162 That is, since the rule under *Hong* is “whether the defendant bore such a relationship to the corporation that it is appropriate to hold him criminally liable for failing to prevent the charged violations,” individuals are no longer able to shield themselves from criminal liability simply by avoiding the title of corporate officer.163

While the responsible corporate officer doctrine was not specifically addressed in the Senate hearing on the proposed amendment, it was implicitly addressed by the concerns of Senator Breaux about potential criminal liability for “responsible operators” who are “unavoidably exposed to potentially immeasurable criminal fines and, in the worst case scenario, jail time.”164 Senator Breaux goes on to state that criminal negligence provisions are often unfair, because they target certain industries and work contrary to the public welfare.165

### IV.arguments for a High Standard for Criminal Negligence Under Section 309(c)

Thus far, this Note has discussed several controversial cases interpreting the CWA section 309(c) criminal negligence provision and critics’ subsequent arguments regarding the appropriate standard of intent. This Part will argue that central to all of these arguments is the designation of section 309(c) as a PWS. Behind the objections to the ordinary negligence standard and the responsible corporate officer doctrine is an objection to negligence under these CWA provisions being treated as a PWO.166 This Part will then summarize the arguments against treating the section 309(c) negligence provisions as a PWS.

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161 *Id.*

162 See United States v. Hong, 242 F.3d 528, 531 (4th Cir. 2001).

163 See *id*.

164 See *Oversight Hearing, supra* note 1 (colloquy among Sens. Peter Domenici, James Inhofe, and John Breaux).

165 *Id.*

A. Arguments for a Higher Standard of Negligence Under Section 309(c) Are Arguments Against Finding that the Negligence Provision of the CWA Is a PWS

The arguments for weakening the criminal negligence provisions of section 309(c) mainly relate to the issue of whether it is a PWS. Justice Thomas specifically stated in his dissent from the denial of certiorari in Hanousek that negligent criminal violations of the CWA should not be considered PWOs because of the ordinariness of the activities that could otherwise lead to negligent violations of the CWA, and because of the seriousness of the potential consequences of violation. Arguments that ordinary negligence should not be criminalized under the CWA are variations of this theme. Commentators such as White, as well as Senator Inhofe, argue that section 309(c) is flawed because itcriminalizes ordinary negligence, and section 309(c) criminalizes ordinary negligence because it is considered a PWS; thus, the objection to the criminalization of ordinary negligence at heart is an objection to the designation of section 309(c) as a PWS.

Furthermore, the observation that the ordinary negligence standards of section 309(c) are inconsistent with the OPA because they create increased liability for certain oil spills also hinges on the designation of section 309(c) as a PWS. Johnston points out that the OPA limits liability in spills caused by ordinary negligence, while the CWA provides for unlimited liability in such spills. Were the CWA considered not to be a PWS, however, higher standards of knowledge would apply, and violators would have to know that their actions violated regulations in order to be held liable. Thus, ordinary negligence would not be punishable under section 309(c) at all because ordinary negligence applies to situations where people act without a reasonable degree of care, as opposed to reckless or knowing violations, where people act with knowledge that they are violating regulations. Thus,

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167 See Hanousek II, 528 U.S. at 1103 (Thomas, J., dissenting); Oversight Hearing, supra note 1 (statement of Sen. Inhofe); Solow & Sarachan, supra note 6, at 11,154; White, supra note 87, at 112–13.
168 Hanousek II, 528 U.S. at 1103–04 (Thomas, J., dissenting).
169 See Oversight Hearing, supra note 1 (statement of Sen. Inhofe); White, supra note 87, at 113.
170 See Oversight Hearing, supra note 1 (statement of Sen. Inhofe); White, supra note 87, at 113.
171 See Johnston, supra note 104, at 282.
172 Id.
174 See Hanousek I, 176 F.3d 1116, 1120, 1121 (9th Cir. 1999).
recklessness or “criminal negligence” would be punished equally under the CWA and OPA, while the congruence problem between the ordinary negligence provisions of the CWA and OPA would disappear.

Finally, arguments against the Hong court’s interpretation of the responsible corporate officer doctrine also hinge on the interpretation of section 309(c) as a PWS because the possibility of status offenses exists only if the standard for criminal negligence under section 309(c) is ordinary negligence. Under the responsible corporate officer doctrine, if the standard for liability is higher, a corporate officer must have knowledge of the violation plus authority to act in order to be found “responsible.” Under ordinary negligence standards, however, there is the possibility that corporate officers could be found “knowing” despite a lack of specific knowledge of the violation simply because they failed to adopt reasonable precautions to prevent a violation. Indeed, one might argue that this was the case in Hanousek, where Hanousek (as supervisor) halted the previous supervisors’ practice of protecting the pipeline. Hanousek himself had no knowledge that rocks were on the tracks, or that the backhoe operator intended to use his backhoe to remove them, fracturing the pipeline; his only deliberate, knowing action was to cease protecting the pipeline. Although it was not framed under the responsible corporate officer doctrine, Hanousek’s offense might be likened to a status offense because he had no knowledge of the specific events leading up to the violation; rather, he merely failed to take precautions for which he was responsible that would have prevented the violation.

B. Summary of Arguments that Section 309(c) Should Not Be Considered a PWS

The real problem that opponents of section 309(c)’s current language have with criminal negligence in the CWA, then, is that they believe that it has been wrongly interpreted as a PWS, and that therefore its reach has become too broad. Opponents of considering

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176 See Johnston, supra note 104, at 282.

177 See Solow & Sarachan, supra note 6, at 11,154.

178 See id.

179 See id.

180 See Hanousek I, 176 F.3d 1116, 1119 (9th Cir. 1999).

181 See id.

182 See id.; Solow & Sarachan, supra note 6, at 11,154.

section 309(c) to be a PWS believe that courts incorrectly apply PWO analysis to negligent activities causing CWA violations because these violations involve ordinary, everyday activities, such as gun ownership in *Staples*.184 They assert that ordinary negligence is simply too ordinary in nature.185 Although ordinary negligence violations under the CWA might involve the handling of dangerous substances that the handler should know are regulated, as in *International Minerals*, negligent violations of the CWA might also “impose[] criminal liability for persons using standard equipment to engage in a broad range of ordinary industrial and commercial activities.”186 Thus, they argue, because of the potential for negligent violations caused by standard, everyday behavior, section 309(c) should not be considered a PWS, following the Court’s analysis in *Staples* and *International Minerals*.187

Furthermore, opponents argue that section 309(c) should not be a PWS because of the severity of the potential consequences of violations.188 Justice Thomas stated that penalties designated as PWOs are traditionally “relatively small, and conviction does no grave damage to an offender’s reputation,” and that since penalties for violating the CWA involve imprisonment and significant fines, section 309(c) should not be considered a PWS.189 Similarly, White argues that section 309(c) should not be considered a PWS because of the harshness of its penalties, noting that ordinary negligence is not likely to be deterred by prison sentences because of its inherently accidental nature.190

Thus, opponents of considering section 309(c) to be a PWS do not necessarily argue that section 309(c) should be eliminated, but rather that violations of the criminal negligence provisions should

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184 *See Hanousek II*, 528 U.S. at 1103 (Thomas, J., dissenting); *Staples* v. United States, 511 U.S. 600, 611 (1994); *Oversight Hearing*, supra note 1 (colloquy among Sens. Domenici, Inhofe, and Breaux); White, *supra* note 87, at 113.

185 *See Hanousek II*, 528 U.S. at 1103 (Thomas, J., dissenting); *Staples*, 511 U.S. at 611; *Oversight Hearing*, *supra* note 1 (colloquy among Sens. Domenici, Inhofe, and Breaux); White, *supra* note 87, at 113.


187 *Id.* (Thomas, J., dissenting) (citing *Staples*, 511 U.S. at 611; *Int’l Minerals*, 402 U.S. at 565).

188 *See id.* at 1103–04 (Thomas, J., dissenting); White, *supra* note 87, at 113.

189 *Hanousek II*, 528 U.S. at 1104 (Thomas, J., dissenting) (quoting Morissette v. United States, 342 U.S. 246, 256 (1952)).

190 *See White*, *supra* note 87, at 113.
require a higher standard than ordinary negligence. Because section 309(c) is not a PWS, they argue, an ordinary negligence standard would violate due process. Amendments to section 309(c), then, are intended to combat the interpretation by the Court of Appeals for the Ninth Circuit of section 309(c) as a PWS—by requiring a heightened standard of negligence, supporters of the amendment would be counteracting the effect of a PWS designation for section 309(c).

V. Justifications for the Ninth Circuit’s Interpretation of a Lower Negligence Standard Under Section 309(c)

This Part will argue that section 309(c) of the CWA should be considered a PWS. While arguments to the contrary—summarized in the previous Part—are forceful, the arguments for interpreting section 309(c) to be a PWS are still stronger. The CWA does in fact regulate “deleterious devices”—pollutants in our nation’s waters—and the primary aim of the CWA is to protect the public welfare. Moreover, arguments against treating section 309(c) as a PWS are incorrect in asserting that PWS status allows section 309(c) to criminalize “clear accidents.” If the proposed amendment were adopted, the resulting gaps in the CWA would allow severe environmental harms to go unpunished. Finally, in looking at the history of negligence prosecutions under the CWA, it is clear that prosecutors have not abused the standards of section 309(c) to punish mere accidents.

A. Arguments in Weitzenhoff and Hanousek for Interpreting Section 309(c) as a PWS: The CWA Regulates “Deleterious Devices” in Pursuit of the Public Welfare

The reasoning of the Weitzenhoff and Hanousek courts justifies interpreting criminal negligence under the CWA as a PWS because of the nature of the activities regulated, and because of the potential conse-

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191 See Hanousek II, 528 U.S. at 1103–04 (Thomas, J., dissenting); Abate & Mancuso, supra note 87, at 338; White, supra note 87, at 113.
192 Hanousek I, 176 F.3d 1116, 1121 (9th Cir. 1999) (citing United States v. Balint, 258 U.S. 250, 252–53 (1922)).
195 Oversight Hearing, supra note 1 (colloquy among Sens. Peter Domenici, James Inhofe, and John Breaux).
196 See id. (colloquy among Sens. Domenici, Inhofe, and Breaux).
197 See Solow & Sarachan, supra note 6, at 11,161.
quences of such violations to public welfare. In *Weitzenhoff*, the Court of Appeals for the Ninth Circuit stated that because the CWA regulated “deleterious devices or products or obnoxious waste material” whose very nature as such puts the violator on notice that his activities are likely to be heavily regulated, knowing violations under section 309(c) were PWOs. In this case, the objects regulated by the CWA are potentially harmful pollutants discharged into the public water supply. The court reasoned that pollutants regulated by the CWA are more like the harmful chemicals in *International Minerals* than like the guns regulated in *Staples*, the common ownership of which in the United States serves to counteract any notice that the average citizen might have that owning an unregistered gun is against the law.

In addition to the nature of the substance regulated, the *Weitzenhoff* court pointed to the potential consequences of violation as another reason that criminal violations of section 309(c) should be considered PWOs. The court noted that, like statutes regulating “discharge of pollutants into the air, the disposal of hazardous waste, the undocumented shipping of acids, and the use of pesticides on our food”—all of which had been determined to be PWSs—the pollution of water caused by violations of the CWA could result in a variety of serious illnesses to members of the public at large. Since “the criminal provisions of the CWA are clearly designed to protect the public at large from the potentially dire consequences of water pollution,” they constitute public welfare offenses.

In reasoning that criminal violations of section 309(c) are PWOs, the Ninth Circuit addressed the argument later advanced by Justice Thomas that the PWO doctrine should apply only to offenses whose penalties or damage to reputation was negligible. They noted that that may have been true in the past but that “modern statutes now punish public welfare offenses with much more significant terms of imprisonment,” including several felonies.

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198 Hanousek I, 176 F.3d at 1121–22; *Weitzenhoff*, 35 F.3d at 1286.
199 *Weitzenhoff*, 35 F.3d at 1286.
200 Id.
201 See id. at 1285–86.
202 Id. at 1286.
203 Id.
204 Id.
205 See *Weitzenhoff*, 35 F.3d at 1286 n.7.
206 Id.
pressed concern with this trend, it stopped short of holding that PWOs may not be punished as felons.\textsuperscript{207}

\textit{Weitzenhoff} thus determined the rule for the Ninth Circuit that criminal violations of section 309(c) are PWOs.\textsuperscript{208} \textit{Weitzenhoff} involved a knowing violation of the CWA; thus, the designation of PWO was not explicitly extended to \textit{negligent} violations of section 309(c) until \textit{Hanousek}.\textsuperscript{209} The court in \textit{Hanousek} rejected the defendant’s attempt to distinguish \textit{Weitzenhoff} and argue that negligent violations of section 309(c) were not PWOs.\textsuperscript{210} The court noted that \textit{Balint}, \textit{Morissette}, and \textit{Dotterweich} indicated that ordinary negligence may be considered a PWO without violating due process.\textsuperscript{211} Furthermore, it noted that the material regulated in \textit{Hanousek} (heating oil) was a “dangerous device,” and that the very existence of the oil pipeline should have put Hanousek on notice that his activities related to it were likely regulated.\textsuperscript{212} Given that \textit{Weitzenhoff} had established that criminal violations (and implicitly criminally negligent violations) of section 309(c) were PWOs, and given that previous Supreme Court cases permitted finding negligent violations to be PWOs, the court in \textit{Hanousek} concluded that the criminal negligence provisions of section 309(c) were PWSs, notwithstanding defendant’s due process rights.\textsuperscript{213}

B. \textit{Holding Violations of Section 309(c) to Be PWOs Does Not Mean that “Simple Accidents” Will Be Punished, nor Does It Increase the Likelihood of Status Offenses}

Many of the arguments against considering negligent violations of section 309(c) to be PWOs focus on the ordinary negligence standard and assert that it is so low that innocent individuals conducting routine activities will accidentally violate the CWA and be subject to criminal liability.\textsuperscript{214} This is not the case because, to meet the standard of ordinary negligence, violators must somehow fail to exercise reasonable care.\textsuperscript{215} In her testimony at the Senate hearing, Professor

\textsuperscript{207} Id. (citing Staples v. United States, 511 U.S. 600, 618 (1994)).
\textsuperscript{208} Id. at 1286.
\textsuperscript{209} See \textit{Hanousek I}, 176 F.3d 1116, 1122 (9th Cir. 1999); \textit{Weitzenhoff}, 35 F.3d at 1286.
\textsuperscript{210} \textit{Hanousek I}, 176 F.3d at 1122.
\textsuperscript{211} Id. at 1121.
\textsuperscript{212} Id. at 1122.
\textsuperscript{213} Id. at 1122.
\textsuperscript{214} \textit{Hanousek II}, 528 U.S. at 1102 (Thomas, J., dissenting); \textit{Oversight Hearing}, supra note 1 (statement of Sen. James Inhofe).
Robin Greenwald points out that any spill or discharge that is truly an accident will not be punishable under the current CWA, even though it is a PWO.\textsuperscript{216} It is only when a person “fail[s] to exercise the care that a reasonable person would have taken under similar circumstances” that that person would be liable for violating section 309(c); thus, some degree of violator culpability is always required, and no pure accidents can create liability under the CWA.\textsuperscript{217} Greenwald further points out that neither the conduct in \textit{Hanousek} nor that in \textit{Hong} was a true accident: in both cases there was a failure to exercise reasonable care.\textsuperscript{218} In \textit{Hanousek}, the defendant stopped taking precautionary measures to protect the pipeline that the project manager before him had taken, while in \textit{Hong} the defendant authorized the installation of a system that he had been informed would be inadequate for treating wastewater on its own, and was aware of the discharge of wastewater into the sewer system.\textsuperscript{219} Thus, violators in CWA negligence cases do have some degree of mental culpability under the ordinary negligence standard, in that they failed to take reasonable measures under the circumstances.\textsuperscript{220}

Moreover, the concern that a manager could be held liable under the responsible corporate officer doctrine for ordinary negligence does not imply that status offenses will occur.\textsuperscript{221} If a manager is held liable, it will not be a manager who is entirely innocent.\textsuperscript{222} Under the responsible corporate officer doctrine, as articulated in \textit{Hong}, a corporate officer must have “responsibility and authority . . . to prevent . . . the violation” in order to be eligible for liability.\textsuperscript{223} Under ordinary negligence, the manager or employees that were under his authority must have failed to exercise a reasonable degree of care.\textsuperscript{224} Thus, a manager who is exercising reasonable care in supervising employees’ activities will not be guilty of a violation: only a manager who fails to exercise such care will have committed a violation.\textsuperscript{225}

\textsuperscript{216} \textit{Oversight Hearing}, supra note 1 (statement of Prof. Robin Greenwald) (“Indeed, in the case of an ‘accident’ that results from conduct that was reasonable under the circumstances . . . no criminal liability would attach under Section 309.”).

\textsuperscript{217} See \textit{id}.

\textsuperscript{218} Id.

\textsuperscript{219} Id. (reviewing the facts of \textit{Hanousek I} and \textit{Hong}).

\textsuperscript{220} See \textit{id}.

\textsuperscript{221} See United States v. Hong, 242 F.3d 528, 531 (4th Cir. 2001).

\textsuperscript{222} See \textit{id}.

\textsuperscript{223} Id.

\textsuperscript{224} See \textit{Hanousek I}, 176 F.3d 1116, 1120 (9th Cir. 1999).

\textsuperscript{225} See \textit{id}.
C. If the Standard of Harm to Humans Is Inserted into Section 309(c), Some Grave Environmental Harms Would Not Be Punishable Under the CWA

In his statement at the Senate hearing, Senator Inhofe suggested that, if the standard for negligent criminal violations of section 309(c) could be amended, one model might be the criminal negligence provisions of the CAA, which provide for liability where negligence results in human endangerment. Opponents of amending the CWA argue that this human endangerment standard is problematic for two main reasons: it allows several types of grave environmental harms to go unpunished, and gives government prosecutors less flexibility in bargaining with corporate defendants to arrange for cleanups of environmental disasters.

Were the standard for liability in CWA criminal negligence cases to be amended to necessitate human endangerment, major environmental disasters involving gross negligence or recklessness would not be punishable under the CWA. For example, Greenwald pointed out at the hearing that under the proposed standard the 1989 Exxon Valdez oil spill in Alaska would not have been eligible for prosecution under the CWA. This case involved negligence on the part of Exxon, which allowed a captain with a history of alcohol abuse to navigate an oil tanker in Prince William Sound, off the coast of Alaska. Eleven million tons of oil were spilled, and harm to the environment was devastating: according to the Exxon Valdez Oil Spill Trustee Council, at least thirty “resources or species” were injured by the spill, many of which had been considered to be still “not recovering” ten years later. The defendant eventually pled guilty, and an agreement to pay millions for cleanup was reached because of the specter of liability under the negligence provisions of the CWA. Be-

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226 See Oversight Hearing, supra note 1 (colloquy among Sens. Peter Domenici, James Inhofe, and John Breaux).
227 Id. (statement of Prof. Robin Greenwald); see Solow & Sarachan, supra note 6, at 11,158–59.
228 Oversight Hearing, supra note 1 (statement of Prof. Robin Greenwald); see Solow & Sarachan, supra note 6, at 11,158–59.
229 See Oversight Hearing, supra note 1 (statement of Prof. Robin Greenwald).
232 Oversight Hearing, supra note 1 (statement of Prof. Robin Greenwald); Solow & Sarachan, supra note 6, at 11,158 n.29.
cause only Alaska’s wildlife and natural environment were harmed, and no human was injured or put at risk of death or serious bodily injury, the proposed amendments would dictate that the CWA would not have applied in that case.\textsuperscript{233} The \textit{Exxon Valdez} is not the only example: Greenwald references Colonial Pipeline, where a corporation decided to over-pressure a pipeline, knowing that it was much more likely to burst, causing a spill into a river; and Solow and Sarachan cite to a case where one hundred tons of fish were killed in the White River in Indiana.\textsuperscript{234} Amending the criminal negligence provisions of section 309(c) so that they are applicable only in cases where humans are harmed or endangered would leave a gap in the nation’s environmental regulation, making it profitable for corporations to engage in reckless behavior that might result in spills so long as it is not likely that those spills will affect human health.\textsuperscript{235}

\textbf{D. The History of Prosecutions Under the Negligence Provision of Section 309(c) Shows that It Has Not Been Abused and Is an Important Prosecutorial Tool}

Opponents of the amendment also argue that history shows that there is no need for an amendment because prosecution under the negligence provisions of the CWA has been directed against cases of serious environmental harm or gross negligence—or used as a negotiation tool in plea-bargaining.\textsuperscript{236} Changing the standard for criminal negligence under the CWA will not change the types of cases that are being prosecuted.\textsuperscript{237} Rather, it will serve only to weaken prosecutors’ bargaining power.\textsuperscript{238}

In their statistical analysis of criminal negligence prosecutions under the CWA, Solow and Sarachan find that CWA negligence prosecutions fall into four categories:

(1) extraordinary environmental harm or human injuries;

\textsuperscript{233} \textit{Oversight Hearing}, supra note 1 (statement of Prof. Robin Greenwald).
\textsuperscript{234} See id.; Solow & Sarachan, supra note 6, at 11,158.
\textsuperscript{235} See \textit{Oversight Hearing}, supra note 1 (colloquy among Sens. Peter Domenici, James Inhofe, and John Breaux); \textit{id.} (statement of Prof. Robin Greenwald); Solow & Sarachan, \textit{supra} note 6, at 11,158–59.
\textsuperscript{236} See \textit{Oversight Hearing}, supra note 1 (statement of Prof. Robin Greenwald); Solow & Sarachan, \textit{supra} note 6, at 11,158.
\textsuperscript{237} \textit{Oversight Hearing}, \textit{supra} note 1 (statement of Prof. Robin Greenwald); Solow & Sarachan, \textit{supra} note 6, at 11,158–59.
\textsuperscript{238} \textit{Oversight Hearing}, \textit{supra} note 1 (statement of Prof. Robin Greenwald); see Solow & Sarachan, \textit{supra} note 6, at 11,158–59.
(2) very serious harm and gross negligence;
(3) “compromise” cases, in which negligence charges serve as a means to reach a plea agreement; and
(4) “combination” cases, in which negligence charges are combined with felony charges under environmental statutes and/or traditional Title 18 criminal charges.\(^\text{239}\)

In order to be prosecuted for a CWA negligence violation alone, cases have traditionally involved either human harm or gross negligence.\(^\text{240}\) Thus, it has not held true that corporate defendants are being attacked for status offenses, or that individuals are being prosecuted for “accidents” resulting from daily activities.\(^\text{241}\) This restraint is not due merely to prosecutorial discretion, but also to institutional policies within investigating agencies, which prioritize cases involving significant environmental harm or placing humans in danger of death or serious bodily injury.\(^\text{242}\) Moreover, agencies such as EPA and the Coast Guard require that harm be coupled with “culpable conduct,” which includes factors such as intent, history of violations, deliberate behavior, and efforts to conceal the violation.\(^\text{243}\) Because of the number of agencies involved in investigating environmental crimes and the reluctance to change in both investigatory and prosecutorial policies, Solow and Sarachan assert that these norms of prosecution are unlikely to change rapidly in the future.\(^\text{244}\)

Solow and Sarachan further point out that \textit{Hanousek} and \textit{Hong} do not deviate significantly from the model of cases traditionally prosecuted under the CWA’s negligence provisions.\(^\text{245}\) In \textit{Hong}, the defendant personally was involved in decisions not to remedy the violations of which he was aware, resulting in gross negligence; therefore, a case could have been made for a knowing violation.\(^\text{246}\) In \textit{Hanousek}, the CWA charges were combined with charges of obstruction of justice and destruction of evidence when the defendant attempted to hide evidence of the spill’s magnitude from the government, and thus the CWA charges were part of a larger prosecution for more serious

\(^{239}\) Solow & Sarachan, supra note 6, at 11,158.
\(^{240}\) See id.
\(^{241}\) See id.
\(^{242}\) Id. at 11,160.
\(^{243}\) Id.
\(^{244}\) Id. at 11,161.
\(^{245}\) Solow & Sarachan, supra note 6, at 11,159.
\(^{246}\) See id. (citing United States v. Hong, 242 F.3d 528, 529–30 (4th Cir. 2001)).
criminals.\textsuperscript{247} Thus, \textit{Hanousek} and \textit{Hong} may represent relatively standard CWA prosecutions, conforming to past standards and practices, and do not raise alarm or call for a change in the current standard.\textsuperscript{248}

While an amendment to section 309(c) may not drastically change the type of straight negligence cases that are prosecuted, it may serve to change the frequency of cases where section 309(c) is used as a plea-bargaining tool, giving prosecutors less flexibility and perhaps resulting in actually harsher consequences for environmental violators.\textsuperscript{249} For example, Greenwald argues that cases such as \textit{Hong} would have to be prosecuted under the “knowing” provision if the negligence standard were altered, and believes they might actually be successfully prosecuted that way.\textsuperscript{250} In this way, for some defendants the amendment would have the opposite of its intended effect—forcing harsher punishment for borderline offenders.

\textbf{Conclusion}

The current language of the CWA’s section 309(c) negligence standard should remain unchanged, and courts that have interpreted it as a public welfare statute have done so correctly. The CWA fits the traditional definition of a PWS—the pollutants regulated by the CWA are noxious and deleterious devices—and that is why they have been designated as pollutants under the CWA.\textsuperscript{251} Furthermore, serious pollutants that could cause significant harm are not ordinarily handled in everyday life—few Americans deal with possible sources of pollutants such as oil pipelines on an everyday basis, and those who do should be required to exercise an appropriately higher degree of care.\textsuperscript{252} Finally, those who are dealing with potential pollutants should be aware that they are strictly regulated. Anyone working near an oil pipeline can reasonably be expected to know that oil spills are potentially hazardous, that the transport and treatment of such a potentially dangerous substance is heavily regulated, and that they should act accordingly.\textsuperscript{253}

\textsuperscript{247} Id. (citing \textit{Hanousek I}, 176 F.3d 1116, 1119 (9th Cir. 1999)).
\textsuperscript{248} See id. at 11,161.
\textsuperscript{249} See \textit{Oversight Hearing}, supra note 1 (statement of Prof. Robin Greenwald); Solow & Sarachan, supra note 6, at 11,158–59.
\textsuperscript{250} \textit{Oversight Hearing}, supra note 1 (statement of Prof. Robin Greenwald).
\textsuperscript{251} See United States v. Weitzenhoff, 35 F.3d 1275, 1286 (9th Cir. 1993).
\textsuperscript{252} See Staples v. United States, 511 U.S. 600, 610–11 (1994); \textit{Hanousek I}, 176 F.3d 1116, 1122 (9th Cir. 1999).
\textsuperscript{253} See \textit{Hanousek I}, 176 F.3d at 1122.
The one aspect of criminal violations of the CWA that does not fit the PWO mold is the possible punishment.²⁵⁴ While it is true that, historically, PWOs do not involve the possibility of heavy penalties, this is not a bright-line rule, nor a defining characteristic of PWOs.²⁵⁵ The Court in Staples specifically did not hold that PWOs had to have light penalties, but only that this was something that the courts should consider in determining whether a statute is a PWS.²⁵⁶ Furthermore, as the court in Weitzenhoff noted, some statutes that have been determined to be PWSs do carry heavy penalties, such as the statute regulating the transport of acids in International Minerals.²⁵⁷

An ordinary negligence standard is also appropriate not only because criminal violations of the CWA fit the definition of a PWO, but also because the negligence punished by the CWA does not encompass spills that occur because of mere “accidents,” as its critics suggest.²⁵⁸ In order to violate the criminal negligence provisions of the CWA, an individual must fail to exercise a reasonable degree of care.²⁵⁹ When dealing with dangerous pollutants, it is entirely appropriate that individuals be expected to be careful, and not to create a situation in which “accidents” are unreasonably likely to happen.

A standard requiring human endangerment would fail to adequately achieve the objectives of the CWA because it would not capture all the possible environmental harms that could occur by negligent violations of the CWA.²⁶⁰ Some harms to the environment can be tremendously damaging without endangering humans, such as the Exxon Valdez oil spill.²⁶¹ Furthermore, a standard requiring more than ordinary negligence might make it profitable or allowable in some instances for corporations to pollute—as long as a corporation does not cause human endangerment, it can engage in risky, negligent behavior that might lead to accidents that harm only wildlife or plants.²⁶²

²⁵⁴ See 33 U.S.C. § 1319(c) (2000); Staples, 511 U.S. at 616.
²⁵⁵ Staples, 511 U.S. at 618.
²⁵⁶ Id.
²⁵⁸ See Oversight Hearing, supra note 1 (colloquy among Sens. Peter Domenici, James Inhofe, and John Breaux); id. (statement of Prof. Robin Greenwald).
²⁵⁹ 33 U.S.C. § 1319(c)(1); Oversight Hearing, supra note 1 (statement of Prof. Robin Greenwald).
²⁶⁰ See Oversight Hearing, supra note 1 (statement of Prof. Robin Greenwald); Solow & Sarachan, supra note 6, at 11,158–59.
²⁶¹ See generally Oversight Hearing, supra note 1 (statement of Prof. Robin Greenwald).
²⁶² See Oversight Hearing, supra note 1 (colloquy among Sens. Domenici, Inhofe, and Breaux).
An amendment like that proposed to change section 309(c) would likely have the further undesirable effect of handicapping prosecutors in plea-bargaining.\textsuperscript{263} History shows that the CWA criminal provisions have not been used to prosecute accidental or minimally negligent conduct.\textsuperscript{264} Moreover, agency protocol limits the possibility that the CWA will be abused by overzealous prosecutors in the near future.\textsuperscript{265} Weakening the negligence provision of section 309(c) could handicap prosecutors for no reason by taking away a powerful bargaining tool that has not yet been abused.\textsuperscript{266}

Thus, because section 309(c) fits the definition of public welfare legislation, because it is reasonable to require care when one is dealing with pollutants, and because changing the standard of negligence would fail to address certain environmental harms and would handicap prosecutors in plea-bargaining, violations of section 309(c) should be considered PWOs, and the current negligence language should remain in place.

\textsuperscript{263} See id. (statement of Prof. Robin Greenwald); Solow & Sarachan, supra note 6, at 11,158–59.
\textsuperscript{264} See Solow & Sarachan, supra note 6, at 11,160–61.
\textsuperscript{265} See id. at 11,160.
\textsuperscript{266} See Oversight Hearing, supra note 1 (statement of Prof. Robin Greenwald); Solow & Sarachan, supra note 6, at 11,158–59.
SURVEYING THE PRECAUTIONARY PRINCIPLE’S ONGOING GLOBAL DEVELOPMENT: THE EVOLUTION OF AN EMERGENT ENVIRONMENTAL MANAGEMENT TOOL

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Abstract: The precautionary principle, which many trace back to German regulations promulgated in the early 1970s, has developed into an important environmental management tool. Its inclusion in numerous international treaties and agreements over the past seventeen years confirms its significance. Beyond international treaties, many foreign governments have explored the application of the precautionary principle to their own decisionmaking procedures. For instance, the precautionary principle has been the central focus of judicial decisions in Australia, Canada, and India. Despite this growing global acceptance and implementation of the precautionary principle, the United States has remained adamantly opposed to its introduction into domestic policy. This Note focuses on international application or non-application of the precautionary principle in order to better understand the United States’ current opposition. Ultimately, this comparative analysis should clarify, which, if any, governmental avenue will prove most effective in laying the foundation for implementation of the precautionary principle in this country.

Introduction

A wealth of recent discourse has focused on an emergent environmental management tool: the precautionary principle. Simply stated, the precautionary principle stands for the idea that inaction is preferable to action in circumstances where taking action could result in serious or irreversible harm. Although this proposition appears to

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1 See, e.g., Perspectives on the Precautionary Principle (Ronnie Harding & Elizabeth Fisher eds., 1999) [hereinafter Perspectives].

2 See Ronnie Harding & Elizabeth Fisher, Introducing the Precautionary Principle, in Perspectives, supra note 1, at 2, 2–3.
make logical sense—a syllogism of sorts—the United States has yet to incorporate the precautionary principle into its environmental law or policy. While the actual application of the precautionary principle is much more complicated than the simplistic definition offered above suggests, the United States’ rejection of the precautionary principle deserves critical analysis and attention, especially in light of the principle’s recent and overwhelming emergence onto the international environmental law scene.

In order to better understand the United States’ antipathy toward the precautionary principle, one must first understand the implications associated with its adoption. Despite the United States’ hesitancy to adopt or support the precautionary principle, one finds a plethora of foreign case law providing valuable insight into the causes and effects of adhering to, or rejecting, the precautionary principle. Specifically, Australia, Canada, and India have each produced illustrative cases addressing the application of this emergent environmental management tool. These foreign cases provide a valuable background upon which to view the United States’ current opposition to the precautionary principle. Furthermore, these cases may forecast future prospects for the precautionary principle in the United States, especially when considered in conjunction with recent domestic developments concerning the precautionary principle.

In examining the past, present, and future roles of the precautionary principle in U.S. environmental law and policy, this Note will first detail the origin and subsequent development of the principle. Next, the Note will elucidate the principle by examining its inclusion in numerous international treaties and agreements. The Note then summarizes foreign case law addressing issues specifically related to

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4 See id.

5 See id.

6 See id.


9 See Graham, supra note 3, at 4.

the precautionary principle. Finally, the Note breaks the foreign cases into component parts and compares them to their U.S. analogues. In this section, the Note looks to the relationship between the precautionary principle and judicial, administrative, and legislative policy, with the intent of determining which governmental body will prove most effective in influencing adoption of the precautionary principle as an environmental management tool.

I. UNDERSTANDING THE PRECAUTIONARY PRINCIPLE

A. The Birth and Development of the Precautionary Principle

The widespread international use and development of the precautionary principle speaks directly to the growing global concern over the negative health and environmental implications flowing from human activity.\textsuperscript{11} The United States, however, has been hesitant to adopt, implement, or enforce any of the numerous current manifestations of the precautionary principle.\textsuperscript{12} This hesitancy on the part of the United States has added to the overall confusion and controversy surrounding application of the precautionary principle;\textsuperscript{13} yet this widely unknown and misunderstood principle has had a long and rich history, with roots reaching almost as far back as the environmental movement itself.\textsuperscript{14}

In the early 1970s, Germany initiated the development of an air pollution control concept known as \textit{Vorsorgeprinzip}.\textsuperscript{15} Many consider the German development of \textit{Vorsorgeprinzip} to signify the true creation of the precautionary principle, in light of the attention it focuses on “long term planning to avoid damage to the environment, early detection of dangers to health and environment through comprehensive research, and acting in advance of conclusive scientific evidence of harm.”\textsuperscript{16} The precautionary foundation of \textit{Vorsorgeprinzip} has been described as an “action principle” that holds public authorities responsible for protecting the natural foundations of life and preserving the physical world for the present and future generations, and

\begin{itemize}
\item \textsuperscript{11} See Harding & Fisher, \textit{supra} note 2, at 2–3.
\item \textsuperscript{13} See Ronnie Harding & Elizabeth Fisher, \textit{Preface to Perspectives}, \textit{supra} note 1, at v, vi.
\item \textsuperscript{14} See Harding & Fisher, \textit{supra} note 2, at 4. The modern environmental movement can be traced back to developments in the 1960s. See Plater, \textit{supra} note 12, at 44.
\item \textsuperscript{15} See Harding & Fisher, \textit{supra} note 2, at 4.
\item \textsuperscript{16} Id.
\end{itemize}
“can therefore be used to counter the short-termism endemic in all democratic, consumption oriented societies.”

Despite development of the Vorsorgeprinzip concept in the 1970s, the precautionary principle itself did not gain widespread international recognition until the 1980s. In 1982, an early version of the precautionary principle was adopted by the United Nations in its General Assembly Resolution on the World Charter for Nature. While the Resolution did not specifically incorporate the precautionary principle by name, Principle 11 did include two directives that have become fundamental to the modern concept of precaution:

(1) Activities which are likely to cause irreversible damage to nature shall be avoided;
(2) Activities which are likely to pose a significant risk to nature shall be preceded by an exhaustive examination, their proponents shall demonstrate that expected benefits outweigh potential damage to nature, and where potential adverse effects are not fully understood, the activities should not proceed.

Of particular interest, Principle 11 incorporated both the theories of irreversible damage and scientific uncertainty. In 1987, five years after the drafting of the World Charter for Nature, the represented parties to the London Declaration of the Second International North Sea Conference gave explicit reference to a precautionary approach. In pertinent part, the declaration stated that marine ecosystems should be safeguarded with the best available technology, “even where there is no scientific evidence to prove a causal link between emissions and effects.” Although this international agreement dealt entirely with sea pollutants deemed to be dangerous substances, its drafting and subsequent ratification marks the beginning of wide-

18 Harding & Fisher, supra note 2, at 5.
20 Id.
21 Id.
23 Id.
24 Id.
spread international acceptance and employment of the precautionary principle.

B. Emergence of the Precautionary Principle in International Agreements

Since 1987, several international treaties and agreements have included some form of the precautionary principle. These international instruments have addressed a broad spectrum of environmental issues, ranging from general environmental policy to precise issues of environmental concern. Moreover, both soft and hard law instruments have embraced the precautionary principle, meaning that both binding and nonbinding instruments have endorsed a precautionary approach. While this Note will not discuss questions concerning the implementation or efficacy of these international instruments, a general examination into the inclusion of the precautionary principle in these international instruments will ultimately help to clarify how this environmental management tool may be applied to various environmental and health concerns.

1. Nonbinding International Agreements

Reflecting the growing global interest in, and acceptance of, the precautionary principle, many of the nonbinding international agreements, declarations, and recommendations drafted in the early 1990s included provisions promoting the precautionary principle. The Houston Economic Summit Declaration, arising from the 1990 G-7 meeting, stated in part, “in the face of threats of irreversible environmental damage, lack of full scientific certainty is no excuse to postpone...
actions which are justified in their own right.”  In the same year, the European States, Canada, and the United States also addressed the importance of a precautionary approach in environmental policy in the Bergen Ministerial Declaration on Sustainable Development in the Economic Commission for Europe Region. In relevant part the Bergen Declaration provides as follows:

In order to achieve sustainable development, policies must be based on the precautionary principle. Environmental measures must anticipate, prevent and attack the causes of environmental degradation. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

It is important to note that the Bergen Declaration includes a distinctively different approach from that of the Houston Declaration. First, the Bergen Declaration—unlike the Houston Declaration—expressly emphasizes the importance of environmental protection by including an instruction to “anticipate, prevent and attack the causes of environmental degradation.” Furthermore, the Bergen Declaration intentionally expanded the scope of the precautionary principle by focusing not only on the threat of “irreversible damage” as an indicator that the principle should apply, but also on the threat of serious damage. The Bergen Declaration served as the forerunner to the creation of the Rio Declaration on Environment and Development in 1992, a nonbinding recommendation adopted by the United Nations Conference on Environment and Development (UNCED), in which over a hundred heads of state and government participated. In reference to the precautionary principle, Principle 15 of the Rio Declaration states: “In order to protect the environment,
the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.”

Significant aspects of the precautionary approach contained in the Rio Declaration include the principle’s broad application, as evidenced by the inclusion of the word “widely” and the introduction of balancing language. Respecting the need for some balancing, the Rio Declaration qualified the application of the precautionary approach dependent on: (1) the capabilities of the State; and (2) the cost-effectiveness of a measure intended to prevent environmental degradation.

2. Binding International Treaties

Unlike the “soft,” nonbinding instruments already identified, the following treaties and their relevant sections pertaining to the precautionary principle are, at least in theory, legally enforceable under international law. However, binding obligations resulting from a treaty only apply to states that have become parties to that treaty through the process of ratification. Furthermore, many of the binding treaties tend to be much more particularized in terms of scope and subject matter, and as such do not possess the broad applicability of non-binding instruments. This section will attempt to examine some of the more widely known binding international treaties that have included some form of the precautionary principle.

In 1992, the United Nations adopted the Framework Convention on Climate Change, which in part spoke to the role the precautionary principle should play in attacking the causes of climate change:

The Parties should take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures, taking into account that policies and measures to deal with climate

38 Rio Declaration, supra note 27, at 879.
39 See id.
40 Id.
41 See Wirth, supra note 28, at 230.
42 See id.
43 See id.
change should be cost-effective so as to ensure global benefits at the lowest possible cost.\textsuperscript{44}

The Framework Convention on Climate Change succinctly captures the evolving nature of the precautionary principle as it emphatically calls for anticipatory action, while at the same time recognizing the importance of cost-benefit analysis.\textsuperscript{45} The United Nations also included a precautionary approach in its Convention on Biological Diversity.\textsuperscript{46} The preamble to the Convention contains the following reference to precaution: “Noting also that where there is a threat of significant reduction or loss of biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimize such a threat.”\textsuperscript{47}

The precautionary principle also found its way into international treaties concerning endangered species, air pollution, and protection of the marine environment.\textsuperscript{48} The Convention on International Trade in Endangered Species (CITES) at the Ninth Meeting of the Parties adopted a new listing criteria for endangered species resting primarily on the precautionary principle.\textsuperscript{49} Additionally, the Second Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution contains precautionary requirements that mirror those found in the Convention on Climate Change.\textsuperscript{50} In comparison, the Aarhus Protocol on Persistent Organic Pollutants to the Convention on Long-Range Transboundary Air Pollution includes the precautionary principle by directly incorporating Principle 15 of the Rio Declaration.\textsuperscript{51} Further illustration of the vast applicability of the precautionary principle in international law arises in the area of water pollution and protection of the marine environment.\textsuperscript{52} For example, the 1992 Convention for the Protection of the Marine Environment of the North-Atlantic, which replaced the Oslo and Paris Conventions, included the precautionary principle in an effort to minimize the negative effects associated with the introduction of foreign substances or en-


\textsuperscript{45} See id.


\textsuperscript{47} Id.

\textsuperscript{48} See Cameron, \textit{supra} note 25, at 32–34.

\textsuperscript{49} Id.

\textsuperscript{50} Id.

\textsuperscript{51} Wirth, \textit{supra} note 28, at 233.

\textsuperscript{52} Cameron, \textit{supra} note 25, at 33.
ergy.  Although all of these examples illustrate the broad applicability of the precautionary principle across the entire spectrum of international environmental law, they in no way represent a complete listing of the many instances in which the precautionary principle guides environmental policy and decisionmaking.

II. Global Application of the Precautionary Principle

A. Australia

In 1993, the Land and Environment Court of New South Wales presented its position with respect to the precautionary principle in the landmark case *Leatch v. National Parks and Wildlife Service*. The case concerned a proposal by the Shoalhaven City Council (Council) to build a new road and bridge over the Bombaderry Creek in New South Wales for the purpose of alleviating existing traffic problems and connecting two nearby expanding residential areas. In order to proceed with the project, the Council had to obtain a license to take or kill endangered fauna as required by the National Parks and Wildlife Act (NPWA).

Relevant sections of the NPWA specify that only the Director-General of the National Parks and Wildlife Service (Service) may grant a take or kill license relating to “threatened” or “vulnerable and rare” fauna for which the Service has granted protected status. In making such determinations, the Director-General is required to take into account all relevant information, including: the factors used to determine whether a species is “threatened” or “vulnerable and rare”; the Service’s justifications for protecting the species; submissions received from interested parties; and a Fauna Impact Statement (FIS), produced to help determine the extent to which proposed actions will harm and affect local wildlife.

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53 See id.
54 For further examples of the precautionary principle in the international treaty context, see Cameron, supra note 25, at 30–34, and Wirth, supra note 28, at 230–35.
56 Id. at 271–72, 274.
57 See id. at 272.
59 Id. § 92B.
60 Id. § 92D.
In February of 1993, the Council submitted its FIS to the Service along with an application for a license to take or kill endangered fauna.\textsuperscript{61} The Service ultimately found numerous deficiencies with the FIS.\textsuperscript{62} Most notably, the FIS failed to take into account the potential impact the proposed project might have on the giant burrowing frog, a protected species.\textsuperscript{63} Dissatisfied with these deficiencies, the Service requested additional information from the Council.\textsuperscript{64} The new FIS did support the conclusion that the site proposed for the new road and bridge was in fact habitat of an endangered species.\textsuperscript{65} However, the Council proposed numerous mitigating factors which it asserted were sufficient to allow Director-General approval of a take or kill license.\textsuperscript{66} First, the FIS maintained that the site could not be considered prime habitat for the giant burrowing frog in light of preexisting substantial degradation of the site.\textsuperscript{67} Second, the FIS concluded that the long term viability of the affected endangered species was already questionable because the site was isolated from other areas of suitable habitat.\textsuperscript{68} Lastly, the FIS stated that “the integrity of the gorge could be protected by a range of ameliorative measures, including an extensive buffer conservation zone.”\textsuperscript{69}

The license approval was appealed under section 92C of the NPWA.\textsuperscript{70} The NPWA requires the court to take into consideration the same factors the Director-General was required to contemplate in his decision to grant a take or kill license.\textsuperscript{71} In addition to the NPWA, the court must also look to the Land and Environment Court Act (LECA) for guidance on appeals of this nature.\textsuperscript{72} Initially, LECA dictates that the Land and Environment Court “shall . . . have the functions and discretions which the person or body whose decision is the subject of the appeal,” in this case the Director-General of the Service.\textsuperscript{73} Moreover,

\begin{itemize}
\item \textsuperscript{61} Leatch, 81 L.G.E.R.A. at 275.
\item \textsuperscript{62} Id. at 275, 276.
\item \textsuperscript{63} Id. at 276.
\item \textsuperscript{64} Id.
\item \textsuperscript{65} Id.
\item \textsuperscript{66} See id.
\item \textsuperscript{67} Leatch, 81 L.G.E.R.A. at 276.
\item \textsuperscript{68} Id.
\item \textsuperscript{69} Id.
\item \textsuperscript{70} Id. at 271, 280.
\item \textsuperscript{71} National Parks and Wildlife Act, 1974, § 92C (N.S.W.), \textit{repealed by} Threatened Species Conservation Act, 1995, c.4 (N.S.W.).
\item \textsuperscript{72} See Leatch, 81 L.G.E.R.A. at 280–81.
\item \textsuperscript{73} Land and Environment Court Act, 1979, § 39(2) (N.S.W.); Leatch, 81 L.G.E.R.A. at 272.
\end{itemize}
the Act defines the appeal process as a “re-hearing” in which either party may add or substitute “fresh evidence.”\(^{74}\) Lastly, the Act commits the court to consideration of all other relevant Acts or instruments, as well as the circumstances of the case and the public interest.\(^{75}\)

Upon undertaking the “re-hearing” process, the court in \textit{Leatch} attempted to address the extent to which the precautionary principle should have guided the Director-General’s decision to grant or deny a take or kill license.\(^{76}\) Initially, the court sought to account for both the domestic and international historical development of the precautionary principle.\(^{77}\) The following is a brief synopsis of the court’s analysis.

In 1992, Australia passed the Intergovernmental Agreement on the Environment (IGAE).\(^{78}\) The IGAE establishes the precautionary principle as one consideration that should inform policymaking and program implementation by governmental agencies.\(^{79}\) The IGAE defines the precautionary principle as a “careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment” and “an assessment of the risk-weighted consequences of various options.”\(^{80}\) The IGAE also specifies precise areas to which the precautionary approach should apply, including: data collection and handling; resource assessment; land use decisions and approval processes; environmental impact assessment; national environment protection measures; climate change; biological diversity; and national estate, world heritage, and nature conservation.\(^{81}\) Locally, New South Wales had passed state legislation incorporating the precautionary principle.\(^{82}\) In the Protection of the Environment Administration Act, the state provided the following form of the precautionary principle: “if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.”\(^{83}\)

Although some argued that the Director-General must utilize the precautionary principle due to its inclusion in these agreements and statutes, the court ultimately concluded that the principle must be

\(^{74}\) Land and Environment Court Act, 1979, § 39(3) (N.S.W.).  
\(^{75}\) \textit{Id.} § 39(4).  
\(^{76}\) \textit{Leatch}, 81 L.G.E.R.A. at 281.  
\(^{77}\) \textit{Id.}.  
\(^{78}\) \textit{See id.} at 281–82.  
\(^{79}\) Intergovernmental Agreement on the Environment, 1992, § 3.5 (Austl.).  
\(^{80}\) \textit{Id.} § 3.5.1(i)–(ii).  
\(^{81}\) \textit{Id.} scheds. 1–9.  
\(^{82}\) \textit{Leatch}, 81 L.G.E.R.A. at 281.  
applied simply because it is a “statement of commonsence.”

Judge Stein wrote:

On behalf of the Director-General, Mr Preston made submissions on the incorporation of the international law into domestic law. It seems to me unnecessary to enter into this debate. In my opinion the precautionary principle is a statement of commonsense and has already been applied by decision-makers in appropriate circumstances prior to the principle being spelt out.

Having established a baseline understanding of the precautionary principle as a “commonsense” approach, the court set out to examine the subject matter, purpose, and scope of the NPWA. In doing so, it concluded that the NPWA established a clear regime of protection and care for endangered fauna. Moreover, the court held that, “[t]o this end the scientific committee (in placing fauna on the endangered list), the Director-General (in determination of a license) and the Court (on appeal) are to have regard, inter alia, to the population, distribution, habitat destruction, and ultimate security of a species.” For these reasons, the court determined that the precautionary principle was not extraneous, but rather “clearly consistent with the subject [matter], scope and purpose” of the NPWA. With this in mind, and having examined the expert testimony offered by both sides regarding the proposed highway’s potential for negative impact on local endangered species, the court ultimately determined that the precautionary principle should have been applied to the Council’s request for a take or kill license. On this point, Judge Stein wrote:

Application of the precautionary principle appears to me to be most apt in a situation of scarcity of scientific knowledge of species population, habitat and impacts . . . . In this situation I am left in doubt as to the population, habitat and behavioural patterns of the giant burrowing frog and am un-

84 Leatch, 81 L.G.E.R.A. at 281–82.
85 Id. at 282.
86 See id.
87 See id.
88 Id.
89 Id. at 282–83.
able to conclude with any degree of certainty that a license . . . should be granted.91

The court recognized the need for a balancing test in determining whether or not to approve the take or kill licensing requests.92 The court did not dispute the need for the proposed highway, but it was dissatisfied with the inadequate assessment of alternative routes.93 The court raised two specific concerns with the Council, which preferred the highway under consideration as compared to a proposed shorter and cheaper northern route on the edges of the Bomaderry Creek area.94 First, the court was reluctant to label the shorter, cheaper northern route economically unfeasible simply due to concerns that people would choose not to utilize the new highway due to its close proximity to an existing road.95 Second, the court questioned the Council’s decision to forego inclusion of environmental factors in its cost-benefit analysis of the northern route.96 Ultimately, with the precautionary principle as its baseline, the court rejected the suggestion that the costs of the northern route outweighed its benefits, and found in the alternative, that the benefits of the proposed route outweighed its costs.97

B. India

The Indian Supreme Court also found itself deliberating over the precautionary principle due to concerns arising out of a 1986 suit filed by M.C. Mehta, a public interest lawyer, against the government of India.98 In the suit, Mehta challenged the unhealthy levels of air pollution in Delhi.99 Although the case dragged on for many years, the Supreme Court of India issued a series of orders resulting in several air pollution improvements, including the introduction of unleaded gasoline, catalytic converters, and low-sulfur diesel fuel.100 Furthermore, during this time period, a proposal to convert all buses to compressed natural gas (CNG) was issued by a special committee arising out of India’s Envi-

91 Id. at 284.
92 Id. at 285.
93 See id.
94 See id. at 285–86.
95 Id.
96 Leatch, 81 L.G.E.R.A. at 286.
97 See id. at 286–87.
99 Plater, supra note 12, at 1271.
100 Mehta, 2 S.C.R. at 965.
environment (Protection) Act of 1986 and adopted as a binding directive by the Environmental Pollution (Prevention and Control) Authority.\textsuperscript{101} Upon consideration, in 1998 the Indian Supreme Court established a time limit for the conversion of all Delhi buses to CNG.\textsuperscript{102}

Despite the court having granted two deadline extensions for CNG conversion, the government failed to convert all buses by January 31, 2002, citing shortages of CNG and the strong potential for disruption to bus service.\textsuperscript{103} In response, the court, lacking sympathy and patience, took the extraordinary action of imposing a fine on bus operators of 500 rupees per day per bus operating on diesel fuel.\textsuperscript{104} The court also went so far as to permanently remove approximately 1500 diesel buses from the streets of Delhi.\textsuperscript{105}

In making this decision, the court relied on sections of the Indian Constitution pertaining to the environment.\textsuperscript{106} In relevant part, the Constitution reads: “The State shall endeavour to protect and improve the environment and to safeguard the forests and wild life of the country.”\textsuperscript{107} The court also looked to other sections, which were held to individually and collectively “cast a duty on the State to secure the health of the people, improve public health and protect and improve the environment.”\textsuperscript{108} With these constitutional provisions in mind, the court initially sought to mitigate the government’s failure to discharge its constitutional duty to protect the environment and the health of the people by initiating a campaign of requests and orders aimed directly at Delhi’s governmental air pollution control and reduction measures.\textsuperscript{109} After failing to meet the extended CNG conversion deadline, the court felt compelled to conclude that the Delhi and Indian governments had each actively sought to frustrate the orders of the Court requiring CNG conversion.\textsuperscript{110} The court bolstered this argument by drawing attention to the governments’ intent to: (1) discredit CNG as a proper fuel

\textsuperscript{101} See id. at 966.
\textsuperscript{102} Id.
\textsuperscript{103} See id. at 966–67.
\textsuperscript{104} See id. at 979–80.
\textsuperscript{105} Id. at 979.
\textsuperscript{106} See Mehta, 2 S.C.R. at 965.
\textsuperscript{107} India Const. pt. IV, art. 48A.
\textsuperscript{108} Mehta, 2 S.C.R. at 965. Specifically, the court perceived this duty to be derived from articles 39(e), 47 and 48A. Id.
\textsuperscript{109} See id. at 965–66.
\textsuperscript{110} Id. at 967.
source; (2) represent CNG as a fuel source in short supply; and, (3) delay the siting of adequate dispensing stations.\textsuperscript{111}

The precautionary principle played a central role in the court’s determination that the Delhi and Indian governments had continually shirked constitutional obligations to protect the environment, and consequently the health and safety of the people.\textsuperscript{112} The Court relied on \textit{Vellore Citizens’ Welfare Forum v. Union of India} for a working definition of the precautionary principle.\textsuperscript{113} In that case, the Supreme Court of India held the precautionary principle to require that, “[w]here there are threats of serious and irreversible damage, lack of scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.”\textsuperscript{114} Additionally, the \textit{Vellore} court held that the actor or developer retained the “[o]nus of proof” to illustrate the environmentally benign nature of the proposed action.\textsuperscript{115} Although the court in \textit{Vellore} did not go so far as to require all governmental auto-policy decisions to conform to constitutional principles to the same degree as overriding statutory duties established by the Environmental Pollution (Prevention and Control) Authority, it did require that the precautionary principle be taken into account when determining auto-policy.\textsuperscript{116}

With the \textit{Vellore} decision in hand, the court set out in \textit{Mehta} to assess the environmental situation in Delhi.\textsuperscript{117} The court held that air pollution “leads to considerable levels of mortality and morbidity.”\textsuperscript{118} The court particularly focused on the correlation between air pollution and increased rates of cardiovascular and respiratory diseases, especially in children, as well as the carcinogenic nature of Respirable Particulate Matter (RSPM).\textsuperscript{119} Having accepted the particularly dangerous nature of fine particulate matter, RSPM-PM10, the court noted that Delhi registers PM10 levels above 150–200 mg/m\textsuperscript{3} on an annual basis, whereas India’s annual national average of PM10 is sixty mg/m\textsuperscript{3}.\textsuperscript{120} In response to these findings, it was repeatedly contended on behalf of the

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{111} \textit{Id.}
\item \textsuperscript{112} \textit{See id.} at 969, 972.
\item \textsuperscript{113} \textit{Id.} at 968 (citing \textit{Vellore Citizens’ Welfare Forum v. Union of India}, (1996) Supp. 5 S.C.R. 241, 258 (India)).
\item \textsuperscript{114} \textit{Vellore Citizens’}, Supp. 5. S.C.R. at 258.
\item \textsuperscript{115} \textit{Id.}
\item \textsuperscript{116} \textit{See Mehta}, 2 S.C.R. at 968.
\item \textsuperscript{117} \textit{Id.} at 965, 969.
\item \textsuperscript{118} \textit{Id.} at 971.
\item \textsuperscript{119} \textit{Id.} at 971–72.
\item \textsuperscript{120} \textit{Id.}
\end{itemize}
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Indian governments that no other country in the world had ordered the introduction of CNG buses on such a massive scale.\textsuperscript{121} Both the state and national governments cited the evolving and experimental nature of CNG technology to support this international hesitancy.\textsuperscript{122} Although the court did not contest the limited international use of CNG-fueled buses, it did find it prudent to highlight what it considered a growing global trend toward CNG conversion.\textsuperscript{123} Specifically, the court referenced data showing that CNG buses comprised eighteen percent of the current bus orders and twenty-eight percent of potential bus orders in the United States.\textsuperscript{124} The court also pointed to increased use and assimilation of CNG-fueled buses in China and South Korea as the countries prepared for the Summer Olympics and World Cup Soccer respectively.\textsuperscript{125} The court ultimately held that the precautionary principle should apply to Delhi’s air pollution control policy.\textsuperscript{126} Consequently, the court imposed substantial fines on the Indian government for the ongoing violation of its constitutional obligation to protect the environment and health of the Indian people.\textsuperscript{127}

C. Canada

The British Columbia Court of Appeals recently found itself grappling with the precautionary principle in \textit{Western Canada Wilderness Committee v. British Columbia (Ministry of Forests, South Island Forest District)}.\textsuperscript{128} The appellant, Western Canada Wilderness Committee (WCWC), brought suit to challenge a decision by a Ministry of Forests District Manager (DM), Cindy Stern.\textsuperscript{129} Stern had concluded that Cattermole Timber’s Forest Development Plan (FDP) concerning proposed logging cutblocks met the requirements of section 41(1) of the Forest Practices Code of British Columbia Act (Code),\textsuperscript{130} solely as it

\begin{footnotesize}
\begin{enumerate}
\item Id. at 977.
\item Mehta, 2 S.C.R. at 977.
\item Id.
\item Id.
\item Id.
\item See id. at 969, 972.
\item See id. at 969, 980–81.
\item Id. at 231.
\end{enumerate}
\end{footnotesize}
relates to the spotted owl. The chambers judge upheld Stern’s decision and the WCWC appealed.

In order to better understand the duties and obligations of Stern as DM, the court first looked to the legislative framework underlying the case. The Ministry of Forests Act (MFA) provides for a dual function for the Ministry of Forests: to encourage, on the one hand, “maximum productivity of the forest” and “vigorou, efficient and world competitive timber processing,” and on the other hand, to “manage, protect and conserve the forest.” Similarly, the preamble of the Code speaks to the concept of forest sustainability by focusing on both the need for “stewardship . . . based on an ethic of respect for the land” and the balancing of “economic, productive, spiritual, ecological and recreational values of forests to meet the economic, social and cultural needs of peoples and communities.” Under the Code, ministers can establish an area of Crown land as a Resource Management Zone (RMZ). The Crown land at issue in this case had previously garnered RMZ status. With respect to Crown land, two levels of planning exist: strategic level planning and operational planning. Section 1 of the Code defines the parameters of operational plans, which must include an FDP. Section 41(1) of the Code requires the DM to determine whether a proposed FDP meets the prescribed content requirements:

The district manager must approve an operational plan or amendments submitted under this Part if:

(a) the plan or amendment was prepared and submitted in accordance with this Act, the regulations and the standards, and

(b) the district manager is satisfied that the plan or amendment will adequately manage and conserve the forest resources of the area to which it applies.

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132 Id.
133 See id. at 233.
136 Id. § 3(1).
138 Id.
140 Id. § 41(1).
Pursuant to her section 41(1) duties concerning the FDP prepared by Cattermole Timber, Stern relied on numerous sources of information, including the plight of the spotted owl, which she recognized as an “important forest resource.”\textsuperscript{141} The Committee on the Status of Endangered Wildlife in Canada had placed the spotted owl on the endangered species list in 1986.\textsuperscript{142} In 1995, the British Columbia government announced its intention to devise a broad-based strategy to manage and protect the spotted owl, relying on various land use and resource management initiatives.\textsuperscript{143} Two years later, the provincial government cabinet accepted the end result of this initiative dubbed the Spotted Owl Management Plan (SOMP).\textsuperscript{144} The government implemented SOMP in hopes of stabilizing or improving spotted owl populations over the long term, while limiting significant impacts on timber supply and forestry employment in the short term.\textsuperscript{145} In 1999, the Ministry of Forests Chief established a Resource Management Plan under the SOMP for the Anderson Creek area, where the contested cutblocks were located.\textsuperscript{146} In accordance with SOMP, the director dubbed this land a Special Resource Management Zone (SRMZ).\textsuperscript{147}

Having taken all relevant information into consideration, Stern ultimately determined that the FDPs for three of the four proposed cutblocks prepared by Cattermole Timber failed to meet the requirements of section 41(1)(b) of the Code.\textsuperscript{148} However, Stern did conclude that the FDP for cutblock 37-1, the smallest cutblock proposed, did satisfy the requirements established by the Code.\textsuperscript{149} Cattermole’s proposed utilization of a selective timber harvesting program, aimed toward mitigating negative impacts on spotted owl habitat, played a critical role in Stern’s decision to approve the FDP for the smaller cutblock.\textsuperscript{150} In approving cutblock 37-1, Stern concluded that the FDP submitted by Cattermole “adequately managed

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  \item \textsuperscript{141} \textit{W. Can. Wilderness Comm.,} 15 B.C.L.R.4th at 235.
  \item \textsuperscript{142} \textit{Id.}
  \item \textsuperscript{143} \textit{Id.}
  \item \textsuperscript{144} \textit{Id.}
  \item \textsuperscript{145} \textit{Id.}
  \item \textsuperscript{146} \textit{Id.} at 236.
  \item \textsuperscript{147} \textit{W. Can. Wilderness Comm.,} 15 B.C.L.R.4th at 236. SRMZs were created to facilitate better integration of spotted owl management within forest management generally. \textit{See id.}
  \item \textsuperscript{148} \textit{Id.}
  \item \textsuperscript{149} \textit{Id.}
  \item \textsuperscript{150} \textit{See id.} at 237.
\end{itemize}
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and conserved the spotted owl as a forest resource.”\textsuperscript{151} After hearing WCWC’s appeal of Stern’s decision, the chambers judge—having applied a “patent unreasonableness” standard—ultimately dismissed the WCWC’s petition for judicial review.\textsuperscript{152} In making this determination, the chambers judge specifically rejected the WCWC’s contention that Stern had erred in failing to address the precautionary principle in her decisionmaking process.\textsuperscript{153}

The court of appeals, in hearing this case, first sought to examine the standard of review question.\textsuperscript{154} In doing so, the court rendered two important decisions. First, the court of appeals characterized Stern’s decisionmaking process as “highly fact-driven” and therefore worthy of deference in light of her expertise.\textsuperscript{155}

Second, the court of appeals specifically emphasized the mandatory language of section 41(1)(b), which requires that a DM must approve an FDP if “the district manager is satisfied that the plan or amendment will adequately manage and conserve the forest resources of the area to which it applies.”\textsuperscript{156} The court of appeals, though not subscribing to absolute carte blanche on the part of the DM to make determinations based on “whim or irrelevant criteria,” relied on the subjective nature of the test employed in FDP approval considerations to illustrate the “considerable leeway” the legislature must have intended to bestow upon the DMs.\textsuperscript{157} Consequently, the court of appeals concluded that the legislature intended the judiciary, absent an error of law, to “apply the most deferential standard of review to the decision of a DM under [section] 41(1)(b), that is, the standard of patent unreasonableness.”\textsuperscript{158}

Having determined the proper standard of review, the court of appeals set out to examine the substance of Stern’s approval of Cattermole’s FDP proposal in order to determine whether her decision satisfied the patent unreasonableness standard.\textsuperscript{159} In its appeal, the WCWC contended that section 41(1)(b) of the Code does not allow a

\textsuperscript{151} Id.
\textsuperscript{152} See id.
\textsuperscript{154} Id. at 238.
\textsuperscript{155} Id. at 240.
\textsuperscript{156} Id. at 241.
\textsuperscript{157} Id. (quoting Forest Practices Code of British Columbia Act, R.S.B.C., ch. 159 § 41(1) (1996)).
\textsuperscript{158} See id. at 241; see also Q v. College of Physicians & Surgeons of B.C., [2003] 1 S.C.R. 226, ¶ 26 (Can.).
\textsuperscript{159} W. Can. Wilderness Comm., 15 B.C.L.R.4th at 241.
DM to approve of any FDP proposal that would result in additional risk to an endangered species.\textsuperscript{160} The WCWC based this supposition in large part on the precautionary principle.\textsuperscript{161} The WCWC elaborated on this argument, stating that a precautionary approach mandated a rejection of the FDP for cutblock 37-1, because “Cattermole’s proposed harvesting method was untested . . . the effects of such harvesting in terms of enhancing spotted owl habitat were unknown, and . . . there was an unspecified degree of risk that further harvesting . . . might contribute to extirpation of the spotted owl.”\textsuperscript{162} In contrast, Stern and Cattermole argued that the language used in section 41(1)(b) in no way invokes an application of the precautionary principle that would preclude FDP approval of a project proposing “any element of risk to a forest resource, even where the forest resource is an endangered species.”\textsuperscript{163} Ultimately, the court of appeals accepted the latter argument, holding that inclusion of the word “adequately” within the statute gives rise to a sense of balancing among all of the factors relating to forest resources, and as such precludes a statutory interpretation that would mandate absolute protection of the spotted owl in the name of precaution.\textsuperscript{164}

The court of appeals, however, still sought to determine whether Stern’s decision was patently unreasonable in light of the precautionary principle.\textsuperscript{165} Despite acknowledgment of prior case history discussing the applicability of the precautionary principle to environmental administration,\textsuperscript{166} the court of appeals not only reiterated its conclusion that the statutory language required balancing and proportionality, but went one step further, finding that the legislature’s failure to incorporate the precautionary principle in any way represented a legislative rejection of its applicability in FDP determinations.\textsuperscript{167} The court of appeals bolstered this conclusion by pointing to other legislation which did, in fact, incorporate the precautionary

\textsuperscript{160} Id.
\textsuperscript{161} Id.
\textsuperscript{162} Id. at 242.
\textsuperscript{163} Id. (emphasis added).
\textsuperscript{164} Id. The court bolstered its opinion by identifying legislation that established protected areas for endangered species in which all logging was precluded. See id.
\textsuperscript{166} Id. at 247. The court of appeals looked to Canada Ltee (Spray-Tech, Societe d’arrosage) v. Hudson(ville), in which the majority of the court had concluded that a pesticide by-law had respected the precautionary principle as outlined in the Bergen Ministerial Declaration on Sustainable Development. Id.
\textsuperscript{167} See id. at 247–48.
principle, such as Nova Scotia’s Endangered Species Act and the federal government’s Canadian Environmental Protection Act.\textsuperscript{168} For all of these reasons, the court of appeals refused to find Stern’s decision patently unreasonable on any level, but especially in regard to her use, or disuse, of the precautionary principle.\textsuperscript{169}

III. COMPARATIVE ANALYSIS OF THE PRECAUTIONARY PRINCIPLE AND THE ROLE OF THE JUDICIARY

In all three of the previously discussed cases, the judiciary played a key role in either the promotion or the rejection of a precautionary approach.\textsuperscript{170} In the Leatch v. National Parks and Wildlife Service and Mehta v. Union of India cases, the courts of Australia and India respectively, took an active role in determining the applicability of the principle.\textsuperscript{171} In contrast, the Canadian court in Western Canada Wilderness Committee v. British Columbia (Ministry of Forests, South Island Forest District) adopted a more deferential approach, allowing the relevant governmental administrator significant leeway in determining the extent to which the principle should apply.\textsuperscript{172} It is important to distinguish the various judicial roles adopted in these foreign cases in order to illuminate the various roles courts in the United States might assume when confronted with cases implicating the precautionary principle.\textsuperscript{173} In order to embark on this comparative analysis, however, it is also imperative to gain historical perspective through examination of the role, or roles, U.S. courts have adopted so far when confronted with environmental cases concerning scientific uncertainty and the application of the precautionary principle.\textsuperscript{174} For proponents and detractors alike, a comparative analysis of this sort, when equipped with historical perspective, will ultimately lead to increased predictability of the extent to which the U.S. judiciary may utilize its power to promote the precautionary principle.\textsuperscript{175}

\textsuperscript{168} Id. at 247; see Canadian Environmental Protection Act, S.C. ch. 33, § 2(1)(a) (1999); Endangered Species Act, S.N.S., ch. 11, §§ 2(1)(h), 11(1) (1998) (N.S.).
\textsuperscript{170} See supra Part II.A–C.
\textsuperscript{171} See supra Part II.A–B.
\textsuperscript{172} See supra Part II.C.
\textsuperscript{174} See infra Part III.
\textsuperscript{175} See infra Part III.
Having examined several foreign case studies, an important question arises: why did these judiciaries take markedly different approaches in addressing the extent to which the precautionary principle should apply? One might argue that the obvious and simple explanation is deference, or in other words, the varying degrees to which each court was willing—or not willing—to allow governmental agencies to make their own determinations regarding the precautionary principle. On the surface, an examination of judicial deference may appear superficial; however, in order to recognize the role courts will play in the promotion of the precautionary principle, one must first understand the immense impact deference has had both internationally and domestically. Delving deeper to understand the rationale behind such deference will help to determine whether the U.S. courts will serve as a catalyst or a hindrance in the struggle to promote the precautionary principle.

In Leatch, the court clearly took what some might term an “activist approach” in mandating application of the precautionary principle, which he termed “commonsense.” Although proponents of the precautionary principle may rejoice in the court’s lack of deference, his decision, when viewed in isolation, provides little in the form of guidance. However, by viewing his decision amidst the political and statutory backdrop of both Australia and New South Wales at that time, one gains greater perspective regarding what role, if any, judicial activism might play in adoption of the precautionary principle in the United States. Although Judge Stein defined the precautionary principle as “a statement of commonsense,” one may assume that the court based its decision to reverse the Director-General’s granting of a take or kill license on more than just a personal belief in its impor-

176 See supra Part II.A–C.
177 See supra Part II.A–C.
179 See supra Part II.A–C.
181 See id. at 285–87.
182 See id. at 282–83.
tance and practicability. In fact, two relevant statutes prompted the court to favor precaution in this case.

In Leatch, both the NPWA and LECA played an important role in the court’s decisionmaking process. LECA had an especially important impact, in that its provisions basically authorized the Land and Environment Court to review the Director-General’s decision de novo. These statutes clearly set forth a regime in which deference toward administrative decisionmaking gave way to a powerful and independent judiciary. LECA codifies this reality, reading, “[t]he Court shall, for the purposes of hearing and disposing of an appeal, have all the functions and discretions which the person or body whose decision is the subject of the appeal had in respect of the matter the subject of the appeal.” While some credence must be given to the supposition that the court felt less inclined to defer to the Director-General on account of its own high level of expertise as a specialized environmental law court, one might also argue that the court’s authority derived from the extraordinarily expansive “re-hearing” process established by LECA influenced the court’s decisionmaking process more than any reliance they placed on their own level of expertise. Although Judge Stein emphatically endorsed the precautionary principle as a “commonsense” approach, his reversal of the Director-General’s licensing approval could not so easily be termed “commonsense” without the rules promulgated under LECA.

Similarly, the degree of deference adopted by U.S. courts when dealing with administrative review cases has significantly affected, and will continue to affect, the prospects of the precautionary principle in this country. When discussing the precautionary principle in the United States, many point to Ethyl Corp. v. EPA as a hallmark of judicial preference for precaution in the face of scientific uncertainty. This characterization fails, however, to properly account for the role

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183 See id. at 282.
184 See id. at 272–73.
185 See supra Part II.A.
186 See supra Part II.A.
187 See supra Part II.A.
188 Land and Environment Court Act, 1974, § 39(2) (N.S.W.).
190 See Leatch, 81 L.G.E.R.A. at 282; see also Land and Environment Court Act, § 39(2)-(5).
192 See Plater, supra note 12, at 268–69.
of deference, which influenced the court’s decision much more than any predilection for the precautionary principle.\textsuperscript{193} In \textit{Ethyl}, the Circuit Court for the District of Columbia reviewed regulations promulgated by EPA under the Clean Air Act (CAA) designed to implement a system for the phasing out of lead from gasoline.\textsuperscript{194} In relevant part, the CAA authorized the Administrator of EPA to regulate fuel or fuel additives if their emissions “will endanger the public health or welfare.”\textsuperscript{195} Despite the inconclusive nature of the evidence before him, the Administrator concluded that leaded fuel posed a “significant risk of harm to the health of urban populations.”\textsuperscript{196} Various manufacturers of lead additives and gasoline refiners challenged the regulation primarily on the grounds that EPA lacked sound scientific support for its finding of “significant risk,” and as such, had promulgated an arbitrary and capricious regulation.\textsuperscript{197} The court ultimately rejected the petitioners’ claims and sustained the proposed lead reduction program.\textsuperscript{198}

While on its face this holding seems to suggest the court favored a precautionary approach, a closer examination of the opinion illustrates that the court relied on deference, not the precautionary principle, in sustaining the regulation.\textsuperscript{199} Nowhere in the decision did the court define its duty as that of supporting a precautionary approach in the face of scientific uncertainty.\textsuperscript{200} Instead, the court spoke in terms of a “narrowly defined duty” to hold agency action to “certain minimal standards of rationality.”\textsuperscript{201} The court recognized the precautionary nature of the statute and its “will endanger” standard, but this in no way suggests that the court adopted its own precautionary standard for administrative review involving scientific uncertainty.\textsuperscript{202} The court stated, “[w]e need not seek a single dispositive study . . . . Science does not work that way; nor, for that matter, does adjudicatory fact-finding. Rather, the Administrator’s decision may be fully supportable if it is based, as it is, on the inconclusive but suggestive results of numerous

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\item \textsuperscript{193} See \textit{Ethyl}, 541 F.2d at 28, 36–38.
\item \textsuperscript{194} \textit{Id.} at 7.
\item \textsuperscript{195} Clean Air Amendments of 1970, Pub. L. 91-604, § 211(c)(1)(A), 84 Stat. 1698, 1698 (current version at 42 U.S.C. § 7545 (2002)).
\item \textsuperscript{196} \textit{Ethyl}, 541 F.2d at 8, 12.
\item \textsuperscript{197} \textit{Id.} at 10–11.
\item \textsuperscript{198} \textit{Id.} at 7.
\item \textsuperscript{199} See \textit{id.} at 28, 36–38.
\item \textsuperscript{200} See \textit{id.}.
\item \textsuperscript{201} \textit{Id.} at 36.
\item \textsuperscript{202} \textit{Ethyl}, 541 F.2d at 13.
\end{itemize}
The court might very well have sustained a refusal by EPA to regulate leaded fuel so long as some of the evidence suggested a limited correlation between leaded fuel and adverse health impacts. So while it is true that the court upheld EPA’s leaded fuel regulation—a regulation based on precautionary ideals—in actuality the court’s holding was not at all based on the precautionary principle. In declaring EPA’s leaded fuel regulation “rationally justified,” the Ethyl court endorsed deference, not precaution, and for this reason the case stands in direct contrast with the active role assumed by the Leatch court in endorsing and applying the precautionary principle.

Like Ethyl, the court in Western Canada also adhered to strict judicial deference in reviewing Stern’s approval of cutblock 37-1. Unlike Ethyl, however, the Western Canada court actually rejected the precautionary principle in its pursuit of deferential review. The patent unreasonableness standard that the court applied, though phrased in somewhat different terminology, embodies the same deferential role assumed by U.S. courts applying the arbitrary and capricious standard prescribed by the Administrative Procedure Act (APA) for the review of agency decisionmaking. Unlike the court in Leatch, which did not hesitate to reject the Director-General’s approval of a take or kill license, the Western Canada court, confined by the limits of the patent unreasonableness test, accepted the DM’s determination that the FDP did in fact “adequately manage and conserve” the spotted owl, despite the scientific uncertainty regarding the adverse impacts on the species and its habitat resulting from the proposed logging. Despite clear legislative intent to protect and manage the spotted owl—as outlined in the Spotted Owl Management Plan—the court of appeals, having determined the standard of review to be patent unreasonableness, had no other choice but to uphold the DM’s reading of the Code as requiring

203 Id. at 37–38.
204 See id. at 28, 36–38.
205 See id. at 7, 11, 28, 36–38.
only a balancing test and not a precautionary approach favoring absolute protection of the endangered spotted owl.\(^{211}\)

Judicial deference in U.S. courts leads to similar outcomes.\(^ {212}\) For example, in *Sierra Club v. Marita*, the Sierra Club sought to enjoin timber harvesting, road construction, and development of wildlife openings in the Chequamegon and Nicolet National Forests located in Wisconsin.\(^ {213}\) The Sierra Club argued that by failing to employ the science of conservation biology—the idea that the viability of biological diversity depends on the preservation of sufficiently large habitat—the United States Forest Service (USFS) breached its duty to consider and promote biological diversity in devising Land and Resource Management Plans (LRMPs).\(^ {214}\) Specifically, the Sierra Club contended that the LRMPs, in providing for the division of “large tracts of forest into a patchwork of different habitats,” would ultimately result in a decrease of biological diversity on account of insufficiently sized habitats.\(^ {215}\) Despite agreeing with the Sierra Club that both the National Environmental Policy Act (NEPA) and the National Forest Management Act (NFMA) required USFS to consider and promote biological diversity, the court would not go so far as to conclude that, in choosing to forgo an approach including conservation biology principles, USFS acted arbitrarily or capriciously.\(^ {216}\)

The overpowering effect of deference presents itself throughout the court’s opinion.\(^ {217}\) Like *Ethyl*, the court couches its review in terms of rationality, stating, “[USFS] is entitled to use its own methodology, unless it is irrational.”\(^ {218}\) Although the plaintiffs provided extensive evidence suggesting the efficacy and reliability of conservation biology—evidence which led the district court to conclude that the principle represented sound ecological theory—the court ultimately could not overlook USFS’s conclusion that conservation biology represented, at best, uncertain science.\(^ {219}\) Relying on USFS’s characterization of conservation biology, the court found itself unable to conclude that it acted “irrationally” in adopting LRMPs completely devoid of practices consistent with conservation biology, and further


\(^{212}\) See, e.g., Sierra Club v. Marita, 46 F.3d 606, 624 (7th Cir. 1995).

\(^{213}\) Id. at 608–09.

\(^{214}\) See id. at 608, 610.

\(^{215}\) See id.

\(^{216}\) See id. at 614–16, 620.

\(^{217}\) See Marita, 46 F.3d at 620–21.

\(^{218}\) Id. at 621; Ethyl Corp. v. EPA, 541 F.2d 1, 28 (D.C. Cir. 1976).

\(^{219}\) See Marita, 46 F.3d at 621.
held that while “[t]he Sierra Club may have wished [USFS] to analyze diversity in a different way . . . we cannot conclude . . . that [USFS’s] methodology arbitrarily or capriciously neglected the diversity of ecological communities in the two forests.”\textsuperscript{220} Like Western Canada, the court in this case—guided by deference—declined to use its judicial power to promote and enforce application of the precautionary principle, despite some evidence suggesting biological diversity would be negatively affected contrary to the intent of NEPA and the NFMA.\textsuperscript{221}

The judicial deference entrenched in the systems of countries such as Canada and the United States strongly suggests that judiciaries serve as poor advocates for the promotion of the precautionary principle there.\textsuperscript{222} For this reason, it is imperative that, short of congressional revision of the APA and its deferential standards of review, proponents of the precautionary principle in the United States must look elsewhere for support in their campaign.\textsuperscript{223} Fortunately for them, the judiciary does not monopolize the power and ability to effectuate change in the U.S. political system.\textsuperscript{224}

IV. Comparative Analysis of Administrative Agencies and Precautionary Decisionmaking: Efficacy and Limitations

Having established the inherent limitations placed upon the U.S. judicial system when confronted with debates over scientific uncertainty—as signified in the recurring theme of judicial inability to subvert the statutorily enacted deference-based approach to agency review—logic suggests turning instead to the agencies themselves, in order to assess application of the precautionary principle at the source.\textsuperscript{225} Examination of the foreign case studies, however, indicates that agencies often fail to incorporate the precautionary principle.\textsuperscript{226} Even in \textit{Leatch v. National Parks and Wildlife Services} and \textit{Mehta v. Union of India}, where the precautionary principle prevailed, the catalyst for change was the judiciary, not the particular agency responsible for

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  \item \textsuperscript{220} Id. at 620–21.
  \item \textsuperscript{222} See \textit{Marita}, 46 F.3d at 620–21; \textit{W. Can. Wilderness Comm.}, 15 B.C.L.R.4th at 248.
  \item \textsuperscript{223} See Administrative Procedure Act, 5 U.S.C. § 706(2)(A) (2002).
  \item \textsuperscript{224} See \textit{infra} Parts IV–V.
  \item \textsuperscript{225} See \textit{supra} Part III.
\end{itemize}
Despite cases like *Ethyl Corp. v. EPA*, which highlight the potential for agency-level adoption of precaution in the face of scientific uncertainty, the U.S. administrative state, like its foreign counterparts, cannot presently be viewed as a plausible advocate for the precautionary principle.\(^{228}\) Looking abroad first, the *Leatch* and *Mehta* cases highlight the tendency of administrative agencies to exclude the precautionary principle from their decisionmaking process.\(^{229}\) In *Leatch*, the Director-General acquiesced to the taking or killing of endangered fauna and approved permits that literally paved the way for the proposed highway.\(^{230}\) In making his decision, the Director-General gave no weight to the precautionary principle.\(^{231}\) Instead, he applied a classic cost-benefit analysis that favored acceptance of the proposed highway, regardless of scientific uncertainty and irrespective of the potential for negative impacts on endangered fauna.\(^{232}\) The Director-General placed extra emphasis on both the “definite need for the road” and the speculative uncertainty of the long-term viability of the local endangered fauna populations, even absent construction of the proposed highway.\(^{233}\)

The Indian Supreme Court in *Mehta* also found itself confronting administrative reluctance to adopt the precautionary principle.\(^{234}\) The agency in this case had also applied a cost-benefit analysis to the question of whether CNG-fueled buses should be introduced into urban cities to ameliorate the negative health impacts of alarmingly high air pollution levels.\(^{235}\) After applying cost-benefit analysis, the agency concluded the introduction of a CNG-fueled bus fleet should not be implemented as a means of reducing inter-urban air pollution on account of the high costs of such a program, including not only the financing of a fuel source deemed to be in “short supply,” but also the societal cost resulting from large scale disruption of bus service.\(^{236}\) This decision clearly embodies a risk-management approach to envi-

\(^{227}\) See *supra* Part II.A–B.

\(^{228}\) See *supra* Part III; see also Graham, *supra* note 3, at 2,4 (discussing the U.S. government’s current antipathy toward the precautionary principle).

\(^{229}\) See *supra* Part II.A–B.

\(^{230}\) See *Leatch*, 81 L.G.E.R.A. at 277.

\(^{231}\) See id.

\(^{232}\) See id.

\(^{233}\) Id.


\(^{235}\) See id. at 971–72, 977.

\(^{236}\) See id. at 966–67.
ronmental health issues, which stands in direct contrast with the precautionary principle, and leads to questions concerning the extent of harm that can or will be tolerated. In comparison to their Australian and Indian counterparts, U.S. agencies have also preferred risk-management and cost-benefit analysis over the precautionary principle as guides for decisionmaking and policy determination. In order to understand the role that agencies may play in the development of the precautionary principle, one must first understand the justification underlying the status quo application of risk management and cost-benefit analysis.

John D. Graham, Ph.D., the Administrator of the Office of Information and Regulatory Affairs (OIRA), a statutory office within the Office of Management and Budget (OMB), recently captured the current preference for risk-management and cost-benefit analysis within administrative decisionmaking in his essay, *The Perils of the Precautionary Principle: Lessons from the American and European Experience.* In the introduction, Graham sets the tone for the essay, and not unintentionally, the governmental debate on precaution and scientific uncertainty, when he declares: “[t]he United States government believes it is important to understand that, notwithstanding the rhetoric of our European colleagues, there is no such thing as the precautionary principle.” Notwithstanding his own rhetoric concerning the precautionary principle, Graham does concede the potential benefits of precaution in general, referring to the concept as “sensible.” Of course, Graham also concludes that the only sensible application of precaution occurs under the rubric of risk management.

Graham perceives a precautionary principle unconstrained and independent of risk-management analysis as a “subjective concept”

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238 See Graham, supra note 3, at 2.
239 See id.
240 Id. The Office of Information and Regulatory Affairs, which John D. Graham currently heads, was created in 1980 as a subset of the Office of Management and Budget to oversee information submitted by administrative agencies and to review proposed regulations from the same. See Office of Info. & Regulatory Affairs, OIRA Q&A’s: OIRA’s Review of Agency Regulations 1 (Feb. 26, 2002), at http://www.whitehouse.gov/omb/inforeg/qa_2-25-02.pdf.
241 See Graham, supra note 3, at 1, 2.
242 See id. at 2.
243 See id.
leading to “precaution without principle.”\(^{244}\) In particular, the government fears the principle is prone to manipulation by commercial interests.\(^{245}\) Moreover, the government argues that the precautionary principle necessarily leads to the stifling of technological innovation as a result of what it perceives to be a shift in the burden of proving safety or environmental protection.\(^{246}\) The government notes that technological innovation occurs through processes of “trial-and-error” and “refinement,” and that the precautionary principle’s inflexibility would disrupt these processes.\(^{247}\) Additionally, the government contends that the precautionary principle would actually work counter to its designed purpose, because the “energies of regulators and the regulated community would be diverted from known or plausible hazards to speculative and ill-founded ones.”\(^{248}\) In light of the government’s position, it is not surprising that Graham ends his essay with the presage: “do not be surprised if the U.S. government continues to take a precautionary approach to calls for a universal precautionary principle in regulatory policy.”\(^{249}\)

In keeping with his contempt of a universal precautionary principle, Graham and OIRA are currently in the process of creating a peer review system to review and assess the reliability of science utilized by agencies in their decisionmaking processes.\(^{250}\) Under the proposed rule, agencies would be required to submit most of the information relied upon for administrative actions to external peer review.\(^{251}\) Reviewing panels would be made up of outside experts— independent of the regulating agency—in order to address the professed conflict of interest inherent when nothing separates those who pass the rules from those who analyze the science.\(^{252}\) However, in dealing with regulatory issues plagued by scientific uncertainty, the proposed rules only suggest that peer reviewers help reduce or eliminate uncertainty.\(^{253}\) Commenting on the benefits of the proposed rules,
Graham stated, “[i]t will take agencies some time to do peer review, but in the long run this will make their rules more competent and credible and reduce their vulnerability to political and legal attack.”

Although peer review has long been respected and utilized in the scientific community, many have voiced their concerns over OIRA’s proposed peer review system. Many fear that opponents of health and environmental regulation could utilize the system to “paralyze new regulations and stymie enforcement.” Some see the proposal as an attempt by the Bush Administration to further insulate its corporate allies from protective regulation. In reference to the proposed peer review system, Representative Henry A. Waxman, a Democrat from California, was quoted as saying: “Based on their track record, I’m concerned that the policy they are proposing today will open the door to even more abuse . . . .” In addition, respected scientists have recently leveled charges that the Bush Administration has made a habit of replacing scientists “critical of industry with those sympathetic to corporate and ideological interests.” In light of these charges, Waxman’s concern undoubtedly calls into question the true motive behind the proposed peer review system. Regardless of whether or not these particular concerns are valid, what should be evident is that the peer review system is vulnerable to abuse and misuse. An abusive peer review system would be particularly damaging to precautionary regulations due to the system’s inherent preference for reviewable science. There is a very distinct possibility that the peer review system would allow Graham and others, if they so desired, to thwart the precautionary principle by adhering to a policy of “[w]hen there is uncertainty, don’t regulate.”

254 Vedantam, supra note 252.
255 Id.
256 Id.
257 Id.
258 Id.
259 See id.; see also Guy Gugliotta & Rick Weiss, President’s Science Policy Questioned; Scientists Worry that Any Politics Will Compromise Their Credibility, Wash. Post, Feb. 19, 2004, at A2. In February of 2004, a bipartisan group of highly respected and accredited scientists, including 12 Nobel laureates and 11 recipients of the National Medal of Science, accused the Bush Administration of politicizing science. Gugliotta & Weiss, supra.
260 See Gugliotta & Weiss, supra note 259; Vedantam, supra note 252.
262 See Vedantam, supra note 252 (quoting Gary D. Bass, Executive Director of OMB Watch).
V. COMPARATIVE ANALYSIS OF LEGISLATIVE BODIES: STATUTES, GUIDANCE, AND PUBLIC AWARENESS

With the U.S. judiciary beholden to a system of agency deference, and the administrative state bound to risk assessment and cost-benefit analysis, the future of the precautionary principle currently rests entirely with the legislative branch of government.263 In all three foreign case studies, the respective legislatures influenced to a great degree—either through acts of commission or omission—the extent to which the precautionary principle would be applied.264 The various methods and approaches adopted by these legislative bodies should ultimately serve to illuminate the degree to which legislative bodies in the United States may help or hinder the implementation of the precautionary principle.265

A. The Constitutional Approach

In Mehta v. Union of India, the court began its decision by highlighting numerous articles within the Indian Constitution which it felt cast a positive duty on the government to protect and improve the health of the public and the environment.266 Specifically, the constitution directs that “[t]he State shall endeavour to protect and improve the environment and to safeguard the forests and wild life of the country.”267 The court ultimately based its decision to mandate conversion of Delhi buses to CNG fuel on the grounds that, in failing to address the rising levels of air pollution in the city, the government had violated its constitutional duties to protect the environment and the public health.268 By constitutionally addressing environmental concerns, India has empowered its Supreme Court to adopt and apply the precautionary principle.269

At present time, the United States Constitution does not contain provisions similar to those relied upon by the Indian Supreme Court in Mehta.270 While some might argue for a constitutional amendment, the fact remains that in the nearly four decades since the environ-

263 See supra Parts III–IV; infra Part V.A–B.
264 See supra Part II.
267 INDIA CONST. pt. IV, art. 48A.
268 Mehta, 2 S.C.R. at 969.
269 Id.
270 Compare U.S. Const., with Mehta, 2 S.C.R. at 965, 969.
mental movement began, no such proposal has come anywhere close to gathering the requisite amount of support. While movements favoring environmental amendments have faired poorly at the federal level, success could prove easier if the efforts were shifted to the state level. In fact, several states already have amended their constitutions to address environmental concerns.

The Virginia Constitution contains an example of such an amendment:

To the end that the people have clean air, pure water, and the use and enjoyment for recreation of adequate public lands, waters, and other natural resources, it shall be the policy of the Commonwealth to conserve, develop, and utilize its natural resources, its public lands, and its historical sites and buildings. Further, it shall be the Commonwealth’s policy to protect its atmosphere, lands, and waters from pollution, impairment, or destruction, for the benefit, enjoyment, and general welfare of the people of the Commonwealth.

Like the Indian Constitution, Virginia’s Constitution establishes a policy of environmental conservation; however, the Virginia Supreme Court, in contrast to the Indian Supreme Court in Mehta, declared this provision nonjusticiable. In Robb v. Shockoe Slip Foundation, the court refused to grant the plaintiff’s petition for injunctive relief because the provision lacked a declaration of self-execution, it was not declaratory of common law, and it failed to include any rules conferring the force of law to the principles contained therein. The court further held that the conservation policy established in the provision could be executed only with the aid of supplemental statutory legislation. The court gave support for this assertion by pointing to the very next section of the article, which speaks to the General Assembly’s role in carrying out the conservation policy.

In comparison, the Indian Constitution also contains express notification to the courts that they must refrain from enforcing the envi-

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271 See Plater, supra note 12, at 1273; supra note 14 and accompanying text.
272 See Plater, supra note 12, at 1273–74.
273 Id.
275 See id.; India Const. pt. IV, art. 48A; Robb v. Shockoe Slip Found., 324 S.E.2d 674, 677 (Va. 1985); Mehta, 2 S.C.R. at 969.
276 Robb, 324 S.E.2d at 676–77.
277 See id. at 677.
278 See id.
ronmental provision.\textsuperscript{279} The \textit{Mehta} court’s apparent disregard of this notification further distinguishes that case as more of an outlier than a guide.\textsuperscript{280} Thus, in order for the precautionary principle to gain momentum at the constitutional level in the United States, not only will states have to amend their constitutions, but courts will have to amend the manner in which they address the question of justiciability.\textsuperscript{281} Until courts abandon the approach embodied in \textit{Robb}, the precautionary principle’s greatest hope lies not in constitutional amendments, but rather in statutory legislation.\textsuperscript{282}

\textbf{B. The Statutory Approach}

Both \textit{Leatch} and \textit{Western Canada} exemplify how the existence or nonexistence of statutory legislation pertaining to the precautionary principle may affect both agency and judicial decisionmaking.\textsuperscript{283} The outcome in \textit{Leatch}, despite Judge Stein’s characterization of the precautionary principle as a “commonsense” approach, depended in large part on the existence of legislation at both the federal and state level.\textsuperscript{284} Although these laws ultimately failed to persuade the Director-General to withhold approval of the proposed highway, they did influence the court’s determination to overrule the Director-General.\textsuperscript{285} The court, unlike the Director-General, refused to overlook the scientific uncertainty surrounding the proposed highway’s effect on the sustainability of local endangered fauna.\textsuperscript{286} In the face of such scientific uncertainty, the court, with legislation as its guide, applied the precautionary principle.\textsuperscript{287} In doing so, it effectively reversed course midstream and switched the debate from one of fauna sustainability, to one of project alternatives.\textsuperscript{288} Upon examining all the alternatives, the court determined that an alternative northern route had the potential to address the needs of the competing parties—reduction of increased area traffic and protection of local endangered fauna.\textsuperscript{289} Ultimately, it was the pre-

\begin{itemize}
  \item \textsuperscript{279} \textit{India Const.}, pt. IV, art. 37.
  \item \textsuperscript{280} \textit{See Mehta}, 2 S.C.R. at 965, 969.
  \item \textsuperscript{281} \textit{See Robb}, 324 S.E.2d at 676–77.
  \item \textsuperscript{282} \textit{See id.}
  \item \textsuperscript{283} \textit{See supra Part II.A, C.}
  \item \textsuperscript{285} \textit{See id.} at 277, 281, 287.
  \item \textsuperscript{286} \textit{See id.} at 284.
  \item \textsuperscript{287} \textit{See id.} at 281–84.
  \item \textsuperscript{288} \textit{See id.} at 285–86.
  \item \textsuperscript{289} \textit{See id.}
\end{itemize}
cautionary principle that facilitated the discussion of alternatives and the subsequent northern route compromise, and in turn it was the abundance of legislation that allowed for the application of the precautionary principle in the first place.\footnote{290 See Leatch, 81 L.G.E.R.A. at 281–84, 285–86.}

At first glance, \textit{Western Canada Wilderness Committee v. British Columbia} seemingly represents a case in which a lack of legislation resulted in the court’s refusal to apply the precautionary principle.\footnote{291 See W. Can. Wilderness Comm. v. British Columbia (Ministry of Forests, S. Island Forest Dist.), [2003] 15 B.C.L.R.4th 229, 247–48 (B.C. Ct. App.).} Cattermole and Stern both relied in part on the existence of other legislation that expressly incorporated the precautionary principle, such as Nova Scotia’s Endangered Species Act and the federal government’s Canadian Environmental Protection Act.\footnote{292 Id. at 247.} Ultimately, the court of appeals refused to apply the precautionary principle absent an express requirement from the Code.\footnote{293 Id. at 248.} While this decision clearly illustrates the way in which legislation, or the lack thereof, dictates judicial application of the precautionary principle, this cause and effect relationship only represents half of what should be extracted from this case.\footnote{294 See id.}

In contrast to the judiciary, which pointed to lack of legislation as a basis for its determination that the DM need only adequately manage and conserve the forests, Stern and the Ministry of Forests based their decision to deny FDP approval for other cutblocks in large part on other legislation supporting precautionary decisionmaking.\footnote{295 See id. at 235–36, 242–43, 248.} In making her decision, Stern specifically focused on the spotted owl’s status as an endangered species, and British Columbia’s legislative response to the plight of the spotted owl as exemplified by the Spotted Owl Management Plan.\footnote{296 See id. at 236.} Because of this legislation, Stern ultimately denied three out of the four proposed cutblocks, leaving only the smallest cutblock open to the newly developed, yet untested, selective logging approach advanced by Cattermole.\footnote{297 W. Can. Wilderness Comm., 15 B.C.L.R.4th at 248.} The court acknowledged that Stern utilized a precautionary approach in her decision-making:

\begin{footnotesize}
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\item \footnote{290 See Leatch, 81 L.G.E.R.A. at 281–84, 285–86.}
\item \footnote{292 Id. at 247.}
\item \footnote{293 Id. at 248.}
\item \footnote{294 See id.}
\item \footnote{295 See id. at 235–36, 242–43, 248.}
\item \footnote{296 Id. at 236.}
\item \footnote{297 W. Can. Wilderness Comm., 15 B.C.L.R.4th at 248.}
\end{enumerate}
\end{footnotesize}
[Stern] dealt with this information “by taking a cautious approach to enhancing [owl] habitat in SRMZ’s and monitoring effectiveness.” In other words, she recognized that the question of whether this method of harvesting would enhance owl habitat was not susceptible to strict proof and that caution was, therefore, required. Her concerns in that regard played a significant role in her decision not to permit logging in the other three cutblocks and to limit harvesting to cutblock 37-1, which was considerably smaller in size and easier to monitor.298

While it is informative to recognize the degree to which legislation—or in this case, absence of legislation—influenced the court’s decision to uphold Stern’s approval of cutblock 37-1, of equal importance remains the manner in which legislation influenced Stern to apply the precautionary principle in her decision to withhold permits for the other three cutblocks.299

In the United States, the inadequacy of judicial or administrative intervention necessitates that legislative bodies will have to take direct action if a precautionary approach to scientific uncertainty is ever to be the standard by which environmental decisions are made.300 As the foreign case studies illustrate, the presence or absence of legislation supporting the precautionary principle can significantly affect the extent to which courts and agencies apply the precautionary principle when faced with questions of scientific uncertainty.301 Presently, few city, state, or federal statutes incorporate and promote the precautionary principle as a means to guide decisionmaking or policy determinations.302 While this reality may excite Graham and like-minded individuals, the precautionary principle may yet pervade the consciousness of citizens, judges, and governmental decisionmakers alike, ultimately establishing itself as a viable alternative to status quo risk assessment and cost-benefit approaches.303 Not only are there numerous foreign and international examples from which beneficial guidance may be gleaned, but important statutes have already been passed in the United States that may serve to pave the way for others

298 Id.
299 See id. at 235–36, 248.
300 See supra Parts III–IV.
303 See Graham, supra note 3, at 4.
at all levels of government. Before turning to these statutes, however, it is informative to examine the various ways past legislation has affected the precautionary principle.

When examining the legislative history of the precautionary principle in the United States, *Ethyl Corp. v. EPA* stands out as an important yet easily misunderstood case. As noted earlier, the significance of the case lies not in the judiciary’s deferential support of the precautionary approach adopted by EPA in its decision to phase out leaded gasoline, but rather in the underlying legislation that encouraged EPA to adopt the precautionary approach in the first place. The CAA, the relevant statute in this case, with its “will endanger” standard, empowered EPA to implement the regulation on leaded gasoline, despite the inconclusive correlation between this product and adverse health effects. For this reason, EPA’s decision in the *Ethyl* matter parallels the decision Stern made in *Western Canada* to deny permits for three of the four proposed cutblocks. While the “will endanger” provision of the CAA illustrates the potential influence statutes can have on agency adoption of the precautionary principle, not all environmental legislation is as precautionary in nature.

In contrast to *Ethyl*, *Sierra Club v. Marita* illustrates the typical approach to environmental legislation, where protection of health and the environment is but one of many factors comprising the cost-benefit, risk analysis, or overall multiple-use analysis performed by agencies. In *Marita*, the National Forest Management Act required the Department of Agriculture to consider biological diversity in developing Land and Resource Management Plans (LRMPs) for the Chequamegon and Nicolet Forests. However, the statute does not go so far as to mandate the preservation of biological diversity. In fact, the Department of Agriculture need only take steps to preserve the diversity of tree species “where appropriate” and “to the degree

304 See Sci. & Health Envtl. Network, supra note 302; see also supra Part II.A–C.
306 See supra Part III.
307 See Ethyl, 541 F.2d at 13, 28.
310 See Marita, 46 F.3d at 614–15; Ethyl, 541 F.2d at 13, 28.
311 See Marita, 46 F.3d at 614–15.
312 See id. at 609, 614–15.
Furthermore, the court recognized that the Department of Agriculture had authority to allow for a reduction of plant and animal diversity when needed to meet overall multiple-use objectives. In light of this tempered statutory stance on the importance of biological diversity, it should come as no surprise that the agency opted to adopt LRMPs, allowing for division of the forest into a patchwork of different habitats, despite scientific uncertainty concerning the viability of local plant and animal species resulting from this approach. In an equally predictable move, the court, having no legislative framework with which to work, ultimately denied the precautionary principle as embodied by the conservation biology approach proposed by the Sierra Club. In this way, the outcome of this case is similar to the outcome in *Western Canada*.  

While the legislation relied upon in *Marita* may represent the norm in the United States, advocates of the precautionary principle may find hope in a recent legislative development in the city of San Francisco. In the summer of 2003, the city of San Francisco became the first city to formally adopt the precautionary principle. Having based its version of the principle—known as the Precautionary Principle Ordinance (Ordinance)—on existing formulations, the language takes on a familiar appearance:

Where threats of serious or irreversible damage to people or nature exist, lack of full scientific certainty about cause and effect shall not be viewed as sufficient reason for the City to postpone cost effective measures to prevent the degradation of the environment or protect the health of its citizens.

The drafters of the Ordinance, however, knew that an environmental policy based on the precautionary principle, which was to apply to all officers, boards, commissions, and departments of the city and county of San Francisco conducting affairs in their governmental capacity,
would have to include a statement of the precautionary principle, a
detailed explanation of the processes involved, and the benefits accru-
ing from its implementation.322 This detail, which distinguishes the
Ordinance from many of its predecessors, ultimately gives legitimacy
to this relatively nascent and widely unknown method of environ-
mental decisionmaking.323

In terms of process, the Ordinance prompts governmental actors,
when faced with the threat of “serious or irreversible” damage to hu-
man health or the environment, to consider alternatives using the best
science available.324 This process of alternative assessment attempts to
shift the decisionmaking process away from risk assessment, which asks
how much harm can be tolerated.325 In contrast, alternative assessment
asks whether the potentially hazardous activity is necessary, whether less
hazardous options are available, and how little damage is possible.326 In
analyzing alternatives, governmental actors are to consider both short-
term and long-term effects and costs, as well as the “potentially adverse
effects of each option, noting options with fewer potential hazards.”327
Furthermore, the Ordinance also stresses the importance of public par-
ticipation in the assessment of alternatives.328 The lawmakers envi-
sioned that the public would play an integral part in both setting the
range of alternatives to be addressed and in determining the potential
for each alternative assessed.329

Additionally, the Ordinance highlights the numerous benefits that
will result from implementation of an alternatives-based precautionary
policy.330 First, the Ordinance notes that anticipatory action, as out-
lined by the precautionary principle, will result in the reduction of
harm to both people and the environment.331 Second, the precaution-
ary principle fosters the implementation of safer alternatives that are
technologically possible and fiscally responsible, and which may have
been overlooked or underappreciated under the former risk-
management regime.332 An offshoot benefit of this alternatives-based

322 See id. §§ 100–01.
323 See id.; supra Part I.B.
325 S.F. Dep’t of the Env’t, supra note 237, at 13.
327 Id. § 100(F), (G).
328 See id. §§ 100(G), 101.
329 See id. § 100(G).
330 See id. §§ 100–01.
331 See id. § 101.
approach will be the promotion of technological advancements, which
will play a crucial role in the cultivation of safer, cost-effective alterna-
tives.\footnote{See id. §§ 100(E), (I), 101.}

The Ordinance, by promoting public involvement in the deci-
sionmaking process, works to increase public awareness.\footnote{See id. § 100(G).} Such public
involvement benefits society on two fronts.\footnote{See id. § 100(G), (I).} First, it helps to increase
the representative nature of government, as all citizens will be empow-
ered and given an important voice in decisions concerning their own
health and the health of the environment.\footnote{See id. § 100(G).} Second, public involve-
ment and increased awareness of environmental issues may help to
spur a “behavioral revolution,” where citizens increasingly recognize
the personal responsibilities and obligations inhering to them as critical
participants in the ongoing struggle to ensure that the “air, water, earth
and food be of a sufficiently high standard that individuals and com-
}munities can live healthy, fulfilling, and dignified lives.”\footnote{Id. § 100(A), (I).}

The Ordinance can be utilized to counter critiques leveled by
detractors of the precautionary principle, such as John Graham.\footnote{See S.F., Cal., Envtl. Code ch.1, §§ 100–01 (2003); Graham, supra note 3, at 3.}
One critique of the precautionary principle is that its vagueness ren-
ders it useless.\footnote{See Mary O’Brien, Critiques of the Precautionary Principle, RACHEL’S ENV’T & HEALTH NEWS, No. 781 (Dec. 4, 2003), available at http://www.sfgov.org/sfenvironment/articles_pr/2003/article/120503.htm.} This critique serves as the basis for Graham’s charac-
terization of the principle as a “subjective concept” that will inevitably
lead to “precaution without principle.”\footnote{See Graham, supra note 3, at 3.} In rebuttal, proponents
have pointed to the specificity of the Ordinance, which details the
who, the what, the where, the when, the why, and most importantly,
the how, of applying the precautionary principle to environmental
decisionmaking.\footnote{See O’Brien, supra note 339.} Another argument raised by detractors of the pre-
cautionary principle, including Graham, is that the precautionary
principle, in shifting the burden of demonstrating human and envi-
ronmental safety to producers, necessarily stifles scientific and eco-
nomic progress.\footnote{See id.; Graham, supra note 3, at 4.} Advocates of the precautionary principle respond,
however, that these arguments fail to take into account the inherent
flexibility of an alternatives-based approach. The Ordinance does not require zero harm, only less harm. In analyzing alternatives, the expectation is not “that all harm, all impact, [and] all risk of harm will be absent,” but rather that after consideration of foreseeable economic, health, and safety concerns, a feasible alternative will be chosen with the “least potential impact on human health and the environment.” In this regard, the Ordinance anticipates outcomes similar to Stern’s decision to withhold permits for three proposed cutblocks, Judge Stein’s decision to forgo the proposed highway in favor of an alternative northern route, and the India Supreme Court’s decision to mandate conversion of diesel-fueled buses to CNG.

**Conclusion**

From its inception in the early 1970s as a German response to increasing air pollution, the precautionary principle has slowly developed into an internationally-recognized environmental management tool. In practice, the precautionary principle provides one method by which to address questions of scientific uncertainty, which commonly arise when dealing with issues affecting the environment and human health. Despite growing popularity of the precautionary principle, as evidenced by its inclusion in a plethora of international agreements and treaties, governments from around the world have responded in markedly different ways when determining the extent to which, if at all, it should be assimilated into governmental decisionmaking. The federal government of the United States currently takes the position that the precautionary principle does not represent a viable solution for dealing with questions of scientific uncertainty. The government suggests that the precautionary principle actually poses a threat to this country because of its supposed vagueness and imprecise nature, and its inherent requirement that proponents of action or activity carry the burden of proving safety, both of which the government believes will lead to a stifling of economic progress and a decrease in the standard of living.

Internationally, countries have taken varying stances regarding the precautionary principle. These choices provide valuable insight into the role governments can play in either the adoption or rejection of the principle. 

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343 See O’Brien, supra note 339.
344 Id.
345 Id.
346 See supra Part II.A–C.
of this relatively new environmental management tool. More specifically, they help emphasize the potential for agency indifference, the obstacle of judicial deference, and the importance of legislation in lessening the impact of these roadblocks. Additionally, and importantly, they illustrate that the precautionary principle, in order to be effective, need not be as inflexible as detractors portray it. Transferring these concepts to situations in the United States will help to illuminate the ways in which the precautionary principle may continue to prosper and grow in use, despite the federal government’s current opposition.

The Ordinance passed in San Francisco exemplifies this potential. In adopting the precautionary principle, San Francisco not only ensured future health for both humans and the environment, but it provided a detailed, flexible policy that will serve to guide other legislative bodies interested in adopting an alternative to the status quo risk-assessment and cost-benefit approaches to scientific uncertainty. In stressing the importance of an alternatives-based approach to precaution, as well as overall public awareness and involvement, the city of San Francisco created a policy capable of standing up to the federal government’s attack on the precautionary principle. While San Francisco was the first city to pass legislation adopting the precautionary principle, it most likely will not be the last. Together, the San Francisco Ordinance and its future progeny may eventually inspire the federal government to dedicate itself to responsible management of both human health and environmental protection through adoption of a widely unknown and highly misunderstood, yet powerful and flexible environment management tool—the precautionary principle.