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ENGLAND'S CONTAMINATED LAND ACT OF 1995: PERSPECTIVES ON AMERICA'S APPROACH TO HAZARDOUS SUBSTANCE CLEANUPS AND EVOLVING PRINCIPLES OF INTERNATIONAL LAW

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The approaches that other legal systems take to solving important legal problems may provide insights into the strengths and weaknesses of the approaches that our own legal system takes to those same problems. These insights may be particularly instructive in situations in which the other legal system has taken a different approach because our own approach has been perceived as flawed.

An important contemporary problem in environmental regulation concerns the cleanup of property that is an unfortunate legacy of the modern industrial age—acres of land affected by past inadequate disposals of toxic substances.1 The United States began to address this problem in 1980 with the enactment of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).2 CERCLA establishes both a liability regime for assigning the costs of cleaning up lands contaminated by the release of hazardous substances3 and regulatory requirements defining how those cleanups are to be pursued.4 In 1995, England enacted the Contaminated Land Act (alternatively referred to as the CLA),5 its first effort to address comprehensively the cleanup of land contaminated by hazardous

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1 See Michael P. Healy, Direct Liability for Hazardous Substance Cleanups Under CERCLA: A Comprehensive Approach, 42 CASE W. RES. L. REV. 65, 67 & n.2 (1992) (discussing estimate that the cost of cleaning up releases of hazardous substances in the United States will reach $500 billion).
3 See infra notes 61-75 and accompanying text.
4 See infra notes 99-112 and accompanying text.
5 Environmental Act of 1995, Ch. 25, § 57 (Eng.) (adding new Part IIA to the Environmental Protection Act of 1990) [hereinafter CLA §§ 78A-78YC].
substances. England's new approach to the cleanup of contaminated land was determined in part by its government's view that CERCLA defined regulatory provisions that are too controversial and costly.

Close consideration of the CLA should accordingly provide rich insights into an alternative approach to remediating contaminated land. In addition to providing an important perspective for reconsidering America's approach to the remediation of contaminated land, England's CLA also should be considered along with CERCLA in a less parochial legal context, that is in the context of international environmental law. Observers of the rapid development of international environmental law have made claims that several important principles have evolved that are broadly accepted by all nations. National legislation may therefore be examined to assess the extent to which it adheres to these purportedly generally accepted principles. The Contaminated Land Act, as well as our own national law of contaminated land cleanup, can be most profitably assessed by reference to two broadly accepted evolving principles—the precautionary principle and the polluter-pays principle. Insights can also be gained by considering the extent to which the two statutory schemes reflect in the treatment of their own citizens two evolving international law principles that govern international relations—the principles of adequate consultation and nondiscrimination.

This Article will compare and contrast the CERCLA regime for remediating contaminated land with the CLA's principal provisions and

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9See infra Part I.

10See infra Part II.

11See infra Part III.

12See infra Part IV.
requirements. This discussion will be organized by reference to the four emerging principles of international environmental law.

I. THE PRECAUTIONARY PRINCIPLE AND THE CLEANUP OF CONTAMINATED LAND

A. A Brief Description of the Precautionary Principle

The precautionary principle is the term that is used to describe the important shift in environmental law from a regime that required a showing of actual harm to human health or the environment before a regulatory response could be pursued to a regime that permits or requires a regulatory response when harm to human health or the environment is threatened. In American law, a commonly recognized illustration of this shift involves the litigation resulting from discharge of tailings into Lake Superior by the Reserve Mining Company in the 1970s. A panel of the Eighth Circuit had initially concluded that an injunction barring the company’s discharges should be stayed pending appeal because there had been no showing of actual harm, but only "a bare risk of the unknown." After the Eighth Circuit sitting en banc heard the appeal on the merits, the court concluded that a remedy was available because the discharge of mill tailings presented a threat of harm to human health, and such a threat was actionable under the applicable statutory provision. The decision of the federal Court of Appeals for the District of Columbia Circuit in Ethyl Corp. v. EPA developed this approach by articulating the position that endangerment required a consideration of both the likelihood of an injury and the extent of the threatened injury. A precautionary regulatory response was proper based on a balancing of the likelihood and the extent of the threatened injury.

The similar approach taken by these courts has now become firmly established as a principle not only of American statutory and

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14See Reserve Mining Co. v. EPA, 514 F.2d 492 (8th Cir. 1975) (en banc).
15Reserve Mining Co. v. EPA, 498 F.2d 1073, 1084 (8th Cir. 1974).
16See Reserve Mining Co. v. EPA, 514 F.2d at 535-42.
17Ethyl Corp. v. EPA, 541 F.2d 1 (D.C. Cir. 1976) (en banc).
18Id. at 5-6.
19See, e.g., 33 U.S.C. § 1364(a) (Clean Water Act provision authorizing abatement action when pollution presents "an imminent and substantial endangerment"); 42 U.S.C. § 6973(a) (similar abatement authority under the Resource Conservation and Recovery Act); 42 U.S.C. §
common law, but also of international environmental law. The principle is recognized in important recent treaties, as well as by commentators. The fact that this principle is now well recognized and established does not mean that it is noncontroversial and simply applied. The precautionary principle and the related application of risk analysis in environmental law have been the subject of discussion and discord both domestically and internationally.

B. CERCLA’s Strong Adherence to the Precautionary Principle

In the context of contaminated land regulation, CERCLA adheres very strongly to the precautionary principle. Adherence can perhaps be seen most clearly in three features of the statutory structure. First, the statute’s applicability, that is the authority to pursue cleanups, is triggered quite easily. When contamination by a hazardous substance is implicated, cleanup may be pursued when the hazardous substance “is released or there is a substantial threat of such a release into the environment.” The statute accordingly is based on the policy determination that any release of hazardous substances, indeed any significantly threatened release of such substances, necessitates precaution in the form of a permitted administrative response.

Second, the precautionary principle is implicit in the standards that must be met for cleanups pursued under CERCLA. Final cleanups, 7603 (similar abatement authority under the Clean Air Act).


See SANDS, supra note 8, at 208-13 (discussing adoption of the principle in several treaties).

See HUNTER ET AL., supra note 8, at 360-63.

See, e.g., Industrial Union Dep’t, AFL-CIO v. American Petroleum Inst., 448 U.S. 607 (1980) (decision exploring the requisite showing of endangerment required for a regulatory response under the federal workplace safety statute). Domestic reluctance to adhere strongly to the precautionary principle can also be seen in the state programs for voluntary cleanup of brownfields. These programs permit residual risks to remain at sites that have been cleaned up for redevelopment. See infra notes 125-130 and accompanying text.

See, e.g., Daniel Bodansky, Scientific Uncertainty and the Precautionary Principle, 33 ENV’T 4 (1991), excerpted in HUNTER ET AL., supra note 8, at 361-63. International reluctance to adhere strongly to the precautionary principle can also be seen in the mixed reaction to international efforts to address the problem of global climate change by limiting emissions of greenhouse gases. See Peter Newell, A Changing Landscape of Diplomatic Conflict: The Politics of Climate Change Post- Rio, in THE WAY FORWARD: BEYOND AGENDA 21, 37 (Felix Dodds ed., 1997).

42 U.S.C. § 9604(a)(1). If the substance is not hazardous, then the release or threatened release of the pollutant or contaminant has to “present an imminent and substantial danger to the public health or welfare” to permit a response action. Id.
or remedial actions, pursued under the statute must "assure[] protection of human health and the environment." This health standard is met through the requirement that a remediated site comply with standards identified in other environmental statutes that are "legally applicable ... or relevant and appropriate under the circumstances" (ARARs). Moreover, with respect to site remediation, CERCLA establishes a preference for permanent, treatment-based remedies. Because such remedies are more expensive, CERCLA indicates that protection of health and the environment is more important than savings that might be accomplished by allowing the mere capping and closure of a site.

CERCLA's third and final important indicator of its strong adherence to the precautionary principle is its judicial review preclusion provision. That provision has the effect of postponing issues of liability for cleanups until after the site has been cleaned up at least initially and any threat to human health or the environment has been abated. The provision conforms to the precautionary principle, because it commits affected parties to cleaning up hazardous substances before concerns about cleanup liability may be addressed in litigation.

C. The CLA's Limited Adherence to the Precautionary Principle

The three indicia of adherence to the precautionary principle discussed with regard to CERCLA may be used to contrast the regulatory approach of the Contaminated Land Act and that statute's implicit rejection of CERCLA and its strong adherence to the precautionary principle.


29See Healy, supra note 27, at 276.

1. The Trigger for Applicability of the CLA: The "Significant Harm" Standard

The CLA defines contaminated land as:

any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land, that—

(a) significant harm is being caused or there is a significant possibility of such harm being caused; or
(b) pollution of controlled waters is being, or is likely to be, caused . . . .31

This trigger differs in several important ways from the CERCLA trigger. Rather than the straightforward standard of a release (or significant threat of a release) of any hazardous substance, the CLA requires proof that conditions at the site are causing "significant harm" or a "significant possibility of such harm."32 To be sure, the latter showing is a type of endangerment, but it likely requires too much in the way of both quantity of harm and likelihood of harm than would typically be required under the precautionary principle. The CLA's alternative standard effectively permits an inference of "significant harm" from actual or "likely" pollution of controlled waters.33 Again,

31 CLA §78A(2).
32 Other provisions indicate that the "significant harm" standard is to be applied broadly. CLA §78A(4) defines "harm" broadly to include "harm to the health of living organisms or other interference with the ecological systems of which they form part and, in the case of man, includes harm to his property." Regarding the definition of contaminated lands, the CLA provides that the effects of sites may be aggregated to meet the contaminated land standard:

(1) Where it appears to a local authority that two or more different sites, when considered together, are in such a condition, by reason of substances in, on or under the land, that—

(a) significant harm is being caused or there is a significant possibility of such harm being caused, or

(b) pollution of controlled waters is being, or is likely to be, caused, this Part shall apply in relation to each of those sites, whether or not the condition of the land at any of them, when considered alone, appears to the authority to be such that significant harm is being caused, or there is a significant possibility of such harm being caused, or that pollution of controlled waters is being or is likely to be caused.

CLA §78X(1).
33 The statute, however, includes a narrow definition of when waters are affected by contaminated land by requiring actual pollution or a likelihood of pollution of controlled waters. See CLA §78A(8) ("Controlled waters are "affected by" contaminated land if (and only if) it appears to the enforcing authority that the contaminated land in question is, for the purposes of subsection (2) above, in such a condition, by reason of substances in, on or under the land, that
the less stringent CERCLA standard should permit cleanups in some cases before contamination of water resources is threatened by release of hazardous substances into the environment. In short, although the CLA’s trigger may not require actual harm before the statute will apply, it is far less precautionary than CERCLA in identifying land as contaminated.\textsuperscript{34}

The Contaminated Land Act’s trigger for the regulation of so-called “special sites” is set at even a higher level. The statute grants the Secretary of State power to define these special sites\textsuperscript{35} and indicates that the key considerations for defining contaminated land as a special site are the following:

(a) whether land of the description in question appears to him to be land which is likely to be in such a condition, by reason of substances in, on or under the land that—
   (i) serious harm would or might be caused, or
   (ii) serious pollution of controlled waters would be, or would be likely to be, caused; or
   (b) whether the appropriate Agency is likely to have expertise in dealing with the kind of significant harm, or pollution of controlled waters, by reason of which

\textsuperscript{34}Regulations to be issued under authority of the statute will further determine how precautionary the statute will be as it is implemented. The statute grants the Secretary of State significant power to promulgate binding guidance on the definition of significant harm. The CLA provides that the Secretary of State is to issue guidance on the “questions —
   (a) what harm is to be regarded as ‘significant’,
   (b) whether the possibility of significant harm being caused is ‘significant’,
   (c) whether pollution of controlled waters is being, or is likely to be caused.”

CLA §78A(6) provides further that, when defining significance, the Secretary of State has authority to make a broad range of distinctions:

(6) Without prejudice to the guidance that may be issued under subsection (5) above, guidance under paragraph (a) of that subsection may make provision for different degrees of importance to be assigned to, or for the disregard of,—
   (a) different descriptions of living organisms or ecological systems;
   (b) different descriptions of places; or
   (c) different descriptions of harm to health or property, or other interference

CLA §78 A(6).

\textsuperscript{35}CLA §78C(10).
land of the description in question is contaminated land.36

Land defined as a "special site" because it causes "serious harm" or "serious pollution of controlled waters" is subjected by the Contaminated Land Act to special national oversight.37 This national control over land that poses special risks to public health may be compared to the special federal interest in the most serious CERCLA sites included on the National Priorities List (NPL).38 Indeed, as the CERCLA statutory regime has evolved, sites posing less significant threats to public health that are not included on the NPL have become the focus of state and local interest,39 with applicable requirements often being less stringent than the standards of CERCLA.40

2. CLA Standards for Permitted Remediation: The "Reasonable Measures" Limitation and Risk-Based Cleanup

As with the threshold determinations for designation as contaminated land or a special site, which depend on assessments of the degree of harm threatened by substances in, on, or under the property, the Contaminated Land Act modifies the precautionary approach to defining appropriate remediation measures.41 Once property has been designated as a special site or identified as contaminated land, the CLA

36 "(10) Without prejudice to the generality of his power to prescribe any description of land for the purposes of subsection (8) above, the Secretary of State, in deciding whether to prescribe a particular description of contaminated land for those purposes, may, in particular, have regard to--
(a) whether land of the description in question appears to him to be land which is likely to be in such a condition, by reason of substances in, on or under the land that--
(i) serious harm would or might be caused, or
(ii) serious pollution of controlled waters would be, or would be likely to be, caused; or
(b) whether the appropriate Agency is likely to have expertise in dealing with the kind of significant harm, or pollution of controlled waters, by reason of which land of the description in question is contaminated land." CLA §78C(10).

37 CLA §78Q regulates the remediation of special sites. CLA §78Q(1) provides that, for special sites, the national agency may adopt the remediation notice served by the local authority for the contaminated land. CLA §78Q(2) provides that, if a local authority has itself begun to take remediation action, it may proceed with the remediation action at the special site, as well as have cost recovery authority. Finally, §CLA 78Q(3) grants the appropriate national Agency continuing periodic inspection authority with respect to special sites.

38See Healy, supra note 27, at 277.
40See id. at 24.
41CLA §78A(7) defines "remediation" broadly to include assessment, cleanup, and post-cleanup monitoring.
requires the "enforcing authority" to "serve on each person who is an appropriate person a notice (in this Part referred to as a 'remediation notice') specifying what that person is to do by way of remediation and the periods within which he is required to do each of the things so specified." The enforcing authority also must pursue reasonable consultation with directly affected persons prior to serving this remediation notice.

The Contaminated Land Act imposes significant limitations on the remediation that may be required by a notice. Most importantly, the CLA identifies the basic framework for evaluating remediation activities and that framework permits the government to require only "reasonable measures" based on the consideration of the costs of and seriousness of harm prevented by the proposed remedial action. To

4CLA §78E(1).
43 "(1) Before serving a remediation notice, the enforcing authority shall reasonably endeavor to consult--
(a) the person on whom the notice is to be served,
(b) the owner of any land to which the notice relates,
(c) any person who appears to that authority to be in occupation of the whole or any part of the land, and
(d) any person of such other description as may be prescribed,
concerning what is to be done by way of remediation." CLA §78H.

CLA §78H(4) provides an exception to the consultation requirement and the timing prohibitions in cases of imminent serious danger. This provision may be analogized to the limited consultation for removal actions under Superfund. See Healy, supra note 27, at 274-75. The Contaminated Land Act also grants remediation authority directly to the enforcing authority when remediation is necessary to prevent imminent danger of serious harm or serious pollution of controlled waters (i.e., standards for special site). See CLA §§78N(1), (3).

The CLA also provides specifically that a remediation notice "may require an appropriate person to do things by way of remediation, notwithstanding that he is not entitled to do those things." CLA §78G(1). This requirement is enforced by requiring that "[a]ny person whose consent is required before any thing required by a remediation notice may be done shall grant, or join in granting, such rights in relation to any of the relevant land or waters as will enable the appropriate person to comply with any requirements imposed by the remediation notice." Id. § 2. This provision is broadly analogous to CERCLA's entry authority provision. See 42 U.S.C. § 9604(e).

Regarding this consent requirement, the statute does provide that reasonable efforts should be made to consult with any parties that must grant consent prior to serving the remediation notice (CLA §78G(3)), although this advance consultation is not required in "in any case where it appears to the enforcing authority that the contaminated land in question is in such a condition, by reason of substances in, on or under the land, that there is imminent danger of serious harm, or serious pollution of controlled waters, being caused." Id. § 78G(4). CLA §78G(5) also entitles any person who is required to give consent to recover compensation from an appropriate person.

"(4) The only things by way of remediation which the enforcing authority may do, or require to be done, under or by virtue of this Part are things which it considers reasonable, having regard to--
(a) the cost which is likely to be involved; and
(b) the seriousness of the harm, or pollution of controlled waters, in question." CLA §78E(4).
implement this "reasonable measures" limitation, the Act provides the Secretary of State with authority to promulgate binding guidance on the following critical remediation issues:

(a) what is to be done (whether by an appropriate person, the enforcing authority or any other person) by way of remediation in any particular case,
(b) the standard to which any land is, or waters are, to be remediated pursuant to the notice, or
(c) what is, or is not, to be regarded as reasonable for the purposes of subsection (4) above.\(^4\)

The Act reconfirms this central "reasonable measures" limitation when it defines several circumstances in which the enforcing authority is not permitted to serve a remediation notice. The first such circumstance is when the authority concludes that no reasonable remediation measures are available to be taken given the costs and benefits of such measures.\(^5\)

Thus, unlike CERCLA, which mandates that remedial actions eliminate all threats to human health,\(^6\) the CLA requires only remediation that is cost effective. The latter statute accordingly allows risks to human health that amount to "significant harm," when the costs of eliminating those risks are too high. This market-driven regulatory scheme undercuts the precautionary principle because high cleanup costs should prove easier to quantify than the uncertain risks posed by continued exposure to low levels of toxic chemicals.\(^7\)

Consistent with its standard for permitted remediation activities, England has adopted a risk-based approach to defining the appropriate standards for clean-up. Interestingly, the CLA does not itself expressly define clean-up standards for the remediation of

\(^4\)CLA §78E(5).
\(^5\)CLA §78H(5)(a). CLA §78H(6) requires the enforcing authority to prepare a "remediation declaration" explaining the reasons why it has not required remediation measures based on its evaluation of the costs and benefits associated with such measures. See supra notes 26-27 and accompanying text.
\(^6\)Because it allows continued, but not significant, risks of exposure to toxic substances, the CLA is similar to the cleanup standards developed by states in their brownfields programs. See GENERAL ACCOUNTING OFFICE, supra note 39, at 35-42. Professor Steele has written that the CLA's cleanup standard establishes only a liability rule, rather than a property rule, to protect against the effects of hazardous substance releases because it relies on market efficiency to determine whether cleanup is warranted. See Steele, supra note 6, at 631.
contaminated land. Rather, the CLA provides the Secretary of State with authority to promulgate binding guidance on "the standard to which any land is, or waters are, to be remediated pursuant to the [remediation] notice." Government policy articulated both prior to and after enactment of the Contaminated Land Act, however, has indicated that the government will take a "suitable for use" approach to cleanup standards: "the standard of remediation required will be that appropriate to the current use, rather than restoration of land to a pre-industrial state, or to render it fit for any or all possible future uses."

Again, the CLA, unlike CERCLA, is driven by market-based concerns about reasonable levels of cleanup, rather than a paramount purpose of eliminating the potential risks to human health that are posed by hazardous substances in the environment. CERCLA's required use of ARARs and strong preference for permanent remedies mean that the statute's approach is far more precautionary than the CLA, which seems more concerned that money not be wasted in eliminating risks unnecessarily.

3. Appeal of the Remediation Notice Under the CLA

CERCLA's required delay in the litigation of issues related to liability or required cleanup measures has been understood as necessary to meet Congress's goal of speeding cleanups and limiting the threats to human health posed by releases of hazardous substances. The approach of the CLA differs greatly. The statute provides that a person who receives a remediation notice has a right to appeal that notice within twenty-one days of its receipt. Moreover, the CLA gives the

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49 One possible inferential standard identified by the statute is that remediation may be required to eliminate contamination only to the degree necessary to eliminate the land's status as contaminated land.

50 CLA §78E(5)(b).


53 Id. See also Steele, supra note 6, at 623-24 & 636.

54 See Healy, supra note 27, at 289-91.

55 "(1) A person on whom a remediation notice is served may, within the period of twenty-one days beginning with the day on which the notice is served, appeal against the notice—
   (a) if it was served by a local authority, to a magistrates' court or, in Scotland, to the sheriff by way of summary application; or
   (b) if it was served by the appropriate Agency, to the Secretary of State;"
appellate authority the power to quash, modify, or confirm the remediation notice, as well as the authority to extend the compliance periods.\textsuperscript{6} In short, the CLA permits immediate litigation on issues of liability and remediation and grants courts significant review authority.

Not only is litigation required to be brought shortly after receipt of the remediation notice, claimants are also more likely to succeed in their litigation. Success is more likely because the liability standards, the standard triggering application of the CLA, and the remediation standards impose important constraints on permitted government actions.

In sum, since its adoption in 1980, CERCLA has adhered strongly to the precautionary principle. England’s more recent cleanup program, adopted in 1995, as well as recently adopted state brownfields programs, appear, however, to have departed from the precautionary principle. In particular, the recently adopted programs allow residual risks to remain after remediation of the contaminated lands.

II. THE POLLUTER-PAYS PRINCIPLE AND LIABILITY FOR THE CLEANUP OF CONTAMINATED LAND

A. A Brief Description of the Polluter-Pays Principle

The polluter-pays principle is intended to define a straightforward standard for imposing liability in cases of damage to the environment.\textsuperscript{57} As a principle of international environmental law, this standard would impose liability on any party that has acted to cause the environmental damage.\textsuperscript{58} The polluter-pays liability standard has the effect of internalizing the costs of environmental degradation.\textsuperscript{59}
Without this standard, environmental costs may be mere externalities that the polluter can ignore in determining the level of its environmentally-degrading activities and the price of its products.60

B. The Polluter-Pays Principle and the CERCLA Liability Scheme

Although Congress did not refer directly to this principle when it adopted CERCLA in 1980, the CERCLA liability scheme is a paradigmatic polluter-pays scheme of liability. That scheme imposes strict,61 joint and several62 liability on several classes of potentially responsible parties (PRPs).63 These groups are present owners or operators of a facility,64 past owners or operators at the time of disposal at the facility,65 parties that arranged for disposal of the hazardous substances (so-called generators),66 transporters of the hazardous substances,67 and secured creditors that have participated in the management of the facility from which there has been a release of hazardous substances.68

With one exception, CERCLA’s five classes of responsible parties are defined on the basis of active involvement in causing the contaminated land problem.69 The exception is the current owner or operator category, which may include parties that have no active responsibility for having placed hazardous substances on the land. For example, some current owners or operators may have purchased property after the time when hazardous substances were placed on the

60See id.; SANDS, supra note 8, at 213.
61See Healy, supra note 1, at 86-87.
62See id. at 102-03.
63See 42 U.S.C. § 9607(a).
64Id. § 9607(a)(1).
65Id. § 9607(a)(2).
66Id. § 9607(a)(3).
67Id. § 9607(a)(4).
68See id. § 9601(20)(E)(i).
69This active-involvement requirement is reinforced by the limited defenses available against CERCLA liability. See id. § 9607(b). Those defenses arise when the contamination results from an act of God, an act of war, or an act of certain independent third parties. See id. Moreover, the enforcement policy of the Environmental Protection Agency (EPA) narrows the scope of transporters of hazardous substances that are subjected to CERCLA liability based on the nature of their active involvement with the disposal. EPA “will not seek to impose liability upon transporters that did not select the disposal site, so long as they cooperate in providing information about their transportation activities to the agency.” JOHN E. BONINE & THOMAS O. MCGARITY, THE LAW OF ENVIRONMENTAL PROTECTION: CASES - LEGISLATION- POLICIES 967 (2d ed. 1992).


land without knowing that the polluting substances were present. These parties may nevertheless be broadly characterized as polluters, because releases from their property are causing present harms to the environment. Moreover, including these “passive” polluters within the liability scheme may also be defended as consistent with the polluter-pays principle, because the broad scope of liability prevents parties from avoiding liability merely by transferring title to the property. In addition to forcing the internalization of the costs of land contamination, Congress intended that present owner or operator liability would ensure full investigation into the environmental condition of property before interests in property would be transferred.

Consistent with the reasons for the international principle of polluter pays, Congress believed that the broad scheme of CERCLA liability would have several important effects. First, it would impose a uniform strict standard of liability for hazardous waste disposal activities, which would deter unreasonably risky conduct in the disposal of hazardous substances. Second, the standard would internalize the costs of accidents associated with hazardous substance activities and thereby ensure that those that profit from hazardous substances will bear all costs associated with producing and disposing of those substances. Third, the statute’s broad liability scheme would ensure that the public would only have to bear the costs associated with inadequate disposal as a last resort when those directly connected with the environmental harm were not available.

C. The CLA’s Limited Adherence to the Polluter-Pays Principle

To assess the CLA’s adherence to the polluter-pays principle, one must consider the liability scheme defined by the statute. Section 78B(3) of the CLA prescribes the scope of the notification requirement that applies when contaminated land has been identified. Those to be

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70 Some of these present owners may be able to rely on the innocent purchaser exception to owner liability. See 42 U.S.C. § 9601(35). The exception, added to the statute in 1986, applies, inter alia, when a person acquires a facility after a disposal of hazardous substances has occurred and that person had no reason to know after completing a reasonable environmental audit that hazardous substances were present. See id.
72 See Healy, supra note 1, at 87-88.
73 See id. at 77-79.
74 See id. at 79-80.
75 See id. at 99-102.
notified are the appropriate national agency, the land owner, any occupier of the land, and any “appropriate person.” The last category is critical to the liability determination and is defined in Section 78F. Indeed, Section 78F(1) provides that the section has “the purpose of determining who is the appropriate person to bear responsibility for any particular thing which the enforcing authority determines is to be done by way of remediation in any particular case.”

The presumptively appropriate person for bearing the costs of remediation is defined by Section 78F(2) to be any polluter, that is: “any person, or any of the persons, who caused or knowingly permitted the substances, or any of the substances, by reason of which the contaminated land in question is such land to be in, on or under that land.” By defining the class of responsible, “appropriate person[s]” to include those “who caused or knowingly permitted” the contamination, the CLA appears to impose liability in a manner consistent with the polluter-pays principle. Unlike CERCLA, however, liability for cleaning up contaminated land is not presumptively joint and several. Rather, Section 78F(3) provides that the liability of polluters must be allocated based on the following causation principle:

(3) A person shall only be an appropriate person . . . in relation to things which are to be done by way of remediation which are to any extent referable to substances which he caused or knowingly permitted to be present in, on or under the contaminated land in question.

1. CLA Limitations on Liability and the Polluter-Pays Principle

Notwithstanding its apparent conformity with the polluter-pays principle, the CLA establishes three important limitations on liability

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76 “(3) If a local authority identifies any contaminated land in its area, it shall give notice of that fact to--
(a) the appropriate Agency;
(b) the owner of the land;
(c) any person who appears to the authority to be in occupation of the whole or any part of the land; and
(d) each person who appears to the authority to be an appropriate person . . . .” CLA §78B(3).

77 CLA §78F(1).
78 CLA §78F(2).
79 CLA §78F(3).
that reflect a more modest adherence to the principle than, for example, the CERCLA liability scheme. First, the CLA provides that, in cases of multiple appropriate parties, the local authority must apportion the costs of remediation among appropriate persons, based on guidance to be issued by the Secretary of State. This apportionment authority includes the authority to decide that an appropriate party—a statutory classification that includes only polluters—will not have to bear any costs of remediation.

Second, the CLA requires that there be consideration of hardship in defining the extent of liability of appropriate persons. Section 78P(2) requires that the enforcing authority consider the hardship to any appropriate person, as well as guidance by the Secretary of State, when determining the extent of recovery for remediation costs that it should seek. By exercising this discretion, the enforcing authority may allow a polluter to avoid having to pay for part of the remediation costs, despite the fact that those costs may be affordable, Though borne with hardship. Limiting liability under these

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CLA §§78F(6), (7). CLA §78F(10) provides that the apportionment of costs need not be precise with respect to the costs of cleaning up specific contaminants:

(10) A thing which is to be done by way of remediation may be regarded for the purposes of this Part as referable to the presence of any substance notwithstanding that the thing in question would not have to be done—

(a) in consequence only of the presence of that substance in any quantity; or

(b) in consequence only of the quantity of that substance which any particular person caused or knowingly permitted to be present.

CLA §§78E(3) provides that, in cases in which “two or more persons are appropriate persons in relation to any particular thing which is to be done by way of remediation, the remediation notice served on each of them shall state the proportion, determined under section 78F(7) below, of the cost of doing that thing which each of them respectively is liable to bear.”

CLA §78P(2).
circumstances would undermine the cost internalization purpose of the polluter-pays principle.

The third and final important limitation on the polluter-pays principle is that the CLA makes key distinctions between the circumscribed liability that applies to the current owner or operator who is a passive polluter and the broader liability applicable to the actively-polluting current owner. The CLA bars the imposition of liability on a present owner, who is not an active polluter, except in limited circumstances. The Act establishes rules of liability in situations in which there is no active polluter, either generally or as to the need for the incurrence of particular expenses of remediation. In such circumstances, “the owner or occupier for the time being of the contaminated land in question is an appropriate [i.e., liable] person,” either for all or for specific expenses. Moreover, Section 78K limits the remediation responsibilities of the owner or occupier of land contaminated by the migration of substances from other land to the remediation of the owner or occupier’s own land. Section 78K applies only when the owner or occupier “has not caused or knowingly permitted the substances in question to be in, on or under that land.” In such cases, the remediation notice served on the owner or occupier may not require remediation of the land from which the contamination has escaped onto the owner or occupier’s land or of any other land that may be contaminated by the escape of those substances. Unlike CERCLA, the CLA thus limits the liability of the owner or occupier who is a passive polluter.

For the actively polluting owner, Section 78P of the CLA provides special reimbursement rules that apply to any request for

\[83 \text{ See CLA §§78F(4), (5).} \]
\[84 \text{ "(4) If no person has, after reasonable inquiry, been found who is by virtue of subsection (2) above an appropriate person to bear responsibility for the things which are to be done by way of remediation, the owner or occupier for the time being of the contaminated land in question is an appropriate person.}
\[(5) \text{ If, in consequence of subsection (3) above, there are things which are to be done by way of remediation in relation to which no person has, after reasonable inquiry, been found who is an appropriate person by virtue of subsection (2) above, the owner or occupier for the time being of the contaminated land in question is an appropriate person in relation to those things." CLA §§78F(4), (5).} \]
\[85 \text{ CLA §78K.}\]
\[86 \text{ Id. §78K(3)(b).}\]
\[87 \text{ Id. §§78K(2), (3).}\]
\[88 \text{ Id. §78K(4). CLA §78K(6) permits the enforcing authority to perform remediation in addition to the remediation permitted by this subsection. The authority may not recover the costs of performing that remediation from the owner or occupier who could not have been required to perform the remediation under the other provisions of this section.}\]
reimbursement or "charging notice" that is served on an actively polluting owner of contaminated land. Section 78P(3)(a) defines such an owner as:

a person
(i) who is the owner of any premises which consist of or include the contaminated land in question; and
(ii) who caused or knowingly permitted the substances, or any of the substances, by reason of which the land is contaminated land to be in, on or under the land; . .

The amount prescribed in a charging notice to such an owner is defined to be a charge on the premises. An appeal of a charging notice may be brought to a county court within twenty-one days of the date of service. The county court then has authority to confirm, modify, or "order that the notice is to be of no effect." Regulations may be promulgated that define "the grounds on which appeals under this section may be made."

A final difference between the rules for owner liability under CERCLA and the CLA relates to the treatment of purchasers of property who, despite the exercise of proper diligence, failed to learn that the land they purchased had been contaminated. As was discussed, CERCLA provides innocent purchasers of contaminated land with a defense to liability for cleanup costs. The CLA, however, provides a less comprehensive defense to liability for the costs of cleanup. It grants a subsequent innocent purchaser an exception from liability for other property affected by contamination from that owner's contaminated land. The subsequent purchaser is still responsible, however, for remediation of the contaminated property that was purchased.

85CLA §78P(3(b).
86CLA §78P(3(a).
87See CLA §78P(7).
88Id. §78P(8).
89Id. §78P(9(c).
90Id. §78P(10)(a).
91CLA §78P(5).
92CLA §78K(5).
93"(5) In any case where--
(a) a person ("person A") has caused or knowingly permitted any substances to be in, on, or under any land,
(b) another person ("person B") who has not caused or knowingly permitted those substances to
In sum, CERCLA’s liability scheme conforms quite closely to the polluter-pays principle by broadly imposing liability on those who are active or passive polluters. The CLA has narrowed the scope of liability. Most importantly, the CLA allows polluters to avoid liability when the government decides that imposing liability would cause an unwarranted hardship.

III. PROCEDURES FOR CONTAMINATED LAND CLEANUPS AND THE PRINCIPLE OF ADEQUATE CONSULTATION

A. The Principle of Adequate Consultation

One of the most broadly-accepted emerging principles of international environmental law is that nations must consult adequately with other nations when they plan to take action that may significantly affect the environment of those other nations. This principle has its source in America’s National Environmental Policy Act, which required the federal government to prepare a public environmental impact statement assessing the environmental impacts of a proposed

be in, on or under that land becomes the owner or occupier of that land, and (c) the substances, or any of the substances, mentioned in paragraph (a) above appear to have escaped to other land, no remediation notice shall require person B to do anything by way of remediation to that other land in consequence of the apparent acts or omissions of person A, except to the extent that person B caused or knowingly permitted the escape.” CLA §78K(5).

CLA §78J(1) provides that CLA §78J applies in situations in which land meets the contaminated land definition because pollution of controlled waters is being or is likely to be caused. In such cases, the fallback responsibility provision, which imposes remediation responsibility on an owner or occupier in the absence of another appropriate party, is limited to the responsibility to eliminate significant harm and not to eliminating all pollution of controlled water that is caused by the contaminated land. The CLA provides specifically that:

(2) Where this section applies, no remediation notice given in consequence of the land in question being contaminated land shall require a person who is an appropriate person by virtue of section 78F(4) or (5) above to do anything by way of remediation to that or any other land, or any waters, which he could not have been required to do by such a notice had paragraph (b) of section 78A(2) above (and all other references to pollution of controlled waters) been omitted from this Part.

CLA §78 J(2).

CLA §78J(3) establishes a similar limitation on the scope of remediation responsibility that applies to any person who has permitted pollution of controlled waters by mine drainage from an abandoned mine. This limitation on liability does not apply, however, to water pollution caused by mine drainage from a mine that is abandoned after December 31, 1999. Id. §78J(4).

98See SANDS, supra note 8, at 197-98, 579 & 594; HUNTER ET AL., supra note 8, at 374-78.

action before the government could act in a way that would significantly affect the quality of the human environment.\[^{100}\]

Although nations and international law commentators would likely disagree about the precise obligations that this principle imposes on nations,\[^{101}\] there would likely be agreement that the minimum obligation is to provide potentially affected nations with information about environment-altering actions in the planning stage and to allow an opportunity for those nations to comment on the proposed actions.\[^{102}\] Those comments would permit the potentially affected nations to advocate alternate actions or mitigation measures.\[^{103}\]

**B. CERCLA and Consultation with Affected Parties**

CERCLA's consultation requirements differ significantly, depending on whether a removal action or a remedial action is being pursued. Generally, removal actions are interim abatement actions to minimize the risks of hazardous substance releases.\[^{104}\] Such actions must generally be completed in less than one year at a cost of less than two million dollars.\[^{105}\] These actions may generally be pursued without the need for a substantial consultation process.\[^{106}\] Remedial actions, on the other hand, are intended to provide a permanent remedy for the release of hazardous substances.\[^{107}\] Remedial actions, which are far more costly than response actions,\[^{108}\] are subject to significant procedural requirements defined in Section 117 of CERCLA.\[^{109}\] Those requirements are designed to ensure involvement of the affected public as well as state officials in the selection of the remedy.\[^{110}\] The public is given the opportunity to review and present comments on the proposed remedial plan before a final plan can be defined.\[^{111}\] That final plan need not accept the public's suggestions for modifying the proposals for remediation, but there must be a response to any such

\[^{100}\]See 42 U.S.C. § 4332(2)(C).
\[^{101}\]See SANDS, supra note 8, at 579 & 594.
\[^{102}\]See id.
\[^{103}\]See HEALY ET AL., supra note 8, at 277.
\[^{104}\]See id.
\[^{105}\]See 42 U.S.C. § 9601(23); see generally Healy, supra note 27, at 274-75.
\[^{106}\]See id. at 275 & n.22.
\[^{107}\]See id. at 275 & n.23.
\[^{108}\]See 42 U.S.C. § 9601(24); see generally Healy, supra note 27, at 275-80.
\[^{109}\]See Healy, supra note 27, at 276 (average costs of remedial actions are "between $25 and $30 million per site").
\[^{110}\]See 42 U.S.C. § 9617.
\[^{111}\]See Healy, supra note 28, at 278 n.46.
\[^{112}\]See 42 U.S.C. § 9617(a).
suggestions, including reasons why proposed modifications were not made.\textsuperscript{112}

CERCLA's procedural approach seems quite consistent with the international principal of adequate consultation. Except in circumstances when exigencies allow no opportunity for consultation, CERCLA requires that there be a disclosure of proposed plans, an opportunity for comment on that planning, and a response to those comments.

C. CLA Provisions for Public Disclosure and Consultation

The CLA does not include specific requirements designed to ensure public involvement in defining necessary remediation. The CLA is unclear with respect to both the identity of people who will be consulted and the extent of the consultation. The Act requires that the enforcing authority pursue reasonable consultation with directly affected persons prior to serving the remediation notice.\textsuperscript{3} Whether this group includes the affected public, including those residing nearby the contaminated land, depends on how broadly the statutory category of "any person of such other description as may be prescribed"\textsuperscript{4} is interpreted in regulations. Regarding the nature of consultations, the CLA is wholly silent. The Act does not require, for example, that there be an opportunity to review and comment upon proposed plans for remediation before they are finalized. If regulations implementing the statute include the affected public, including those residing nearby the contaminated land, within the directly-affected-persons category and define reasonable consultation to include an opportunity for comment on proposed remediation plans, then the statute as implemented will generally conform to the principle of adequate consultation.

The CLA includes a limitation on the reasonable consultation requirement in cases in which the contaminated land poses "imminent

\textsuperscript{112}Id. § 9617(c).
\textsuperscript{113} "(1) Before serving a remediation notice, the enforcing authority shall reasonably endeavour to consult—
(a) the person on whom the notice is to be served,
(b) the owner of any land to which the notice relates,
(c) any person who appears to that authority to be in occupation of the whole or any part of the land, and
(d) any person of such other description as may be prescribed, concerning what is to be done by way of remediation." CLA §78H(1).
\textsuperscript{114}Id. §78H(1)(d).
danger of serious harm."115 This limitation seems quite similar to CERCLA’s limitation on public consultation with regard to removal activities.116 The limitation seems appropriate in reflecting the need for prompt action in circumstances when the public health or the environment are threatened with imminent harm.

In the event that regulations implementing the statute do not extend the reasonable consultation requirements to the affected or interested public, the public’s interest in information about remediation under the CLA is met only by the statutorily mandated register of information. The CLA requires the enforcing authority to maintain a register of information about implementation of the statute, including, for example, remediation notices and appeals against those notices.117 The statute also provides that this register must be open for public inspection.118 Although this public register requirement does ensure

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115 "(4) Neither subsection (1) nor subsection (3) above [relating to the timing of remediation notices] shall preclude the service of a remediation notice in any case where it appears to the enforcing authority that the land in question is in such a condition, by reason of substances in, on or under the land, that there is imminent danger of serious harm, or serious pollution of controlled waters, being caused." CLA §78H(4).

116 See supra notes 104-06 and accompanying text.

117 "(1) Every enforcing authority shall maintain a register containing prescribed particulars of or relating to--

(a) remediation notices served by that authority;

(b) appeals against any such remediation notices;

(c) remediation statements or remediation declarations prepared and published under section 78H above;

(d) in relation to an enforcing authority in England and Wales, appeals against charging notices served by that authority;

(e) notices under subsection (1)(b) or (5)(a) of section 78C above which have effect by virtue of subsection (7) of that section as the designation of any land as a special site;

(f) notices under subsection (4)(b) of section 78D above which have effect by virtue of subsection (6) of that section as the designation of any land as a special site;

(g) notices given by or to the enforcing authority under section 78Q(4) above terminating the designation of any land as a special site;

(h) notifications given to that authority by persons--

(i) on whom a remediation notice has been served, or

(ii) who are or were required by virtue of section 78H(8)(a) above to prepare and publish a remediation statement,

of what they claim has been done by them by way of remediation;

(j) notifications given to that authority by owners or occupiers of land--

(i) in respect of which a remediation notice has been served, or

(ii) in respect of which a remediation statement has been prepared and published,

of what they claim has been done on the land in question by way of remediation;

(k) convictions for such offences under section 78M above as may be prescribed;

(l) such other matters relating to contaminated land as may be prescribed;

but that duty is subject to sections 78S and 78T below." CLA §78R(1).

118 See CLA §78R(8).

The CLA defines limited exceptions to the public registry requirement. CLA §78S establishes a national security exception, which forbids information from being included in a
that information is available to the public,\textsuperscript{119} it does not provide for prior consultation with affected parties. Thus, if the public registry approach can be argued to be consistent with the consultation principle, the approach would conform only to the most limited version of that principle—a disclosure to affected parties about potentially adverse environmental impacts, rather than an opportunity to consult in a meaningful way on plans for action that may have significant adverse consequences.

In sum, CERCLA adheres generally to the adequate consultation principle. The extent to which the CLA can be said to conform to the principle of adequate consultation depends significantly on how the statutory provisions are implemented. On its face, the statute cannot be said to conform to the principle.

IV. CLEANUP REGIMES AND THE NONDISCRIMINATION PRINCIPLE

A. A Contextual Nondiscrimination Principle for National Law

As understood in the context of international environmental law, the nondiscrimination principle ensures that a nation does not subject foreign citizens to environmental risks to which the nation would not expose its own citizens.\textsuperscript{120} When applied for example to the transboundary movement of hazardous waste, this principle ensures that a nation requires that the exported waste meet the same standards for safe transport and disposal that would apply if the waste were being disposed of within the generating nation.\textsuperscript{121} Applying the rationale of this principle to national legislation, a nation should not expose parts of

\begin{itemize}
\item \textsuperscript{119} See 42 U.S.C. § 9617(b) (requiring that the final remediation plan be available for review); id. § 9613(k) (Requiring that an administrative record concerning selection of remediation be maintained).
\item \textsuperscript{120} See HUNTER ET AL., supra note 8, at 378–79; see also SANDS, supra note 8 at 197.
\item \textsuperscript{121} See SANDS, supra note 8, at 493.
\end{itemize}
its national population to environmental risks, when the nation would not allow other groups within the national population to be subjected to those same risks.

B. CERCLA's Cleanup Regime and the Nondiscrimination Principle

For the past decade, American environmental law has been subjected to the criticism that it fails to meet a standard of nondiscrimination, particularly because the law tolerates, if not encourages, the imposition of enhanced risks on the urban poor, who are disproportionately African-American.122 CERCLA's program for remediating releases of hazardous substances would not seem to raise concerns about adherence to a nondiscrimination standard because its cleanup standards apply uniformly and are intended to protect human health against being exposed to the risks of harm from releases of hazardous substances.123 The high costs associated with ensuring compliance with CERCLA's health-based cleanup standard have, however, caused the development of alternative state cleanup programs.124 State programs facilitating the cleanup and redevelopment of these so-called brownfields have sought to encourage cleanups by offering a release from further liability when the state voluntary cleanup is complete.125 Because residual risks will very likely remain after such a cleanup,126 the polluter will not have had to bear the burdensome costs of remediating the property to eliminate all nonnatural risks.127 Cleanup plans under these state brownfields programs are often developed without an opportunity for participation and comment by the affected and interested public.128 State brownfields programs, which typically are applied to sites that are not listed on the NPL,129 reflect the view that it is better for society to tolerate background risks posed by toxics and nonpermanent remedies in order to promote commercial development.

122 See supra notes 25-26 and accompanying text.
124 See General Accounting Office, supra note 39, at 20, 22 & 31-33.
125 See id. at 35-38.
126 See id. at 20-21 (describing voluntary cleanup incentive that results from reduced (and predictable) costs of cleanup under state voluntary cleanup programs).
127 See id. at 43-45.
128 See id. at 28-29.
than it is to impose all of the direct and indirect costs of cleaning up environmental hazards so that they pose no present or future increased risk to health and the environment.\textsuperscript{130}

Thus, it is not remediation under CERCLA, but the fact that the CERCLA regulatory regime has given way to alternate state regulatory programs for the redevelopment of brownfields under voluntary cleanup programs that has implicated the principle of nondiscrimination.\textsuperscript{131} State-created incentives for the development of typically-urban brownfields\textsuperscript{132} by modifying cleanup standards and simplifying cleanup procedures may mean that the residual risks to health and the environment are being disproportionately borne by urban, African-American communities. Moreover, unlike federal remediation under CERCLA, voluntary cleanups under state brownfields programs may be pursued without informing affected communities about residual risks posed by the redeveloped site.\textsuperscript{133}

Brownfields redevelopment and the state-law programs that have been adopted to promote it raise at a national level the same underlying issues regarding the cohesion of environmental standards that the nondiscrimination principle raises at the international level. To the extent residual risks are not permitted for NPL sites cleaned up under CERCLA, it is unclear why such residual risks should be permitted for cleaned-up, non-NPL brownfields sites. Regarding cleanup procedures, it is unclear why CERCLA and the NCP dictate significant public involvement requirements for federal cleanups, while state voluntary cleanups may proceed in some contexts with very little public involvement. The remediation of contaminated land is

\textsuperscript{130}Current differences in state and federal programs for cleaning up hazardous substances in the United States appear to have the effect of establishing fully-protective property rules for some affected groups and less-protective liability rules for other affected groups. \textit{Cf.} Steele, supra note 6, at 631 (describing how the English standards for cleanups establish liability rules, because the degree of required cleanup turns on market efficiency).

\textsuperscript{131}After reviewing several state voluntary cleanup programs, the General Accounting Office suggested that EPA needed to provide more guidance and control regarding three key program requirements: requisite cleanup standards, oversight of cleanups, and public participation in cleanup planning. \textit{See} GENERAL ACCOUNTING OFFICE, supra note 39, at 35-45. This concern about the potential discriminatory effects of state brownfields programs is addressed by Professor Engel in this symposium. \textit{See} Engel, supra note 122.

\textsuperscript{132}Brownfields are described as implicating principally urban areas in GENERAL ACCOUNTING OFFICE, GAO/RCED-96-125, SUPERFUND: BARRIERS TO BROWNFIELD REDEVELOPMENT 4-5 (June 1996); GENERAL ACCOUNTING OFFICE, GAO/RCED-95-172, COMMUNITY DEVELOPMENT: REUSE OF URBAN INDUSTRIAL SITES 3-5 (June 1995).

\textsuperscript{133}\textit{See} supra notes 125-129 and accompanying text.
accordingly unlike other pollution prevention contexts\textsuperscript{134} because the federal standards here have not defined a floor for state environmental protection standards and seem to permit discriminatory effects on affected individuals.

In sum, as the CERCLA regulatory regime has come to be implemented with differences between the requirements of CERCLA and state voluntary cleanup programs, the regime is in tension with the principal of nondiscrimination.

C. The CLA Cleanup Regime and Nondiscrimination

As defined by the statute, the CLA cleanup regime does not appear to conflict with the nondiscrimination principle.\textsuperscript{135} This national scheme imposes uniform standards for remediation on contaminated land. Although somewhat different requirements apply to special sites,\textsuperscript{136} the standard for defining special sites is also uniform.\textsuperscript{137} Moreover, although the federal authority exercises primary regulatory control over special sites because they impose more serious risks to public health and the environment, that authority is lost once the sites no longer pose that enhanced risk and are deemed to be contaminated land only.\textsuperscript{138}

Thus, CERCLA has permitted the development of two sets of cleanup standards depending on the threats that the sites initially pose to the public in their unremediated condition,\textsuperscript{139} and these standards may have discriminatory effects on the affected public. The CLA, however, defines a uniform final cleanup standard for all contaminated land. Although that standard may be critiqued because it is not sufficiently responsive to the precautionary principle,\textsuperscript{140} it is uniform and thus not discriminatory in its impact on the affected public.

\textsuperscript{134}See, e.g., 33 U.S.C. § 1370 (permitting alternative state and local standards under the Clean Water Act provided that they are not "less stringent" than the national standard); 42 U.S.C. § 7416 (same general provision under the Clean Air Act).

\textsuperscript{135}Because the statutory regime has not yet had the years of implementation as CERCLA has had, it is premature to assess whether the CLA raises nondiscrimination concerns as it has been applied.

\textsuperscript{136}See supra notes 35-37 and accompanying text.

\textsuperscript{137}Id.

\textsuperscript{138}Id.

\textsuperscript{139}See supra notes 122-123 and 132 and accompanying text.

\textsuperscript{140}See supra note 48 and accompanying text.
V. Conclusion

CERCLA and the CLA reflect different approaches to addressing the problem of property contaminated by the improper disposal of hazardous substances. CERCLA adheres more closely to several key emerging principles of international environmental law, specifically the precautionary principle, the polluter-pays principle and the adequate consultation principle. Adherence with those principles has resulted, however, in high compliance costs and has given rise to alternative state cleanup programs. Those cheaper and less-protective programs have undercut the extent to which the United States' program for cleaning up contaminated land can be said to adhere to the nondiscrimination principle.

The CLA, on the other hand, has established standards that on their face do not conform as closely to the precautionary principle, the polluter-pays principle and the adequate consultation principle. These less protective standards do appear, however, to be applicable to all citizens in a nondiscriminatory manner.

The alternative statutory schemes thus raise but do not answer the question whether it is preferable to limit cleanup costs generally and expose all citizens to residual risks or to allow the development of different cleanup regimes, some of which expose local populations to residual risks of exposure to hazardous substances.