

COMMENTS

UNITED STATES' WASTE EXPORT CONTROL PROGRAM: BURYING OUR NEIGHBORS IN GARBAGE

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INTRODUCTION

The odyssey of Philadelphia's garbage barge demonstrates the serious problem of waste disposal in the United States.¹ In 1986, Philadelphia, like many other large cities, did not have sufficient space to dispose of its waste.² Without any viable alternative, the city contracted with a private company to send the trash abroad.³ Consequently, over 14,000 tons of Philadelphia incinerator ash were loaded onto the *Khian Sea*, which wandered from 1986 to 1988 searching for a place to unload its cargo.⁴ During the eighteen

1. Porter, *Outta Space! How EPA is Confronting the Nation's Mounting Garbage Crisis*, 5 ENVTL. F. 11, 11 (1988); see Beck, *Buried in Garbage*, NEWSWEEK, Nov. 27, 1989, at 67 (reporting nation's garbage crisis).

2. Beck, *supra* note 1, at 67; see L. BLUMBERG & R. GOTTLIEB, *WAR ON WASTE: CAN AMERICA WIN ITS BATTLE WITH GARBAGE?* 125 (1989) (labeling cities' garbage problem as one of economic survival); Gilmore, *The Export of Nonhazardous Waste*, 19 ENVTL. L. 879, 879 (1989) (reporting comment of Philadelphia's Deputy Street Commissioner that incident was "inevitable" because of scarce landfill space).

3. 11 Int'l Env't Rep. (BNA) 325, 325 (June 8, 1988). See generally L. BLUMBERG & R. GOTTLIEB, *supra* note 2, at 4 (detailing *Khian Sea* episode); J. VALLETTE, *THE INTERNATIONAL TRADE IN WASTES: A GREENPEACE INVENTORY* 11-14 (4th ed. 1989) (describing Greenpeace's role in *Khian Sea* incident); NEWSDAY, *RUSH TO BURN: SOLVING AMERICA'S GARBAGE CRISIS?* 76-77 (1989) (discussing *Khian Sea* events).

Before shipping the ash abroad, Philadelphia searched unsuccessfully for a suitable disposal site in the United States. L. BLUMBERG & R. GOTTLIEB, *supra* note 2, at 4. The city felt pressure to export after it was sued to remove thousands of tons of ash residue dumped near one of the city's incinerators. *Id.* Following attempts to transport the ash to New Jersey and Virginia, Philadelphia turned to Ohio, where residents near the landfill formed a human fence around the dump, effectively prohibiting disposal of the ash. *Id.*

4. 11 Int'l Env't Rep. (BNA) 325, 325 (June 8, 1988). Two attempts were made to unload the garbage by relabeling it, first as bulk construction material and then as fertilizer. Gilmore, *supra* note 2, at 880 n.6.

month voyage, six nations rejected the ash,⁵ and an environmental group, which learned that the ash contained dangerous levels of carcinogens,⁶ thwarted several other disposal attempts.⁷ The saga ended when the cargo mysteriously disappeared.⁸ Currently, the United States Department of Justice is investigating the incident.⁹

Unfortunately, the *Khian Sea* incident is only one of several similar incidents that exemplify the waste disposal crisis in the United States.¹⁰ The United States generates approximately 160 million

5. 11 Int'l Env't Rep. (BNA) 325, 326 (June 8, 1988). *But see* Beck, *supra* note 1, at 71 (stating that seven countries were involved in episode).

6. One attempted deal would have allowed the *Khian Sea* to unload some of its cargo in Haiti. J. VALLETTE, *supra* note 3, at 11. Haitian military leaders agreed to dump the ash on a beach and told dock workers that the cargo was fertilizer and posed no health threat. *Id.* Public outcry stopped the action once Greenpeace alerted the political opposition. *Id.*

7. L. BLUMBERG & R. GOTTLIEB, *supra* note 2, at 4. The heavy metals and dioxins present in incinerator ash qualify it as a dangerous substance. *Id.* at 110-13. The EPA, however, has not yet determined whether to define ash as a hazardous material. Porter, *supra* note 1, at 13. The dangers of toxicity and potential liability, however, are deterrents to landfill owners who are reluctant to accept the ash. L. BLUMBERG & R. GOTTLIEB, *supra* note 2, at 112.

8. L. BLUMBERG & R. GOTTLIEB, *supra* note 2, at 4. The *Khian Sea's* last owner refused to reveal where the ash was dumped because of adverse media attention. *Id.* at 4-5. Court documents, however, suggest that the ship illegally dumped the ash at sea. *Id.* at 5; *see* 11 Int'l Env't Rep. (BNA) 325, 326 (June 8, 1988) (expressing authority's concern regarding illegal dumping). In the hope of escaping attention, the barge changed its name twice. L. BLUMBERG & R. GOTTLIEB, *supra* note 2, at 4.

9. Gilmore, *supra* note 2, at 881 n.11.

10. Philadelphia has since received offers from other waste management corporations promoting disposal schemes such as the use of "ash as backfill and roadbed material in the Dominican Republic, dumping into strip mines in Chile, filling swamp lands in Honduras, and reclaiming flood plains in Costa Rica for housing developments. None of these countries has been alerted of the environmental concerns raised. . . ." Gilmore, *supra* note 2, at 882-83.

In 1987, the Long Island "Garbage Barge" embarked from New York, on a 162 day fiasco loaded with 3,186 tons of solid waste. J. VALLETTE, *supra* note 3, at 111. The barge originally planned to unload in North Carolina, but officials there rejected the cargo. *Id.* After further unsuccessful attempts to empty the waste in the United States, the barge turned to international waters and tried to dock at foreign ports. *Id.* Mexican and Belgian governments, as well as others, rejected the waste. *Id.* The garbage barge finally made its way back to New York, waste still aboard, 6,000 miles and one million dollars later. *Id.*

Another similar incident involved Lindaco, an American company that contracted with Guinea-Bissau to dispose annually of three million metric tons of toxic waste. Handley, *Hazardous Waste Exports: A Leak in the System of International Legal Controls*, 19 ENVTL. L. REP. (Envtl. L. Inst.) 10,171, 10,179 (Apr. 1989) [hereinafter *Hazardous Waste Exports*]. According to the contract, Guinea-Bissau was to receive \$120 million annually, an amount exceeding its gross national product. *Id.* For further discussion of the international scope of this scheme, see *infra* note 50.

The waste disposal dilemma captured the attention of the present administration, and in March, 1989, President Bush announced his commitment to the control of hazardous waste exports. Los Angeles Times, Mar. 11, 1989, at 21, part I. His proposal included identifying elements to be contained in mandatory international agreements, providing the Environmental Protection Agency (EPA) with greater authority to prohibit imports and exports, limiting imports and exports to specific ports, and providing federal enforcement authority to respond to illegal imports or exports. *The Waste Export Control Act: Hearings on H.R. 2525 Before the Subcomm. on Human Rights and International Organizations and the Subcomm. on International Economic Policy and Trade of the Comm. on Foreign Relations*, 101st Cong., 1st Sess. 42 (1989) [hereinafter *Hearings I*] (statement of Scott A. Hajost, Acting Associate Administrator for International Affairs, EPA). The Administration's version of the waste export control bill fo-

tons of household garbage per year.¹¹ Throughout the country, a landfill space shortage has forced local governments to search for alternative waste disposal solutions.¹² New landfills are not built quickly enough to meet the solid waste demand because they are expensive¹³ and unpopular.¹⁴ By the year 2000, waste generation is expected to increase by at least twenty percent.¹⁵

Shipping waste abroad is an attractive solution to these mounting disposal difficulties.¹⁶ Depleted landfill space, coupled with the financial benefits of exporting to countries with less costly and stringent waste regulations than the United States, makes exporting waste a logical and lucrative alternative to domestic disposal.¹⁷ For-

cases on giving the EPA more control over the export of hazardous wastes. *Id.* To date, no position has been taken on whether to include regulation of nonhazardous solid wastes. *Id.*

The waste disposal problems have also sparked international evaluation. The United Nations Environmental Programme (UNEP) and the Organization for Economic Cooperation and Development (OECD), both of which include the United States as a member, have sponsored efforts to push environmental issues onto the agendas of world leaders and to develop international standards for controlling the environment. Daily Reports For Executives, *116 Nations OK Limits on Waste Exports, African Countries Demand Tougher Code*, Daily Rep. for Execs. (BNA) No. 55, at A3 (Mar. 23, 1989). UNEP recently hosted the Basel Convention, a forum addressing the problem of waste export from an international perspective. *See id.* (summarizing Basel Convention). The OECD has also initiated legislation for the control of waste export. *See* 10 Int'l Env't Rep. (BNA) 314 (July 8, 1987) (summarizing United States' response to OECD proposals for waste export management). Nonetheless, the United States has avoided a commitment to international agreements; although the United States signed the Basel Convention, the Senate has not ratified it. *See id.* at 315 (explaining United States and OECD conflict over material that should be considered hazardous); *see also* Daily Reports For Executives, *116 Nations OK Limits on Waste Exports, African Countries Demand Tougher Code*, Daily Rep. for Execs. (BNA) No. 55, at A3 (Mar. 23, 1989) (discussing developing countries' reactions to Basel Convention). At the Basel Convention, the United States opposed a proposal that would require waste exporters to ship only to countries with environmental standards equal to those of the exporting country, because it would effectively ban United States exports. Christian Science Monitor, Mar. 24, 1989, at 4, col. 1.

11. Porter, *supra* note 1, at 11.

12. *Id.* In 1988, the EPA estimated that at least one-third of the nation's landfills will use up their entire capacity within the next five years. *Id.* The landfill space shortage is largely due to the Resource Conservation and Recovery Act (RCRA), which forced many landfills to close because they did not meet regulations. L. BLUMBERG & R. GOTTLIEB, *supra* note 2, at 125; *see infra* notes 66-100 and accompanying text (discussing RCRA). RCRA's land disposal restrictions are implemented in three phases. Resource Conservation and Recovery Act, § 3004(d)-(g), 42 U.S.C. § 6924(d)-(g) (Supp. V 1987); *see* 40 C.F.R. §§ 268.10.12 (1989) (categorizing wastes into three groups identifying dates and waste evaluated during each phase). The deadline for the last phase was May 8, 1990. *Id.* at § 268.12.

13. L. BLUMBERG & R. GOTTLIEB, *supra* note 2, at 125-26 (noting that between 1983 and 1986 Boston realized 300 percent increase in landfill costs and Philadelphia 500% increase; national increase was 24%).

14. *Id.* at 73-74. Public opposition to landfills and incinerators is termed the NIMBY—not in my backyard—syndrome. *Id.* at 73. NIMBY proponents have halted the building of a significant number of landfills and incinerators and are adept at promoting recycling and source separation efforts. *Id.* at 74-75.

15. *Id.*

16. L. BLUMBERG & R. GOTTLIEB, *supra* note 2, at 5 (listing export scandals).

17. *The Waste Export Control Act: Hearings on H.R. 2525 Before the Subcomm. on Transportation and Hazardous Materials of the Comm. on Energy and Commerce*, 101st Cong., 1st Sess. 33 (1989) [hereinafter *Hearings 2*] (statement of Rep. Howard Wolpe).

mer United States Congressman and current New Jersey Governor James Florio warned that waste will flow toward "safe havens" where exporters find the least resistance and the least expense.¹⁸ Although these may be safe havens for exporters, the current law governing waste exports does not ensure safe havens for the waste itself. Instead, the hazardous qualities of waste¹⁹ combined with the current disposal regulatory system has created a plethora of environmental,²⁰ health,²¹ liability,²² and foreign policy²³ problems.

The present United States' waste export system under the Resource Conservation and Recovery Act (RCRA)²⁴ inadequately addresses the demands and the issues associated with waste export.²⁵

18. Porterfield & Weir, *The Export of U.S. Toxic Wastes*, THE NATION, Oct. 3, 1987, 325, 344.

19. 40 C.F.R. §§ 261.20-261.24 (1989) (listing hazardous characteristics of waste); Burkhardt, *Lender/Owners and CERCLA: Title and Liability*, 25 HARV. J. ON LEGIS. 371, 371 (1988) (noting causal link between toxics and health problems).

20. The Christian Science Monitor, Mar. 30, 1989, at 6, col. 1 (documenting death of trees and plants resulting from toxic dump).

21. Porterfield & Weir, *supra* note 18, at 341. Exported materials include heavy metal residues, chemical-contaminated wastes, pharmaceutical refuse, municipal sewage sludge, and incinerator ash. *Id.* The risks involved for countries that accept the waste range from contamination of groundwater and crops to birth defects and cancer. *Id.* Moreover, the health effects of waste exports are not confined to national boundaries. As in the case of other environmental problems, there is persuasive evidence that the waste we attempt to push away could come back to haunt us. *Id.* at 344; *see* Comment, *U.S. Controls on International Disposal of Hazardous Waste*, 22 INT'L LAW 775, 788 (1988) (discussing hazardous waste contamination through air and water resulting from improper waste disposal). For example, waste that is exported to Canada is dumped near the Great Lakes. 135 CONG. REC. E1945, E1946 (daily ed. May 31, 1989). Because the United States and Canada both border the lakes, if the Canadians do not dispose of the waste sent by American companies properly, it could leak into the lakes and contaminate the United States water supply. *Id.*; *see also* Wash. Post, Jan. 16, 1990, at A21, col. 1 (noting that little has been done since 1972 Great Lakes Water Quality Agreement to control runoff from hazardous waste dumps). Additionally, an EPA official has warned that the sludge sent to Caribbean nations may be used as fertilizer on vegetables, which the United States then imports. Porterfield & Weir, *supra* note 18, at 344. Since the Food and Drug Administration (FDA) only examines a small portion of foods that come into the United States, it is not a remote possibility that our exported wastes could show up on our dinner tables. *Id.*

Another example of the health problems presented by indiscriminate waste export is that on Kassa Island in Guinea, West Africa, where children play on and scavenge through mounds of Philadelphia's incinerator ash. *Hearings I, supra* note 10, at 15 (testimony of Rep. John Conyers, Jr.). The ash contains heavy metals and dioxins that can cause learning disabilities, cancer, and congenital defects. Such contamination is easily transmitted to humans through groundwater or through the atmosphere. *Id.*

22. *See infra* notes 94-111 and accompanying text (discussing liability provisions of RCRA and CERCLA).

23. *Hearings I, supra* note 10, at 15 (testimony of Rep. John Conyers, Jr.). Congressman Conyers commented that the United States' waste export practice is irresponsible as long as the developing countries are considered to be America's garbage dump and that such irresponsible behavior will lead to political disaster. *Id.*; *see* 135 CONG. REC. E1949 (daily ed. May 31, 1989) (statement of Rep. John Conyers, Jr.) (noting irresponsibility of implementing NIMBY credo in foreign policy).

24. RCRA § 3017, 42 U.S.C. § 6938 (Supp. V 1987).

25. ENVIRONMENTAL PROTECTION AGENCY, OFFICE OF THE INSPECTOR GENERAL, EPA'S PROGRAM TO CONTROL EXPORTS OF HAZARDOUS WASTE, REPORT OF AUDIT, No. E1D37-05-

Although legislation covering waste export has increased in the past ten years, weaknesses in RCRA's waste export program continue to prevail.²⁶ For example, the export of nonhazardous waste, which may be dangerous to human health and the environment if disposed improperly, goes unregulated.²⁷ This practice allows municipal sewage and some types of incinerator ash, which are categorized as nonhazardous waste, to be transported freely across national boundaries without the consent, or sometimes even the knowledge, of the receiving country.²⁸ Furthermore, only a limited consent system exists for the export of hazardous waste under RCRA.²⁹ Although RCRA requires that the receiving country must consent to the import,³⁰ the United States has no authority to nullify an agreement between an exporting company and an importing country even if the country does not have the facilities to treat, handle, and dispose of the waste adequately and safely.³¹ Moreover, RCRA does not have any mechanism to address liability once waste is beyond national borders.³²

Legislators have proposed several bills that address the waste export problem. This Comment critically examines one bill, the Waste Export Control Act (WECA),³³ that purports to solve this problem.³⁴ It also examines deficiencies in the current law and pro-

0456-80855, at 3 (1988) [hereinafter AUDIT] (condemning EPA's hazardous waste export program as inadequate).

26. Background and Summary of Final Rule, 51 Fed. Reg. 28,664, 28,664-65 (1986).

27. RCRA §§ 4004(a), 4005(a), 42 U.S.C. §§ 6944(a), 6945(a) (1982 & Supp. V 1987). Solid waste is regulated under Subtitle D of RCRA, which only gives the EPA authority to regulate disposal in the United States; it does not govern export. *Hearings 2, supra* note 17, at 47 (statement of Scott A. Hajost, Acting Associate Administrator for International Affairs, EPA).

28. *Hearings 1, supra* note 10, at 53-54 (statement of Scott A. Hajost, Acting Associate Administrator for International Affairs, EPA).

29. 135 CONG. REC. E1940 (daily ed. May 31, 1989) (statement by Rep. Mike Synar).

30. RCRA § 3017(d)(3), 42 U.S.C. § 6938(d)(3) (Supp. V 1987).

31. *Hazardous Waste Exports, supra* note 10, at 10,172 & n.20 (discussing United States' lack of controls to regulate dumping outside national borders).

32. *Id.* at 10,174 (noting concern present notice and consent program raises for some government officials because of prospect of international incident and liability ramifications).

33. H.R. 2525, 101st Cong., 1st Sess. (1989). H.R. 2525 was the only bill focusing on waste export introduced in the first session of 1989 in both the House and Senate. Congressmen Mike Synar, John Conyers, Jr., John Edward Porter and Howard Wolpe sponsored the Waste Export Control Act that addresses the gaps in present legislation covering waste export. *Id.* First, the bill assumes the responsibility of protecting human health and the environment. *Id.* The moral question which the Act addresses is whether the United States should be responsible for ensuring that its hazardous waste is properly disposed of regardless of where that disposal takes place. *Hearings 1, supra* note 10, at 17 (testimony of Rep. John Conyers, Jr.). Second, it recognizes the need for the United States to maintain a respectable reputation as a trading partner.

34. H.R. 2525, 101st Cong., 1st Sess. (1989). The Act addresses the holes in the present waste export legislation in several ways. First, it requires that all waste exporting be conducted pursuant to an international agreement with the recipient country. *Id.* § 12002(a). Second, strict domestic standards are imposed to ensure that waste is managed in a manner

poses amendments necessary to ensure the safe disposal of solid waste. Part I presents information on waste export as well as the current and proposed legislation which govern it. Part II analyzes the present legislation and WECA and concludes that the current system is ineffective. The ultimate goal should be to ban the export of nonhazardous waste and to limit by strict controls the export of hazardous waste. Part III proposes a monitoring system for nonhazardous and hazardous solid waste that would place liability for the consequences of unsafe export on the exporter. The exporter is in the best position to ensure that waste is properly disposed of in a manner safe to humans and the environment and to shoulder the financial burdens of any transport or disposal incidents abroad.

I. MANAGING WASTE EXPORT

A. *The Problems of Solid Waste*

Solid waste is classified as either nonhazardous or hazardous. The classification depends on whether the waste displays the hazardous characteristics defined by the Environmental Protection Agency (EPA).³⁵ "Hazardous" and "nonhazardous" labels, however, are misleading because not all nonhazardous waste is hazard-free.³⁶ Furthermore, under the controlling regulations, all hazardous waste generators producing less than a specified amount of hazardous waste in a calendar month are exempt from regulation despite the fact that the waste possesses hazardous characteristics.³⁷

The United States produces approximately 275 million tons of

that is protective of human health and the environment. *Id.* § 12002(b)(C). Third, foreign disposal standards must be at least equal to those mandated by RCRA for the waste managed in the United States. *Id.*

35. 40 C.F.R. § 261.20-.24 (1989). These wastes can either be listed by the EPA as hazardous or possess one of the defined hazardous characteristics, such as ignitability, corrosivity, reactivity, and extraction procedure toxicity. *Id.* Waste generators are required to determine whether their waste exhibits one of these four characteristics. *Id.* § 262.11. For a more detailed description of this complex issue of classification, see Garelick, *EPA's Definition of Solid Waste: Making Distinctions Between Shades of Grey*, 17 *Envtl. L. Rep. (Envtl. L. Inst.)* 10,349 (1987) and Gilmore, *supra* note 2, at 885, 888-93.

The EPA's, the EPA's delisting process adds to the confusion of classifying solid waste. 40 C.F.R. § 260.22(a) (1989). This process allows some hazardous wastes to fall under the non-hazardous category if the waste generator proves that the waste does not warrant hazardous treatment because of variations in processing, raw materials, or other factors. 45 *Fed. Reg.* 33,084, 33,116 (1980) (codified at 40 C.F.R. § 261). This practice increases the amount of hazardous waste in the supposedly nonhazardous waste stream. For more information on the delisting process, see K. Florini, A. Denison & P. Rathbun, *EPA's Delisting Program for Hazardous Wastes: Current Limitations and Future Directions*, 19 *Envtl. L. Rep. (Envtl. L. Inst.)* 10,558, 10,588 (1989).

36. Porter, *supra* note 1, at 11 (noting that nonhazardous waste, such as paint and cosmetics, contain toxic matter that obscures lines distinguishing hazardous from nonhazardous).

37. 40 C.F.R. §§ 261.5(a), 261.5(e)(1) (1989). Hazardous waste is not usually regulated

hazardous waste per year.³⁸ In 1988, the United States generated about 160 million tons of nonhazardous waste.³⁹ Although most hazardous and nonhazardous waste is disposed of in this country, significant amounts are exported abroad.⁴⁰ It is difficult, however, to determine the amount of waste actually exported. With respect to hazardous waste, one figure, based on incomplete EPA records,⁴¹ indicates that less than one percent of recorded hazardous waste produced in the United States is exported.⁴² Determining the amount of nonhazardous waste exported is even more speculative because no regulations govern such movement.⁴³ Media coverage, similar to that involved in the Philadelphia incident, and information provided by private groups such as Green Peace⁴⁴ are the only means of tracking international solid waste movement. The problem, therefore, is likely to be significantly more profound than the data may indicate.

The export process begins when local governments and waste generators contract with private companies to send waste to foreign countries. Canada and Mexico receive the largest shares of waste exported from the United States.⁴⁵ International waste export

when generated in quantities of less than 100 kilograms per month. *Id.* Acutely hazardous materials, however, have a lower threshold per month. *Id.*

38. *Hearings 1, supra* note 10, at 46 (statement of Scott A. Hajost, Acting Associate Administrator for International Affairs). *But see id.* (statement of Rep. Gejdenson, Chairman, Subcomm. on International Policy and Trade) (placing figure at 250 million tons); 135 CONG. REC. E1940 (daily ed. May 31, 1989) (statement of Rep. Mike Synar) (supporting figure of over 250 million tons); Porterfield & Weir, *supra* note 18, at 341 (placing figure closer to 400 million metric tons).

39. 135 CONG. REC., E1949, E1950 (daily ed. May 31, 1989) (statement of Rep. Edward Porter). The average American generates three to four pounds of household waste every day. *Id.*; see Beck, *supra* note 1, at 67, 69, 75 (indicating amount of waste American households generate weekly (6.73 bags), monthly (29 bags), and yearly (350 bags)). In contrast, Western Europe and Japan do not produce nearly this much waste because of more efficient production processes and a greater awareness of the limits of landfill disposal space. Porterfield & Weir, *supra* note 18, at 341.

40. *Hearings 1, supra* note 10, at 142 (statement of Rep. Mike Synar).

41. The incomplete EPA records are the result of an ineffective enforcement program. *See supra* note 25 and accompanying text and *infra* note 182 (discussing findings of Inspector General's audit of EPA).

42. *Hearings 1, supra* note 10, at 47 (statement of Scott A. Hajost, Acting Associate Administrator for International Affairs, EPA) (emphasizing that United States exports "much less than one percent of all hazardous waste generated . . .").

43. *Id.* (acknowledging that current law provides no control over exports of nonhazardous waste).

44. *See supra* note 7 and *infra* note 53 (discussing instances where Greenpeace alerted public to waste traffic and prevented environmentally unsound dumping). Greenpeace continuously publishes pamphlets that track international waste movement, as well as provide information on the waste policies of different countries.

45. Handley, *Exports of Waste from the United States to Canada: The How and Why*, 20 *Env't. L. Rep.* (Env't. L. Inst.), 10,061, 10,061 & n.1 (1990). Approximately 80 to 90% of exported United States waste goes to Canada and 10 to 12% goes to Mexico. *Hearings 1, supra* note 10, at 169 (testimony of Francis Spivy-Weber, Dir., International Program and V. Ann Strickland, Deputy Counsel and Dir., Toxics Program, National Audubon Society).

agreements with these countries simplify the export disposal process, and their proximity to the United States makes these border countries logical waste recipients.⁴⁶ Relaxed disposal regulations also make Great Britain another favored destination.⁴⁷ Furthermore, developing countries are playing an increasingly significant role as recipients of United States' waste.⁴⁸

Waste import is a lucrative business to developing countries that are often swayed by waste traders' assertions of financial and technological benefits.⁴⁹ For example, a United States company participated in a scheme that offered the Guinea-Bissau government more than its gross national product to permit dumping on one of its islands.⁵⁰ Technological benefits offered to entice developing countries to import waste include the construction of incinerators to produce electric energy.⁵¹ These incinerators produce energy by burning waste, but because developing nations are unlikely to properly regulate for safe incineration and disposal,⁵² they also cause health and environmental problems.⁵³

Generators of waste send it to foreign nations for numerous rea-

46. *Hazardous Waste Exports*, *supra* note 10, at 10,173.

47. L. BLUMBERG & R. GOTTLIEB, *supra* note 2, at 5 (noting that England has become "haven for garbage" due to "relatively lax standards").

48. Porterfield & Weir, *supra* note 18, at 341 (discussing "rising tide" of exports to developing countries). In 1986, the number of export notices to developing countries had increased from 4 to 19. *Id.* These figures may not sound dramatic; it must be remembered, however, that they do not reveal the whole story because shipments are frequently concealed. *Id.*

49. 135 CONG. REC. E1949, E1949-50 (daily ed. May 31, 1989). Waste exporters offer developing countries the "opportunity" to recycle imported waste into salable by-products or energy. *Id.* at E1950. Often these are sham recycling schemes designed to reap huge profits that are available to those who dump waste outside the United States. *Id.* Toxic substances have been misrepresented as brick-making material, roadfill, or fertilizer. *Id.*; see Handley, *supra* note 45, at 10,064-65 (detailing illegal export schemes). Corrupt officials are targets for exporters trying to unload their toxic wares. 135 CONG. REC. at E1949-50 (daily ed. May 31, 1989). Benefits, in addition to cash, include electricity and "land reclamation." *Id.* As a result, developing countries in desperate need of these commodities are persuaded to import waste. *Id.*

50. J. VALLETTE, *supra* note 3, at 27-29 (detailing scheme between Guinea-Bissau and United States and European waste brokers to unload 15 million metric tons of industrial waste in exchange for potential payment of \$600 million, four times Guinea-Bissau's gross national product and two times its foreign debt). Guinea-Bissau postponed the waste import deal in response to a negative domestic reaction. *Id.* at 29. They reluctantly suspended negotiations because, according to the trade and tourism minister, "We need money." *Id.*

51. See, e.g., GREENPEACE, GREENPEACE WASTE TRADE UPDATE, at 7 (July 15, 1989) (reporting proposal considered by Bangladesh government committee to import millions of tons of toxic waste from United States and Europe to fuel electricity producing incinerators), reprinted in *Hearings 2*, *supra* note 17, at 296 (statement of Jim Vallette, Greenpeace).

52. *Hazardous Waste Exports*, *supra* note 10, at 10,171.

53. 135 CONG. REC. E1949, E1950 (daily ed. May 31, 1989). In addition to producing electricity, these incinerators also produce toxic emissions and toxic ash. *Id.* Furthermore, American exporting companies attempt to ship solid wastes such as sewage sludge, incinerator ash, or household garbage to Central America and the Caribbean to fill in ecologically vibrant, but unusable, wetlands. *Hearings 1*, *supra* note 10, at 153 (testimony of Greenpeace).

sons. First, weak or non-existent disposal standards in other countries are attractive, making disposal abroad economically favorable.⁵⁴ Exporting waste is more cost effective to waste generators than complying with the stricter domestic standards⁵⁵ imposed by RCRA and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).⁵⁶ Second, limited space in existing disposal sites pressures municipalities and states to seek foreign receptacles⁵⁷ and to alleviate their garbage problems by contracting with private companies that export waste.⁵⁸ Third, Canadian disposal plants are in close geographic proximity to many northeastern states, notably Michigan and New York, making them easier and safer locations for waste disposal.⁵⁹ Short travelling distances provide less opportunity for accidents while transporting hazardous substances.⁶⁰ The same relationship exists between southern border states and Mexico.⁶¹ Fourth, industries are reluctant to incur the short-term costs of implementing source reduction methods such as reusing plastics and recycling paper, glass, and metals.⁶² In sum, developing countries also offer American exporters cheaper and less restrictive methods of disposal.⁶³ All of these factors contribute to a proliferation of waste export.⁶⁴ Unless there is substantial improvement in the present regulatory system under

54. 135 CONG. REC. E1940, E1940 (daily ed. May 31, 1989); see Note, *Hazardous Exports to the Third World: The Need to Abolish the Double Standard*, 12 COLUM. J. ENVTL. L. 71, 72 (1987) [hereinafter *Abolish the Double Standard*] (noting that hazardous waste industry is financially motivated to relocate to Third World countries where its activities would be subjected to little or no regulation).

55. *Hazardous Waste Exports*, *supra* note 10, at 10,171 (estimating amount of savings at \$75.00 per ton).

56. 42 U.S.C. §§ 9601-9657 (1982 & Supp. V 1987).

57. AUDIT, *supra* note 25, at 11. Additionally, the EPA must decide whether it is safe to continue land disposal of 450 hazardous wastes by 1990. *Id.* Should the EPA fail to meet this deadline, the so-called "hammer clauses" go into effect, unless the EPA can demonstrate that there is insufficient treatment capacity for handling the restricted waste. Under these circumstances, the EPA will have a two-year extension. *Id.* Since the 1970s, more than two-thirds of the nation's landfills have closed and one-third of those left are expected to close in the next five years. Beck, *supra* note 1, at 66-67.

58. *Hazardous Waste Exports*, *supra* note 10, at 10,171.

59. J. VALLETTE, *supra* note 3, at 95-105 (listing export notices from American companies to Canadian disposal plants).

60. *Hearings 1*, *supra* note 10, at 23 (testimony of Canadian officials).

61. J. VALLETTE, *supra* note 3, at 106 (describing waste export policy with Mexico).

62. *Hazardous Waste Exports*, *supra* note 10, at 10,182 (noting that "industry reluctance to incur the short term cost of [minimizing hazardous waste] is the *raison d'être* of the hazardous waste export boom").

63. *Id.* at 10,171 (explaining that developing countries have had "little or no" experience with industrial waste, and consequently have few disposal controls).

64. The dramatic increase in the number of Intent to Export notices received by the EPA's Office of International Activities (OIA) provides a clear illustration of this trend. All companies intending to export waste to another country must file an Intent to Export notice with the EPA. RCRA § 3017(c), 42 U.S.C. § 6398(c) (Supp. V 1987). In 1988, the EPA received 638 notices of Intent to Export. By July of 1989, it had received an additional 588

RCRA, waste export as a method of waste disposal is expected to become the rule rather than the exception.⁶⁵

B. Current Law Governing Waste Export

The Solid Waste Disposal Act (SWDA), as amended by RCRA, governs waste export.⁶⁶ RCRA is aimed at protecting human health and the environment⁶⁷ by a system that tracks waste from its "cradle" to its "grave."⁶⁸ A manifest⁶⁹ system traces the waste from the generator,⁷⁰ through the transporters,⁷¹ to the disposers,⁷² imposing on each specific requirements for the treatment, disposal, and storage of waste.⁷³ Hazardous waste is regulated under subtitle C of RCRA and is subject to stringent treatment, storage, and disposal requirements.⁷⁴ Nonhazardous waste is regulated by subtitle D of RCRA, but it imposes little more than open dumping restrictions for nonhazardous waste disposal in this country.⁷⁵ In 1984, comprehensive amendments to RCRA, entitled the Hazardous and Solid Waste Amendments of 1984 (HSWA),⁷⁶ created a section entirely devoted to hazardous waste exports.⁷⁷ In the 1980s, the EPA intro-

notices. *Hearings 1, supra* note 10, at 41 (statement of Scott A. Hajost, Acting Associate Administrator for International Affairs, EPA). In contrast, only 12 notices were filed in 1980. *Id.*

65. *Hazardous Waste Exports, supra* note 10, at 10,182.

66. Background and Summary of Final Rule, 51 Fed. Reg. 28,664, 28,664 (1986) (noting that RCRA's enactment in 1976 was response to public concern over hazardous waste disposal).

67. RCRA §§ 1003, 3002, 3003(a), 3004, 42 U.S.C. §§ 6902, 6922, 6923(a), 6924 (1982 & Supp. V 1987) (noting that one objective is to "promote the protection of health and the environment," and instructing agency administrator to promulgate regulations establishing standards that "may be necessary to protect human health and the environment").

68. F. ANDERSON, D. MANDELKER & A.D. TARLOCK, ENVIRONMENTAL PROTECTION: LAW AND POLICY 604-613 (2d ed. 1990) (discussing RCRA).

69. RCRA § 1004(12), 42 U.S.C. § 6903(12) (1982 & Supp. V 1987). RCRA defines the term "manifest" as the form used to identify the "quantity, composition, and the origin, routing, and destination of hazardous waste during its transportation from the point of generation to the point of disposal, treatment, or storage." *Id.*

70. 40 C.F.R. § 260.10 (1989). The EPA defines generator as "any person, by site, whose act or process produces hazardous waste . . . or whose act first causes a hazardous waste to become subject to regulation." *Id.*

71. *Id.* The EPA defines transporter as "a person engaged in the offsite transportation of hazardous waste by air, rail, highway, or water." *Id.*

72. *Id.* The EPA defines disposal as "the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground water." *Id.*

73. RCRA §§ 3002, 3003, 3004, 42 U.S.C. §§ 6922, 6923, 6924 (1982 & Supp. V 1987).

74. RCRA §§ 3001-3019, 42 U.S.C. §§ 6921-6939 (1982 & Supp. V 1987).

75. RCRA §§ 4004(a), 4005(a), 42 U.S.C. §§ 6944(a), 6945(a) (1982 & Supp. V 1987). Specifically, the statute requires that landfills must, at a minimum, contain a double-liner system with a leachate collection and groundwater collection system. RCRA § 3004(o)(1)(A), 42 U.S.C. § 6924(o)(1)(A) (Supp. V 1987).

76. RCRA § 1001, 42 U.S.C. § 6901 (1982 & Supp. V 1987).

77. RCRA § 3017, 42 U.S.C. § 6938 (Supp. V 1987).

duced regulations under RCRA that placed special requirements on hazardous waste generators and transporters engaged in international shipments.⁷⁸ In 1986, the EPA finalized regulations consistent with HSWA that address the logistical details of the waste export program.⁷⁹

The major thrust of RCRA's waste export regulations is to require consent by the importing country.⁸⁰ Specifically, RCRA mandates that hazardous waste cannot be exported unless the EPA is properly notified⁸¹ and the receiving government consents in writing to accept the waste.⁸² The consent notice must be attached to the manifest accompanying the hazardous waste shipment.⁸³ At that point, the United States forwards a description of regulations for hazardous waste treatment, storage, and disposal to the receiving country.⁸⁴ Following the receipt of consent or objection, which is transmitted from the importing government to the EPA by the Department of State, the EPA has thirty days to notify the exporter of the receiving country's decision.⁸⁵ Exporters must file an annual report cataloguing the types, quantities, frequency, and final destination of all hazardous waste exported during the previous calendar

78. 51 Fed. Reg. 28,664, 28,664 (1986). The new provisions were promulgated under separate sections of RCRA. RCRA § 3002, 42 U.S.C. § 6922 (1982 F. Supp. V 1987) (Standards Applicable to Generators of Hazardous Waste) and RCRA § 3003, 42 U.S.C. § 6923 (1982 & Supp. V 1987) (Standards Applicable to Transporters of Hazardous Waste). RCRA authorized the EPA to regulate waste management and disposal practices. RCRA § 1001, 42 U.S.C. § 6901 (1982 & Supp. V 1987).

79. 51 Fed. Reg. 28,664, 28,664 (1986).

80. RCRA § 3017, 42 U.S.C. § 6938 (Supp. V 1987).

81. RCRA § 3017(c), 42 U.S.C. § 6938(c) (Supp. V 1987). Notification must be provided to the EPA Office of International Activities (OIA) by the primary exporter before the waste leaves the United States and must contain "(1) the name, address, telephone number and EPA ID number of the primary exporter"; (2) for each hazardous waste type, a description of: (i) the waste and EPA hazardous waste number; (ii) the estimated frequency or rate and period of time over which the waste will be exported; (iii) the estimated total quantities of hazardous waste to be exported; (iv) all points of entry to and departure from each foreign country through which the waste will pass; (v) a description of the means of transportation; (vi) the manner of treatment, storage, or disposal in the receiving country; (vii) the name and site address of the ultimate treatment, storage or disposal facility; and (viii) the name of any transit countries through which the waste will be sent and a description of the approximate length of stay and nature of handling while there. 40 C.F.R. § 262.53(a) (1989). These provisions for notice are not the original provisions of the 1984 RCRA amendment, but are revisions of the EPA hazardous waste export regulations made in 1986 by the EPA to implement RCRA section 3017, the waste export requirements of HSWA. Background and Summary of Final Rule, 51 Fed. Reg. 28,664, 28,665 (1986).

82. RCRA § 3017(d), 42 U.S.C. § 6938(d) (Supp. V 1987). Within 30 days of receipt of the notice described above, the Secretary of State must: (1) forward a copy of the notification to the receiving country's government; (2) advise the government that it must consent for the waste to be sent; (3) request a written consent or objection; and (4) send a description of the federal regulations for the treatment, storage, and disposal of hazardous waste in the United States to the receiving government. *Id.*

83. Background and Summary of Final Rule, 51 Fed. Reg. 28,664, 28,664 (1989).

84. RCRA § 3017(d)(4), 42 U.S.C. § 6938(d)(4) (Supp. V 1987).

85. RCRA § 3017(e), 42 U.S.C. § 6938(e) (Supp. V 1987).

year.⁸⁶

In lieu of the normal notification procedures, RCRA also permits international agreements between the United States and receiving countries, as long as the agreement establishes notice, export, and enforcement procedures and sufficient transportation, treatment, storage, and disposal of hazardous waste.⁸⁷ The United States has entered into international agreements with two countries, Canada and Mexico.⁸⁸ These bilateral agreements incorporate a prior consent scheme similar to RCRA.⁸⁹ Unlike RCRA, however, the exporter is free to ship the waste unless Canada objects to the import within thirty days.⁹⁰ In contrast, the United States-Mexico agreement does not contain a provision to trigger waste export if Mexico does not object within thirty days.⁹¹ Furthermore, neither agreement imposes compliance with any United States standard for treatment, storage, and disposal, but permits Canadian or Mexican standards to govern the import, transportation, and treatment of waste.⁹² As a result of these agreements, Canada and Mexico receive approximately ninety-five percent of all recorded exported waste.⁹³

RCRA also prescribes several penalties to enforce waste export regulations.⁹⁴ Under RCRA section 3008(d)(6) (A),⁹⁵ criminal penalties are established for failure to comply with the notice and foreign nation consent procedures.⁹⁶ Additionally, RCRA has a special

86. RCRA § 3017(g), 42 U.S.C. § 6938(g) (Supp. V 1987).

87. RCRA § 3017(f), 42 U.S.C. § 6938(f) (Supp. V 1987). Where there exists a prior international agreement, the exporter must file an annual report summarizing the types, quantities, frequency, and ultimate destination of all hazardous waste exported during the previous calendar year. RCRA § 3017(f)-(g), 42 U.S.C. § 6938(f)-(g) (Supp. V 1987).

88. Agreement Between the Government of the United States of America and the Government of Canada Concerning the Transboundary Movement of Hazardous Waste, Oct. 28, 1986, *reprinted in* EPA, NATIONAL ENFORCEMENT INVESTIGATIONS CENTER, ENFORCEMENT STRATEGY HAZARDOUS WASTE EXPORTS app. B (Mar. 1988) [hereinafter United States-Canada Agreement]; Annex III to the Agreement Between the United States of America and the United Mexican States on Cooperation for the Protection and Improvement of the Environment in the Border Area, Nov. 12, 1986, *reprinted in* EPA, NATIONAL ENFORCEMENT INVESTIGATIONS CENTER, ENFORCEMENT STRATEGY HAZARDOUS WASTE EXPORTS app. C (Mar. 1988) [hereinafter United States-Mexico Agreement].

89. Compare RCRA § 3017(c)-(d), 42 U.S.C. § 6938(c)-(d) (Supp. V 1987) (requiring notice and consent of export) with United States-Canada Agreement, *supra* note 88, at art. 3 (mandating notice and consent) and United States-Mexico Agreement, *supra* note 88, at art. III (requiring notice and consent).

90. United States-Canada Agreement, *supra* note 88, at art. 3(d).

91. United States-Mexico Agreement, *supra* note 88.

92. United States-Canada Agreement, *supra* note 87, at art. 2; United States-Mexico Agreement, *supra* note 88, at art. II.

93. See *supra* note 45 and accompanying text (discussing distribution of waste exported to Canada and Mexico).

94. RCRA § 3008(d), 42 U.S.C. § 6928(d) (1982 & Supp. V 1987).

95. RCRA § 3008(d)(6)(A), 42 U.S.C. § 6928(d)(6)(A) (1982 & Supp. V 1987).

96. *Id.* Criminal penalties are also provided for exporting hazardous waste under an

criminal penalty provision for persons who knowingly export wastes covered by RCRA that present an imminent danger of death or bodily injury.⁹⁷ Anyone who violates any portion of RCRA may incur civil penalties of up to \$25,000 per day of violation.⁹⁸ Furthermore, the EPA may bring an imminent hazard suit on behalf of the United States government if the handling, treatment, disposal, storage, or transportation of any hazardous or nonhazardous waste presents an "imminent and substantial endangerment to health or the environment."⁹⁹ These civil and criminal provisions, however, have no effect once the waste is transported across national boundaries.¹⁰⁰

While RCRA prescribes regulations for prospective conduct, the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) provides for remedial action.¹⁰¹ CERCLA section 107¹⁰² is the federal response to the liability posed by environmental and health dangers at toxic waste sites across the country.¹⁰³ The Act provides a renewable "Superfund" to finance the cleanup of hazardous waste sites.¹⁰⁴ The liability provision is extensive, attaching to anyone who transports or arranges for the transportation, disposal, or treatment of hazardous wastes and to any past or present owner of a hazardous waste disposal site.¹⁰⁵ Be-

international agreement when the exportation does not conform to the RCRA transportation, treatment, storage, and disposal requirements for such agreements. RCRA § 3008(d)(6)(B), 42 U.S.C. § 6928(d)(6)(B) (Supp. V 1987).

97. RCRA § 3008(e), 42 U.S.C. § 6928(e) (1982 & Supp. V 1987). Anyone who exhibits an "unjustified and inexcusable disregard for human life is subject to a \$250,000 fine and/or two years in prison." RCRA § 3008(e)(2)(A), 42 U.S.C. § 6928(e)(2)(A) (1982). An extreme indifference to human life may bring a \$250,000 fine and/or five years in prison. RCRA § 3008(e)(2)(B), 42 U.S.C. § 6928(e)(2)(B) (1982). A convicted organization is subject to a maximum fine of \$1,000,000. RCRA § 3008(e)(2), 42 U.S.C. § 6928(e)(2) (1982).

98. RCRA § 3008(g), 42 U.S.C. § 6928(g) (1982).

99. RCRA § 7003(a), 42 U.S.C. § 6973(a) (1982 & Supp. V 1987).

100. See *infra* notes 145-52 and accompanying text (discussing reasons for current law's limitation to domestic infractions).

101. 42 U.S.C. §§ 9601-75 (1982 & Supp. V 1987).

102. 42 U.S.C. § 9607 (1982 & Supp. V 1987).

103. Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) § 107(k)(6)(B), 42 U.S.C. § 9607(k)(6)(B) (Supp. V 1987).

104. 26 U.S.C. § 9507 (1988). Any person who violates CERCLA's provisions is liable to the United States government for Hazardous Substances Response Fund, Superfund, expenditures. CERCLA § 107(a), 42 U.S.C. § 9607(a) (1982 & Supp. V 1987). It is funded by a tax imposed on specific products and from general revenues. *Id.* §§ 4611-12, 4661-62. The Superfund provision is codified under the Internal Revenue Code in Title 26. For a discussion of some of the issues of and problems with the Superfund, see generally F. ANDERSON, D. MANDELKER & A.D. TARLOCK, *supra* note 68, at 614-19; Comment, *Compensating Hazardous Waste Victims: RCRA Insurance Regulations and a Not So Superfund Act*, 11 ENVTL. L. 689 (1981).

105. CERCLA § 107(a)(1)-(4), 42 U.S.C. § 9607(a) (1982 & Supp. V 1987). Any person to which the liability provision attaches shall be liable for all removal or remedial action costs incurred by the United States, any state, or any person as a result of a release of a hazardous substance. *Id.* § 107(a)(A)-(B), 42 U.S.C. § 9607 (a)(4)(A)-(B). Additionally, liability will be imposed to cover damages to natural resources and the costs of assessing natural resources damages. *Id.* § 107(a)(4)(C), 42 U.S.C. § 9607 (a)(4)(C). CERCLA's liability provision is trig-

cause the Act does not preclude the courts from applying joint and several liability, one party may bear the full cost of cleaning the site.¹⁰⁶

The limited defenses to CERCLA liability are consistent with CERCLA's stringent liability provisions. The only defenses are an act of God, war, or an intervening unforeseeable act of a third party.¹⁰⁷ Like the penal provisions of RCRA, however, CERCLA's strong language has no effect once the waste is removed from the United States.¹⁰⁸

Both RCRA and CERCLA are government tools to regulate and provide remedial action for conduct effecting the environment. Each piece of legislation, however, contains citizen suit provisions¹⁰⁹ that permit private citizens to institute civil actions on their own behalf against any eligible person or any United States government official or agency that violates a RCRA or CERCLA regulation.¹¹⁰ These provisions also have no effect outside of the United States.¹¹¹

C. Proposed Legislation: The Waste Export Control Act

The Waste Export Control Act (WECA)¹¹² was introduced on May 31, 1989 in response to the burgeoning need for an effective, comprehensive waste export program.¹¹³ The substantive provisions of the Act reflect both a moral¹¹⁴ and a practical concern.¹¹⁵

gered if a disposed hazardous or health threatening substance is released or threatened to be released into the environment. *Id.*

106. *United States v. Chem-Dyne Corp.*, 572 F. Supp. 802, 808 (S.D. Ohio 1983) (interpreting congressional intent to hold that CERCLA does not expressly state that liability may be joint and several).

107. CERCLA § 107(b), 42 U.S.C. § 9607(b) (1982).

108. *See infra* notes 145-52 and accompanying text (discussing reasons for current law's limitation to domestic infractions).

109. RCRA § 7002, 42 U.S.C. § 6972 (1982 & Supp. V 1987); CERCLA § 310, 42 U.S.C. § 9659 (Supp. V 1987).

110. RCRA § 7002(a), 42 U.S.C. § 6972(a) (1982 & Supp. V 1987); CERCLA § 310(a), 42 U.S.C. § 9659(a) (Supp. V 1987).

111. *See infra* notes 145-52 and accompanying text (discussing reasons for current law's limitation to domestic infractions).

112. H.R. 2525, 101st Cong., 1st Sess. (1989).

113. *See Hearings 2*, *supra* note 17, at 32 (statement of Rep. Howard Wolpe) (discussing need for new legislation).

114. Congressman Wolpe, one of the bill's chief sponsors, stated "[o]ur bill is based on the principle that we have a moral responsibility for the waste we generated from the cradle to the grave. That responsibility does not end when our pollution goes beyond our natural borders." *Id.*

115. In explaining why the United States should be responsible for its waste, Representative Wolpe said,

First, there is no better way to undermine the credibility of American foreign policy than by the cavalier exportation of our waste. Second, the majority of our waste trade is with our closest international neighbor, Canada. If waste we send to Canada

WECA acknowledges the responsibility of the United States for protecting human health and the environment.¹¹⁶ The bill also recognizes the need of the United States to maintain a respectable reputation as a trading partner.¹¹⁷

The purpose of WECA is to amend RCRA by banning exports of solid waste, incinerator ash, and toxic waste except where bilateral treaties¹¹⁸ and export permits¹¹⁹ ensure that waste will be handled in a safe manner.¹²⁰ The proposed amendments provide that any

is not disposed of properly, then we risk the contamination of the Great Lakes and, thus, the health of American citizens in the entire Great Lakes region.

135 CONG. REC. E1945, E1945-46 (daily ed. May 31, 1989).

116. See *Hearings 2*, *supra* note 17, at 3 (opening statement of Rep. Gejdenson, Chairman, Subcomm. on International Economic Policy and Trade). In support of WECA, Representative Gejdenson stated, "[w]e all live in a shrinking global environment. We can no longer treat cavalierly the environment of foreign countries by assuming that what happens halfway around the world has no impact on us Environmental problems will eventually affect each and every one of us." *Id.*; see also 135 CONG. REC. E1949 (daily ed. May 31, 1989) (statement of Rep. John Conyers, Jr.). Testifying in favor of passage of WECA, Representative Conyers stated:

One of the most serious problems in the 20th century is the generation of wastes that can spoil our waterways, taint our crops with deadly substances, and cause cancers, birth defects, occupation diseases and environmental contamination.

[T]he answer to our waste problems is not threatening the health of others by dumping our waste in other countries. Rather, it is the implementation of careful controls for disposal here, the creation of waste reduction technologies, and the enforcement of criminal laws banning irresponsible waste disposal.

Id.

117. *Hearings 2*, *supra* note 17, at 30-32 (statement of Rep. Howard Wolpe). The sponsors of the bill drafted the Act based on the following findings: (1) increased exports to foreign countries; (2) the current avoidance of higher treatment and disposal expenses in the United States by exporters is associated with the high cost of complying with environmental regulations in this country; (3) the export of waste ultimately contributes to the trade deficit of the United States; (4) the present waste export control system has a negative effect on the domestic policy of source reduction; (5) the current system fails to provide any review of the effects on waste importing countries; and (6) the uncontrolled export of wastes threatens the environment globally. H.R. 2525, 101st Cong., 1st Sess. §§ 2(a)(1)-(5), 2(9)(3)-(4) (1989).

118. H.R. 2525, 101st Cong., 1st Sess. § 12002(1) (1989). "[N]o person may directly or indirectly, export any solid waste . . . from the United States, unless . . . an international agreement is in effect to which the United States and any country receiving the solid waste are parties . . ." *Id.*

119. *Id.* § 12003. "[N]o person may . . . export from the United States any solid waste . . . unless he [sic] has first obtained a permit . . ." *Id.*

120. 135 CONG. REC. E1949 (daily ed. May 31, 1989) (statement of Rep. John Conyers, Jr.).

Section 12002 of WECA provides:

No person may, directly or indirectly, export any solid waste to which this subtitle applies from the United States unless— (1) an international agreement is in effect to which the United States and any country receiving the solid waste are parties . . . [and] (2) the export is made pursuant to and in accordance with that international agreement.

H.R. 2525, 101st Cong., 1st Sess. § 12002(a) (1989).

The international agreement must provide for each of the following: (1) notification of export; (2) obtaining consent from the receiving country; (3) exchange of information on the manner of specific treatment, storage, and disposal facilities of the receiving country, including United States access to the facilities in the receiving country "to ensure that transporta-

exported waste must go only to facilities that meet disposal standards equivalent to those required by the United States.¹²¹ In addition, waste generators must make efforts to minimize waste generation before any exports will be permitted.¹²²

Permit requirements under WECA are more stringent than those under RCRA; for instance, WECA requires the exporter to complete a detailed permit application.¹²³ The application requests information on the type, quantities, and concentrations of solid waste to be exported¹²⁴ and a detailed description of the manner of transportation, treatment, storage, or disposal of the waste.¹²⁵ The permit applicant must demonstrate that these processes will be completed in a way that is protective of human health and the environment¹²⁶ and "which is no less strict than that which would be required by this Act if the solid waste were managed in the United States."¹²⁷ In addition, the application requires comprehensive information about the people involved in the import scheme, including their ability to pay for potential damages and information on all the people or institutions connected with the companies involved.¹²⁸ The bill also requires descriptions of the experience and credentials of applicants, including any recorded violations of United States' regulations relating to waste treatment during the ten years preceding the filing of the application.¹²⁹ Additionally, information regarding the competency, reliability, or good character of

tion, treatment, storage and disposal of solid waste will be conducted in a manner which is protective of human health and the environment and which is no less strict than that which would be required by this Act if the solid waste were managed in the United States;" (4) cooperation on compliance with the enforcement of the agreement; (5) biennial review of the effectiveness of the agreement; (6) review and revision of the agreement; (7) prohibition of further transport from the receiving country absent written consent by the parties to the agreement. After the expiration of the first year following passage of the Act, all bilateral agreements must meet the Act's requirements. *Id.* § 12002(b)(1)(A)-(G).

121. *Id.* § 12002(b)(1)(C). See *supra* note 120 for text of Act.

122. H.R. 2525, 101st Cong., 1st Sess. § 12003(b)(15) (1989) (requiring description of waste minimization or elimination efforts as part of application); see also 135 CONG. REC. E1949 (daily ed. May 31, 1989) (statement of Rep. John Conyers, Jr.).

123. H.R. 2525, 101st Cong., 1st Sess. § 12003(b) (1989).

124. *Id.* § 12003(b)(2).

125. *Id.* § 12003(b)(7).

126. *Id.* § 12003(b)(8). "Each application for a permit . . . shall contain . . . [i]nformation demonstrating that the solid waste will be transported, treated, stored, and disposed of in a manner which is protective of human health . . ." *Id.*

127. *Id.* "Each application for a permit . . . shall contain . . . [i]nformation demonstrating that the solid waste will be transported, treated, stored and disposed of in a manner . . . which is no less strict than that which would be required by this Act if the solid waste were managed in the United States." *Id.*

128. *Id.* § 12003(b)(9). This includes "public shareholders of five or more percent and debt and equity holders." *Id.* § 12003(b)(10)-(11).

129. *Id.* § 12003(b)(13)-(14).

an applicant may be required.¹³⁰ Finally, exporters must provide yearly reports addressing most of the terms in the permit.¹³¹

Failure to comply with the permit procedure results in a denial or a revocation of the permit by the EPA.¹³² The EPA may also refuse permits if waste generators have failed to use all reasonable efforts to eliminate or minimize waste generation prior to export,¹³³ or if the receiving facility does not have standards at least equivalent to those in the United States.¹³⁴ To effectuate these requirements, the EPA administrator has the authority to inspect both the facilities of the permittee and the receiving country.¹³⁵ Moreover, the administrator may review, modify, or revoke a permit at any time during its term.¹³⁶ Permit application fees¹³⁷ and waste export permit fees defray the cost of administering the Act.¹³⁸ The fees are also expected to facilitate the enforcement of RCRA to make it a more effective waste export program.¹³⁹

The most significant provisions in the bill are those addressing liability. Importing countries that incur damages as a result of the exportation of hazardous waste from the United States may bring an action under CERCLA section 107¹⁴⁰ "as if costs or damages were incurred in the United States."¹⁴¹ Furthermore, if natural resources within the foreign country are injured or destroyed as a result of hazardous waste exports, the foreign government may sue to collect compensation damages on behalf of its citizens.¹⁴² Additionally, the

130. *Id.* § 12003(b)(16).

131. *Id.* § 12003(h).

132. *Id.* § 12003(d). There is also a public comment period where an informal hearing may be held if there is opposition to the issuance of the permit. *Id.* § 12003(f).

133. *Id.* § 12003(j)(1)(A).

134. *Id.* § 12003(j)(1)(B). The permit may also be revoked due to "fraud, deceit, or misrepresentation in securing the permit, or in the conduct of the permitted activity" among other considerations. *Id.* § 12003(j)(3).

135. *Id.* § 12003(k).

136. *Id.* § 12003(g). The Administrator of the EPA shall revoke a permit in any case in which he determines that a waste generator has failed to make responsible efforts to eliminate or minimize waste generation prior to export. *Id.* § 12003(1).

137. *Id.* § 12004(b)(1) (requiring fee charge to cover "all personnel, overhead and other expenses incurred by the Administrator in processing applications and in monitoring compliance with permit terms, including the cost of site inspections and any other measures necessary to verify that management of exported waste complies fully with the requirements of this section").

138. *Id.* § 12004(b)(2).

139. *Id.* § 12004(a).

140. CERCLA § 107, 42 U.S.C. § 9607 (1982 & Supp. V 1987); see *supra* notes 102-11 and accompanying text (discussing CERCLA's remedial provisions).

141. H.R. 2525, 101st Cong., 1st Sess. § 12005 (1989).

142. *Id.* WECA provides that a "foreign government shall have the same authority and responsibility with respect to natural resources within the foreign country as the United States has with respect to natural resources within the United States." *Id.* § 12005. CERCLA provides that the United States authority and responsibility with respect to natural resources is that, "[t]he President . . . shall act on behalf of the public as trustee of such natural resources

bill seeks to amend section 3008(d) of RCRA by broadening criminal liability to include the knowing export of waste in the absence of an international agreement.¹⁴³ These provisions strengthen the present system for regulating waste export from the United States and ensure safer treatment, storage, and disposal practices abroad.

II. ANALYSIS OF EXISTING AND PROPOSED LEGISLATION

A. Current Legislation

Although RCRA and CERCLA together provide an integrated regulatory and liability system for hazardous waste treatment, storage, and disposal in this country, neither act adequately addresses the serious ramifications attendant to sending waste abroad. The current legal system governing waste export is deficient in two major areas. First, RCRA does not offer liability recourse once the waste leaves the United States. Second, there is no monitoring system for nonhazardous waste, which, if improperly disposed, is potentially dangerous to humans and the environment.

1. Liability

The EPA's imminent hazard authority under RCRA section 7003,¹⁴⁴ the principle provision forcing cleanup of illegally disposed nonhazardous waste, does not apply once the waste is exported from the United States.¹⁴⁵ The reasons for this are two-fold. First, RCRA does not authorize extraterritorial application of its provisions.¹⁴⁶ Second, it is well settled that absent a clear legislative intent, domestic legislation is presumably limited to domestic application.¹⁴⁷ This principle results from the assumption that Congress is primarily concerned with domestic conditions rather than conditions outside the territorial jurisdiction of the United States.¹⁴⁸ Similarly, CERCLA is not extraterritorially applicable; it explicitly

to recover for such damages. Sums recovered by the United States Government as trustee . . . shall be retained by the trustee . . . for use only to restore, replace, or acquire the equivalent of such natural resources." CERCLA § 107(f), 42 U.S.C. § 9607(f) (1982 & Supp. V 1987).

143. H.R. 2525, 101st Cong., 1st Sess. § 12006(c) (1989). RCRA section 3008(d) only provides for criminal liability in the event that an international agreement is violated. 42 U.S.C. § 6928(d)(6) (1982 & Supp. V 1987). The maximum penalty for such a violation is to be the same as the maximum penalty provided in RCRA section 3008(d)(6), \$50,000 per day of violation or two years imprisonment. *Id.*

144. 42 U.S.C. § 9607 (1982 & Supp. V 1987).

145. *Hazardous Waste Exports*, *supra* note 10, at 10,174 (discussing legal controls of hazardous waste exports in United States and abroad).

146. *Id.*

147. *Foley Bros. v. Filardo*, 336 U.S. 281, 285 (1949) (holding that Eight Hour Law does not affect work done under private contract between United States and another country because nothing in Act indicates intent to extend coverage beyond United States).

148. *Id.*

states that it covers only releases into the navigable waters or territory under the jurisdiction of the United States.¹⁴⁹ Consequently, neither statute manifests the requisite clear intent of Congress that permits domestic jurisdiction to reach across national boundaries.¹⁵⁰ As a result of these limitations, foreign governments or citizens of foreign countries do not have standing to invoke RCRA or CERCLA remedies for hazardous waste disposal conducted abroad.¹⁵¹ Absent statutory protection, one of the means of redress available to foreign parties injured by the disposal of hazardous wastes exported from the United States is that traditionally provided by the common law tort system.¹⁵²

Plaintiffs utilize the four common law tort theories of strict liability, nuisance, trespass, and negligence in cases involving injuries resulting from improper disposal of hazardous and nonhazardous substances.¹⁵³ They are not, however, viable remedial alternatives for injuries sustained in foreign countries by hazardous and nonhazardous waste exports.

In order for an injured person to sustain a cause of action based on strict liability, the plaintiff must show that harm resulted from hazardous activities on the defendant's property.¹⁵⁴ The standard

149. CERCLA § 101(8), 42 U.S.C. § 9601(8) (1982 & Supp. V 1987).

150. *Hazardous Waste Exports*, *supra* note 10, at 10,174.

151. *Id.*

152. *Id.*; see *Abolish the Double Standard*, *supra* note 54, at 82 (noting Bhopal incident generated tremendous interest in liability issue, leading some commentators to consider whether holding United States liable as exporting country of Union Carbide is appropriate). *But see* Comment, *United States Controls on International Disposal of Hazardous Waste*, 22 INT'L LAW. 775, 777 (1988) [hereinafter *United States Controls*] (noting possible extraterritorial application of National Environmental Policy Act of 1964 (NEPA)). NEPA requires federal agencies to determine and prepare a statement considering environmental impact before commencing any major action. NEPA § 102(C), 42 U.S.C. § 4332(C) (1982). There is language in NEPA that alludes to extraterritorial application. NEPA § 102(F), 42 U.S.C. § 4332(F) (1982). Specifically, NEPA section 102(F) directs all agencies of the United States government to "recognize the worldwide . . . character of environmental problems and, where consistent with the foreign policy of the United States, lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing a decline in the quality of mankind's world environment." *Id.*

Courts have taken varying positions on whether to extend NEPA jurisdiction beyond the United States. *United States Controls*, *supra*, at 777; see *Sierra Club v. Coleman*, 405 F. Supp. 53, 56 (D.D.C. 1975) (enjoining United States-funded highway construction in Panama and Colombia because substantive and procedural NEPA requirements were not applicable); *Natural Resources Defense Council, Inc. v. Nuclear Regulatory Comm'n*, 647 F.2d 1345, 1347-48 (D.C. Cir. 1981) (refusing to impose environmental impact statement requirement on nuclear export decisions when impact would fall exclusively on foreign jurisdiction).

153. Burkhardt, *supra* note 19, at 372-77 (discussing CERCLA's four common law forbearers). The common law criminal system may be an additional means of redress. Recently, recognizing deficiencies in the tort system, states have been prosecuting corporate polluters under the common law criminal system for environmental misconduct. See Comment, *An Enemy of the People: Prosecuting the Corporate Polluter as a Common Law Criminal*, 39 AM. U. L. REV. 311, 311 (1990) [hereinafter *Enemy of the People*] (discussing emerging trend).

154. See *Rylands v. Fletcher*, L.R. 3 H.L. 330 (1868) (finding non-culpable reservoir own-

used by the Second Restatement of Torts for strict liability is "abnormally dangerous activity."¹⁵⁵ Courts can also apply a nuisance theory if the landowner uses his or her property in a manner that "unreasonably interfere[s] with a right common to the general public" (public nuisance)¹⁵⁶ or with another property owner's use and enjoyment of his or her land (private nuisance).¹⁵⁷ Trespass actions are rarely used because of problems of proof.¹⁵⁸ An action for trespass involves proving two elements: first, that pollutants have physically invaded the land;¹⁵⁹ and second, that the defendant knowingly or negligently caused the invasion.¹⁶⁰ Finally, a negligence action may be articulated if the defendant breaches a duty of reasonable care owed to the plaintiff and, as a result, proximately causes a foreseeable injury to the plaintiff.¹⁶¹

Each of the above theories of recovery may be applied to the negligent operation or maintenance of inherently dangerous domestic waste sites.¹⁶² For disposal of nonhazardous and hazardous waste on sites located in foreign countries, however, their use is limited. Strict liability, nuisance, and trespass require that the defendant own the land where the dangerous activity was conducted.¹⁶³ This is not an obstacle in situations where the waste site is owned by the waste exporter.¹⁶⁴ Little recourse exists in common law nuisance,

ers liable for damage to plaintiff's property resulting from inadvertent release of reservoir water); *Cahill v. Eastman*, 18 Minn. 324 (1871) (applying strict liability doctrine to release of underground water); see *Wallace v. A. H. Guion & Co.*, 237 S.C. 349, 117 S.E.2d 359 (1960) (finding non-negligent excavator liable for damages resulting from explosives). The application of the doctrine of strict liability, now recognized in the majority of American jurisdictions, evolved in large part from the nineteenth century *Rylands* decision. W. PROSSER & W. KEETON, *THE LAW OF TORTS* § 78, at 549 (5th ed. 1984).

155. RESTATEMENT (SECOND) OF TORTS § 519 (1979); see Department of Envtl. Protection v. Ventron Corp., 94 N.J. 473, 482, 468 A.2d 150, 157 (1983) (holding landowner strictly liable when toxic waste stored on his property seeped into plaintiffs' property). *But see* *Bayley v. Controlled Env't Corp.*, 127 N.H. 556, 560, 503 A.2d 823, 826 (1986) (refusing to apply strict liability to waste dumping absent showing that requirement of proving legal fault is practical bar to otherwise legitimate claim).

156. RESTATEMENT (SECOND) OF TORTS § 821B (1979).

157. *Id.* § 821D; see *Burkhart*, *supra* note 19, at 375; see also *Biddix v. Henredon Furniture Indus.*, 76 N.C. App. 30, 35, 331 S.E.2d 717, 721 (1985) (finding common law nuisance and trespass when waste effluents and other hazardous substances were discharged into stream).

158. *Burkhart*, *supra* note 19, at 376 (noting plaintiffs' rare reliance on theory because of proof problems).

159. W. PROSSER & W. KEETON, *THE LAW OF TORTS* § 13, at 71 (5th ed. 1984); see *Martin v. Reynolds Metals Co.*, 221 Or. 86, 89, 342 P.2d 790, 792 (1959) (holding projection of gases and particulates onto another's land is trespass), *cert. denied*, 362 U.S. 918 (1960).

160. *Hudson v. Peavey Oil Co.*, 229 Or. 3, 6-7, 556 P.2d 175, 177 (1977); RESTATEMENT (SECOND) OF TORTS § 166 (1979).

161. W. PROSSER & W. KEETON, *THE LAW OF TORTS* § 30, at 164-65 (5th ed. 1984).

162. *Burkhart*, *supra* note 19, at 372-76.

163. *Id.*

164. *In re Union Carbide Corp. Gas Plant Disaster at Bhopal*, 809 F.2d 195, 197 (2d Cir.) (implying American company may be sued in tort in American court or foreign court for injuries to foreign nationals resulting from accident in foreign country at company's gas

trespass, and strict liability actions, however, for injured parties if the waste is dumped on foreign territory by unknown United States companies that do not own the site.¹⁶⁵ In hazardous waste cases, negligence actions are also difficult to prove and often allow defendants to escape liability.¹⁶⁶ Commentators frequently refer to causation problems when tort actions are brought to redress environmentally hazardous conduct.¹⁶⁷ In tort actions, a plaintiff must prove that it is more likely than not that the defendant caused the plaintiff's injury; this burden is exacerbated when the results of the harm are delayed and only statistics indicate the link between the defendant's actions and the harm to the plaintiff.¹⁶⁸

The tort system *supra* may not provide the necessary remedies for harms caused by inadequate disposal of nonhazardous and hazardous waste; therefore, plaintiffs may turn to the international legal system as an additional possible means of redress.¹⁶⁹ Under this system, foreign governments may attempt to hold the United States government liable under international law for the activities of private parties over which it exercises control.¹⁷⁰ According to international legal principles, the state's control over a private person's activities determines the international liability a state may incur for the acts of private parties.¹⁷¹

Two international cases demonstrate that a state may be held re-

plant), *cert. denied*, 484 U.S. 871 (1987); see Stoler, *Inside Story of Union Carbide's India Nightmare*, U.S. NEWS & WORLD REP., Jan. 21, 1985, at 51 (describing Bhopal incident with United States' company).

165. See Burkhart, *supra* note 19, at 372-76.

166. *Id.* at 377; see Comment, *The Inapplicability of Traditional Tort Analysis to Environmental Risks: The Example of Toxic Waste Pollution Victim Compensation*, 35 STAN. L. REV. 575, 576 (1983) [hereinafter *Inapplicability of Traditional Tort Analysis*] (noting that alleged victims of waste disposal have difficulty recovering in tort).

167. See Rabin, *Environmental Liability and the Tort System*, 24 HOUS. L. REV. 27, 29-33 (1987) (posing problems of addressing environmental harm because of tort law: problems of identification, boundaries, and source); Jacob, *Response*, 24 HOUS. L. REV. 58, 60-61 (1987) (responding to Professor Robert Rabin's comment, *Environmental Liability and the Tort System*, and expressing belief that tort system does not adequately compensate victims of environmental harm, especially due to causation problems); *Enemy of the People*, *supra* note 153, at 323 (arguing against using tort to deter environmentally hazardous acts).

168. See *Inapplicability of Traditional Tort Analysis*, *supra* note 166, at 583-84 (detailing problems proving causation); Rabin, *supra* note 167, at 29-31 (describing time lag and source issues); see also Summers v. Tice, 33 Cal. 2d 80, 199 P.2d 1 (1948) (illustrating difficulty of identifying who caused injury when victim could not identify which hunting companion shot him).

169. *Abolish the Double Standard*, *supra* note 54, at 82. The issue and attendant problems of holding an exporting nation liable under international law for damages in foreign countries has received much attention. See generally Magraw, *Transboundary Harm: The International Law Commission's Study of "International Liability"*, 80 AM. J. INT'L. L. 305 (1986); Weinberg, *Insights and Ironies: The American Bhopal Cases*, 20 TEX. INT'L. L.J. 307 (1985).

170. *Hazardous Waste Exports*, *supra* note 10, at 10,174 n.57.

171. Handl, *State Liability for Accidental Transnational Environmental Damage by Private Persons*, 74 AM. J. INT'L L. 525, 527 (1980).

sponsible for activities originating within its territorial jurisdiction when the effects of such activities extend beyond that jurisdiction and injure nationals of other states.¹⁷² In the *Trial Smelter* case between United States and Canada, an arbitral tribunal held that a state cannot use or permit the use of its territory in a way that will injure another's territory, property, or persons "when the case is of serious consequence and the injury is established by clear and convincing evidence."¹⁷³ Additionally, the *Corfu Channel* case between Great Britain and Albania held that states may not knowingly permit their territories to be used for acts which contravene the rights of other states.¹⁷⁴ These international principles point to the possibility that the United States government could be the target of a law suit based on its control over American citizens who export hazardous waste. The *Trial Smelter* and *Corfu Channel* cases involved property ownership, and this may preclude their application when the United States, or a United States' citizen, does not own the property that is the genus of the damage.

Another form of redress available to foreign claimants is a cause of action based on the EPA's failure to fulfill a nondiscretionary duty to regulate the export of hazardous waste.¹⁷⁵ Therefore, it is possible the government could incur liability for nondiscretionary acts arising out of its regulatory programs.¹⁷⁶ This situation may arise, for example, if the United States fails to abide by its obligation under RCRA to prohibit waste exportation in the absence of the consent of the receiving country.¹⁷⁷ The United States, however, may attempt to claim sovereign immunity as an affirmative defense.¹⁷⁸

172. *Trial Smelter Arbitration* (United States v. Canada), 3 R. Int'l Arb. Awards 1905, reprinted in 35 AM. J. INT'L L. 684 (1941), and *Corfu Channel* (Great Britain v. Albania), 1948-1949 I.C.J.Y.B. 57, 61 (1949). The Restatement of Foreign Relations Law recommends imposing state responsibility when the state of origin fails "to ensure that activities within its jurisdiction or control conform to generally accepted international rules and standards for prevention, reduction, and control of injury to the environment of another state or areas beyond the limits of national jurisdiction." RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW OF UNITED STATES § 601 (1987).

173. *Trial Smelter Arbitration* (United States v. Canada), 3 R. Int'l Arb. Awards 1905, reprinted in 35 AM. J. INT'L L. 684 (1941).

174. *Corfu Channel* (Great Britain v. Albania), 1948-1949 I.C.J.Y.B. 57, 61 (1949). For a discussion of the *Corfu Channel* and *Trial Smelter* cases, see *Abolish the Double Standard*, *supra* note 54, at 82-83.

175. *Hazardous Waste Exports*, *supra* note 10, at 10,174.

176. See *Berkovitz v. United States*, 486 U.S. 531, 538-39 (1988) (holding that discretionary function exception does not preclude liability for any and all acts arising out of federal agencies' regulatory programs but insulates from liability only those governmental actions and decisions that involve element of judgment or choice based on public policy considerations).

177. *Hazardous Waste Exports*, *supra* note 10, at 10,174.

178. Sovereign immunity laws of foreign countries would control whether the United

Because its enforcement of the waste export program is weak, the United States remains open to this type of liability.¹⁷⁹ The EPA has contended that the hazardous waste export program is not an EPA priority.¹⁸⁰ Agency officials claim that the EPA is not able to support the waste export program because the RCRA program is severely resource-constrained.¹⁸¹ The EPA Inspector General's audit concluded that handling great quantities of hazardous waste contravened regulations.¹⁸² Thus, the EPA's minimal enforcement efforts, combined with limited resources, opens the door to challenges to the government's failure to abide by RCRA.

States would be successful in escaping liability under the cloak of sovereign immunity. See 20 CANADIAN YEARBOOK OF INTERNATIONAL LAW 79 (1982) (incorporating restrictive theory of sovereign immunity where foreign state is entitled to sovereign immunity only based on its public acts); see also J. SWEENEY, C. OLIVER & N. LEECH, THE INTERNATIONAL LEGAL SYSTEM 323-71 (3d ed. 1988) (describing history, theories, and application of sovereign immunity by various countries).

179. AUDIT, *supra* note 25, at 22.

180. *Id.* at 23.

181. *Id.* The official expressed the need for support from the Office of Enforcement and Compliance Monitoring (OECM). An OECM senior budget analyst, however, responded that OECM's budget did not provide resources for the hazardous waste export program. *Id.*

182. *Id.* at 2. The Inspector General declared that the EPA is not equipped to regulate the export of waste. 11 Int'l Env't. Rep. (BNA) 434, 434 (Aug. 10, 1988).

The audit highlighted several problems in the EPA's efforts to manage waste export. AUDIT, *supra* note 25, at 2. Among the major recommendations of the audit were: (1) an enforcement strategy to identify exporters not complying with agency regulations; (2) a joint nationwide program with the United States Customs Service to monitor and spot check hazardous waste exports in order to vigorously pursue violations; (3) procedures to ensure that exporters provide complete descriptions of how hazardous wastes will be handled in receiving countries; and (4) stronger procedures to alert exporters when a receiving country objects to the export. *Id.*

The EPA audit cited examples of how the description of the manner of handling had been improper or inadequate in past waste export: "(1) forty metric tons of lead dross in Pakistan was given simply as "Recycling"; (2) 120 drums of spent chemical catalyst containing mercury sludge in South Africa was given as "Recycling"; and (3) 250 tons of lead flue dust, 250 tons of lead furnace slag, and 11,000 tons of lead press coke in West Germany were given as "Reclamation." *Id.* at 5. This audit concluded that exporters provided inadequate descriptions because they were unclear about what to include in the notification. *Id.*

One example of the troubled program involves Mexico. *Id.* at 13. In 1986 Mexican environmental authorities discovered an illegal dumping site in a rural community where a Mexican recycling company had dumped 10,000 gallons of heavy hydrocarbons and other hazardous materials that it had purchased from United States companies. *Id.* The Mexican company was neither a licensed recycler nor importer, and was not authorized to dump the material at the illegal site. *Id.* Subsequently, a federal grand jury returned a 41 count indictment against four officers and owners of two corporations that were allegedly involved in the illegal activity. *Id.* If the system had worked as it was supposed to, Mexican authorities would not have consented to this particular import. *Id.*

An additional enforcement problem cited by the audit involved the yearly reporting provisions of RCRA section 6939(g) which requires more specific and accurate information than the notifications. 42 U.S.C. § 3018(a) (1982 & Supp. V 1987). Most exporters did not comply with this regulation, which is used in part to help determine the direction the waste export program should take. AUDIT, *supra* note 25, at 24. Therefore, it was increasingly difficult for the EPA to enforce the provisions. *Id.* One EPA office revised its waste export program in response to the audit. Nevertheless, it is too soon to know if the revisions, once implemented, will make a difference in enforcement of the program. National Enforcement Investigations Center, *Enforcement Strategy Hazardous Waste Exports*, Mar. 1988.

As the foregoing discussion demonstrates, neither RCRA, CERCLA, nor the tort system provide an effective net to catch exporters once waste is removed from the country. This failure and the resulting difficulty in establishing liability once waste is removed from national boundaries, has created an incentive for generators to export.¹⁸³ On the other hand, placing the liability for inadequate waste disposal in foreign countries on the United States government is fundamentally misdirected because it fails to address the root of the problem. It does not place liability on the exporter who can best assume the costs of improper transport or disposal. On the contrary, it allows exporters to escape the stringent United States' regulations and liability provisions of RCRA and CERCLA.¹⁸⁴ In fact, the permissiveness of the RCRA system eliminates both the incentive to dispose of waste within United States' borders and the incentive to reduce waste, despite the availability of the technology to do so.¹⁸⁵ Therefore, more waste is produced, creating a greater need to export.

2. *Uncontrolled export of nonhazardous waste*

Although RCRA requires that hazardous waste exports be monitored, it does not regulate the export of nonhazardous waste.¹⁸⁶ Consequently, absent media coverage or private interest group actions, there is no way to track nonhazardous waste movement. Such imperfect coverage provides virtually no regulatory benefit and presents several problems. Aside from the issue of liability discussed above,¹⁸⁷ this practice poses potential dangers to human health and the environment by permitting unregulated dumping in foreign countries.

Despite the implementation of increasingly stringent waste export regulation over the past ten years, the current system is inadequate to meet the needs of growing waste traffic.¹⁸⁸ Municipal garbage is exported without scrutiny because the EPA's authority extends only to domestic solid waste disposal.¹⁸⁹ Consequently, there are no reg-

183. *Hazardous Waste Exports*, *supra* note 10, at 10,174-75.

184. *Id.* at 10,172.

185. *Hearings 2*, *supra* note 17, at 24 (statement of Rep. John Conyers, Jr.).

186. *Id.* at 28 (statement of Rep. Mike Synar); *see also supra* note 27 and accompanying text (citing RCRA regulations concerning EPA's authority over nonhazardous waste).

187. *See supra* notes 175-77 and accompanying text (positing potential United States' liability).

188. *Hearings 1*, *supra* note 10, at 28-29 (statement of Rep. Mike Synar) (stressing message from Subcommittee on Environmental, Energy, and Natural Resources hearing that waste export control program is inadequate to control growing waste export business).

189. A proposal to create a land mass in the Marshall Islands using 34 billion pounds of United States municipal trash illustrates the dangers that exist absent export regulations for

ulations to ensure the safe treatment, storage, and disposal of solid waste beyond the United States' borders.

This lack of regulation is significant because nonhazardous waste has hazardous properties.¹⁹⁰ Although RCRA provides a chain of regulatory actions and policy initiatives that are designed to segregate nonhazardous and hazardous waste disposal activity, hazardous wastes are continuously found in nonhazardous waste landfills and incinerators.¹⁹¹ The increased costs and regulations of hazardous waste disposal encourage the illegal disposal of hazardous waste into nonhazardous waste receptacles.¹⁹² Additionally, about one percent of household wastes, such as paints, pesticides, batteries, cleaning solvents, and cosmetics include hazardous materials.¹⁹³ Due to the landfill squeeze, this type of waste is often sent abroad.¹⁹⁴ Furthermore, poor enforcement of RCRA regulations allows waste that should be classified as hazardous to be mislabelled and sent abroad as nonhazardous.¹⁹⁵

Exposure to hazardous substances is linked to health problems such as cancer, birth defects, and personality disorders.¹⁹⁶ Similarly, exposure to incinerator ash promotes serious health risks be-

nonhazardous waste. *Id.* at 16 (statement of Rep. John Conyers, Jr.). Marshall Island authorities hope to increase the size of their land as a barrier to rising water levels. While this result may be achieved, it would mean almost certain contamination of the ocean and food sources. *Id.* This irresponsible action would never be tolerated in the United States, yet there is nothing that enables the EPA to halt this proposal. *Id.*

190. L. BLUMBERG & R. GOTTLIEB, *supra* note 2, at 88. For example, incinerator ash, although currently treated as nonhazardous waste, poses great danger to human health and the environment. *Id.* at 110. Burning trash not only concentrates toxic substances inherent in the waste, it actually forms toxins, such as dioxin, during the incineration process. *Id.* Unfortunately, the more efficient the air pollution control equipment, the more toxic the ash becomes because the toxins are concentrated in the incinerator system, rather than permitted to escape into the air. *Id.*

There are two types of ash: fly and bottom. *Id.* Fly is a hazardous material. Therefore, to decrease toxicity concentration, incinerator owners mix the two types of ash. *Id.* The mix, however, remains toxic. *Id.* The toxins in the ash threaten human health by either seeping into the ground or by escaping into the air. *Id.* A 1987 EPA report concluded that ash from trash-burning plants contained significant levels of lead, cadmium, dioxin, and other toxic substances. *Id.* at 111. A study conducted that same year by the Environmental Defense Fund found that the regulatory limits defining a hazardous waste for lead and cadmium was exceeded by the averages of all samples taken at incinerator plants for the fly ash, the bottom ash, and the combination of the two. *Id.*

191. *Id.* at 88-89.

192. *Id.* The rising costs of hazardous waste disposal has created a market for large-volume traffic in illegal dumping across the country. Much of this is said to be controlled by organized crime. *Id.*

193. *Id.* This equals 55 to 60 grams per week per household of hazardous waste entering the nonhazardous waste stream. *Id.*

194. See L. BLUMBERG & GOTTLIEB, *supra* note 2, at 125-26 (explaining reasons for dearth of landfill space).

195. AUDIT, *supra* note 25, at 5.

196. Burkhart, *supra* note 19, at 371 n.1.

cause it consistently contains heavy metals¹⁹⁷ and toxic organics¹⁹⁸ that are toxic to humans. These toxins pose a threat to human health by either seeping into the ground or by escaping into the air.¹⁹⁹

The dangers inherent in nonhazardous waste and incinerator ash become even more likely to cause harm when these substances are disposed of outside the United States. Disposal is then subject to the regulatory system of the importing country which in many cases may consist of open dumping or may even be nonexistent.²⁰⁰

B. *Analysis of the Waste Export Control Act*

Under RCRA there is no control for nonhazardous waste export, and there is no capacity to control waste once it leaves the country.²⁰¹ The ramifications of these two problems highlight the importance of a strong, effective enforcement program to regulate waste before and after it leaves the United States.²⁰² First, in order to address liability concerns, RCRA and CERCLA must have international jurisdiction. Second, nonhazardous waste export must be strictly regulated. WECA proposes to incorporate these changes in amendments to RCRA.²⁰³

1. *Liability*

One goal of WECA is to provide recourse for damages incurred by transboundary movements of waste.²⁰⁴ While RCRA and CER-

197. L. BLUMBERG & R. GOTTLIEB, *supra* note 2, at 110. The most dangerous heavy metals are lead, nickel, cadmium, chromium-b, mercury, and arsenic. *Id.*

198. *Id.* (pointing to dioxin as example of toxic organic).

199. *Id.* When ash is buried in landfills, the more soluble heavy metals are likely to seep into the groundwater. *Id.* Moreover, the lime used in incinerator scrubber systems increases the alkalinity of the ash, and actually accelerates seeping caused by such natural phenomena as erosion and runoff from rainfall. *Id.* at 110-11; see *International Export of Waste: Hearing before a Subcommittee of the Committee on Government Operations House of Representatives, 100th Cong., 2d Sess. 9 (1988) [hereinafter Hearings 3]* (statement of Rep. John Conyers, Jr.). The ash contains heavy metals and dioxins that can cause learning disabilities, cancer, and congenital defects. *Id.* Aside from the obvious dangers associated with direct contact with the ash, improperly stored wastes may contaminate population centers through groundwater or the atmosphere. *Id.*

200. *Abolish the Double Standard, supra* note 54, at 72-78.

201. Porterfield & Weir, *supra* note 18, at 343 (quoting Wendy Grieder from EPA's Office of International Activities: "Under the Federal system, we only have control over what's in the country Once it leaves, we can't do anything about it").

202. See F. ANDERSON D. MANDELKER & A.D. TARLOCK, *supra* note 68, at 604 (explaining theories for determining scope by RCRA).

203. 135 CONG. REC. E1940-41 (daily ed. May 31, 1989) (statement of Rep. Mike Synar) (describing goals of WECA).

204. H.R. 2525, 101st Cong., 1st Sess. § 12005 (1989) (permitting national government of foreign country in which damages are incurred to bring action under section 107 of CERCLA as if damages were incurred in United States).

CLA offer compensation and accountability measures for waste disposal in the United States, there are no parallel provisions covering the waste once it is exported.²⁰⁵ WECA permits the extension of RCRA and CERCLA liability provisions to foreign countries.²⁰⁶

The expansion of the jurisdiction of RCRA and CERCLA depends upon two WECA amendments. First, by requiring bilateral agreements, WECA eliminates sovereignty issues.²⁰⁷ Second, requiring that the treatment, storage, and disposal standards of the recipient country be equal to those of the United States should discourage exporters searching for cheap and easy disposal and ensure equitable liability coverage.²⁰⁸

WECA is criticized by Canadians and other proponents of waste export on the basis that it infringes on the sovereignty of other countries by dictating standards for the treatment, storage, and disposal of waste.²⁰⁹ The effect of the "no less strict" standard and the inspection procedures is to impose United States' regulations and scrutiny on recipient countries. There is, however, no infringement of other nations' sovereignty because bilateral agreements are required by WECA.²¹⁰ Consequently, the sovereignty argument posited by the Canadian government²¹¹ and those espousing similar

205. See *supra* notes 149-50 and accompanying text (discussing limitation of RCRA and CERCLA to domestic waste disposal). It is conceivable that the United States could be found liable for failure to adequately regulate waste export activities as mandated by RCRA if they result in injury to foreign countries. See *supra* notes 175-77 and accompanying text (exploring possible liability of United States).

206. H.R. 2525, 101st Cong., 1st Sess. § 12005 (1989).

207. *Id.* § 12002(a)(1)-(2).

208. *Id.* §§ 12002, 12003(b)(8).

209. See *Hearings 2, supra* note 17, at 313 (statement of Ambassador D. H. Burney of Canada) (calling on United States to ensure that sovereignty of receiving countries is not infringed by requiring United States' standards and inspection of foreign facilities); *id.* at 316 (testimony of Chemical Manufacturers Association) (suggesting improvement of WECA by respecting sovereign rights of importing countries); *id.* at 39-40 (statement of Dr. Frederick Bernthal) (explaining that the "no less strict" standard places an additional and impractical burden on countries already practicing environmentally sound management of wastes); *id.* at 44 (statement of Scott A. Hajost, Acting Associate Administrator for International Affairs, EPA) (warning that prohibiting exports, except where receiving facility strictly adheres to extensive RCRA administrative and technical requirements, intrudes too much on sovereignty of other nations); *id.* at 80 (statement of Richard C. Fortuna, Executive Director, Hazardous Waste Treatment Council) (declaring bill's goal unobjectionable, but standard and process by which the goal is implemented self-defeating).

210. *Id.* at 31. (statement of Rep. Howard Wolpe) (responding to sovereignty criticism: "It has been suggested that our bill somehow would intrude upon the sovereignty of another . . . That's frankly nonsense. Sovereignty is in no way intruded upon if a country agrees in advance to accept the terms of an international agreement. If a country . . . is offended by the language in a proposed agreement, it can refuse to sign that agreement. Of course, that country does not have to accept American waste products either").

211. *Hearings 1, supra* note 10, at 312-14 (testimony from Ambassador D. H. Burney of Canada). The greater sovereignty problem exists with Canada with whom the United States has a bilateral treaty governing hazardous waste trade. *Id.* The Canada-United States Agreement on the Transboundary Movement of Hazardous Wastes of October 1986 was designed

views are untenable because the recipient country is not required to accept United States' waste.²¹²

to ensure the safe disposal of hazardous wastes by minimizing the distances wastes need to be transported. *Id.* Under the treaty, waste is treated at the nearest available facility, regardless of whether it is American or Canadian. *Id.* Since the Agreement was signed, Canada has begun the process of ratifying the Basel Convention and is in the process of adopting more stringent legal provisions to govern hazardous waste. *Id.* Under WECA, the bilateral agreement with Canada would need to be renegotiated to ensure that waste exported from the United States would be managed according to regulations that are "no less strict" than those in the United States. *Id.* Canada claimed that such a provision effectively extends the application of United States' law and standards into other countries and does not take into account the responsibility of the receiving country to ensure that its own standards, enforced by its own officials, are respected. *Id.*

Many other organizations, as well as the Bush Administration, have expressed the same sentiments regarding waste export to Canada and believe the critical issue should be whether human health and the environment are protected—not whether standards are identical. *Id.* at 91 (statement of Barry L. Malter, Counsel, International Environmental Policy Coalition); *see id.* at 3 (statement of Rep. Gejdenson, Chairman, Subcomm. on International Policy and Trade) (suggesting that Canada should either be exempt from the "no less strict" standard or standard should be changed to "as effective as," thereby allowing Canada to develop alternative technologies from United States).

Although other countries have objections similar to those of Canada, developing countries interested in importing waste have an additional concern. *Abolish the Double Standard, supra* note 54, at 78. Their concern focuses on a perception that the bill is another paternalistic practice of the United States. *Id.* Paternalistic attitudes were evident during the hearings on the bill, for example, "Can we honestly expect safe handling of highly toxic wastes in countries with inadequate port facilities, substandard roads, and where there may be little understanding of the danger of these substances?" *Hearings 1, supra* note 10, at 15 (statement of Rep. John Conyers, Jr.). Developing countries view the waste export issue as one which involves the right of a nation to determine the products it chooses to import for the use of its citizens. *Abolish the Double Standard, supra* note 54, at 78. By framing the issue this way, these countries perceive WECA as a violation of sovereign rights because it would preclude most developing countries (those that do not have "no less strict" standards) from importing waste from the United States. *Id.* In fact, one developing country accused the developed world of "environmental imperialism" when export controls were used to protect its environment and public health. *Id.* at 77. Moreover, the Act relies on the assumption of many exporting nations that the importing country will have the ability to implement the regulations of a developed country by mandating equivalent treatment, storage, and disposal standards. *Id.* at 78. WECA embodies an implicit judgment about the value of the environment and health, and it imposes it on other countries that may not share the same environmental and economic values as the United States. As Congressman Synar explains, the bill "ensures that the citizen of foreign countries will have at least equal protection that we would demand out of our own citizens There is a moral question here. It sets a framework up for meeting our environmental obligations" *Hearings 1, supra* note 10, at 28.

On the other hand, many developing nations recognize the dangerous effects of uncontrolled waste disposal and are understandably sensitive to being treated as the garbage dump of developed nations. As a result, many countries have regulations banning waste import. *Christian Science Monitor*, Mar. 24, 1989, at A4, col. 1 (noting that approximately 40 developing nations ban hazardous waste import). Nigeria, for example, has threatened execution by a firing squad for anyone found guilty of importing toxic waste for profit. *Hazardous Waste Exports, supra* note 10, at 10,179. *But see* *Christian Science Monitor*, Mar. 24, 1989, at A4, col. 1 (mentioning point by Mostafa Tolba, executive director of UNEP, that some developing countries may need to export waste "in the interest of sound environmental management").

212. *See Hearings 1, supra* note 10, at 139 (statement of Rep. Mike Synar) (rebutting assertion that WECA creates extraterritorial application of United States law: "I think it was . . . the intent of the authors of this bill not to pass judgment on any other nation's laws. [The bill] focuses on exporters and on facilities that are managing the wastes This is a review of a voluntary business transaction between two companies, *not two countries*") (emphasis added); *see also id.* at 3 (statement of Rep. Gejdenson, Chairman, Subcomm. on International

Opponents of extending the jurisdiction of RCRA and CERCLA argue that the bill may increase illegal waste exports because it will be more expensive and administratively difficult to send waste abroad legally.²¹³ This argument, however, ignores the substance of the legislation. First, with the imposition of criminal penalties in the amount of \$250,000 for knowingly exporting hazardous waste without a bilateral agreement,²¹⁴ the notion that exporters will be inclined to break the law is questionable. Second, in view of the potential liability under CERCLA, the risks of illegal export simply become too great.²¹⁵ Because liability under CERCLA is joint and several, transporters also face potential liabilities.²¹⁶ A transporter facing enormous liabilities will be unwilling to bear the liability of the generator and exporter, and will be forced to reveal their identities. Therefore, the new legislation makes it easier to trace the source of illegally exported wastes. Further, allowing harmful exportation of waste because of potentially inadequate enforcement mechanisms focuses on the wrong side of the problem. Inadequate enforcement can be improved by increased funds that would allow for greater regulatory control. Harmful exportation, however, can never be corrected without strong legislation.

2. *Nonhazardous waste export*

Another major criticism of WECA is that it effectively bans waste export.²¹⁷ Detractors argue that the "no less strict" standard and the extensive application requirements will prevent the export of any waste for at least a few years while interested nations develop standards comparable to those of the United States.²¹⁸ Although

Economic Policy and Trade) (arguing that H.R. 2525 would not tell Canada what environmental laws it should enact, rather, it would tell private Canadian companies what standards they must meet if they want to receive American waste).

213. See *Hearings 1*, *supra* note 10, at 57 (statement of Scott A. Hajost, Acting Associate Administrator for International Affairs, EPA) (discussing illegal transboundary shipments of waste). One EPA official compared the likelihood of catching illegal hazardous waste transports to stopping illegal drug trafficking. Porterfield & Weir, *supra* note 18, at 341.

214. H.R. 2525, 101st Cong., 1st Sess. § 12006(c) (1989).

215. See *supra* notes 101-08 and accompanying text (outlining severity of penalties); see also *Hearings 1*, *supra* note 10, at 115 (statement of William Y. Brown, Director of Environmental Affairs, Waste Management, Inc.) (advocating Superfund liability provision of WECA).

216. CERCLA § 107, 42 U.S.C. § 9607 (1982 & Supp. V 1987).

217. *Hearings 1*, *supra* note 10, at 96 (testimony of Barry L. Malter); see also *Hearings 2*, *supra* note 17, at 109 (testimony of Donald B. Bright, CEO, Environmental Audit, Inc.) (stating "I do believe that H.R. 2525 in its current form is a de facto moratorium on the exporting of any hazardous materials that would be useful for energy generation or other activities in foreign countries").

218. *Hearings 1*, *supra* note 10, at 93 (statement of Barry L. Malter). There are permit system delays because the regulatory scheme that foreign countries would have to create, EPA officials have advised, could easily take three to five years to fully implement. *Id.* at 110.

the sponsors of the bill deny this,²¹⁹ it is inevitable that the implementation of the requirements of WECA will take a substantial amount of time.²²⁰

Although WECA purports that it is merely extending the regulations covering hazardous waste to nonhazardous waste,²²¹ it effectively quells the export of nonhazardous waste. For example, WECA requires that waste generators make "reasonable efforts" to eliminate or minimize waste generation prior to export.²²² Although this provision is not further defined, there are other sections of the bill that support the enforcement of waste minimization. The "no less strict" clause effectively interrupts export efforts while other countries implement standards as strict as RCRA.²²³ In addition, the potential liability posed by extending RCRA and CERCLA should encourage local governments to recycle rather than to export.²²⁴ Waste generators will be forced to develop new strategies for reducing waste at its source and recycling. As a result, valuable post-consumer goods will remain in this country, thus conserving the fossil fuel necessary to ship them abroad and saving the energy necessary to create new products from virgin material.²²⁵

Elimination of the export option for waste disposal would certainly increase the cost of domestic disposal as demand increases and capacity becomes scarce.²²⁶ The increase in demand for domes-

219. *Id.* at 44 (statement of Rep. Mike Synar). Representative Synar said, "This proposal does not prohibit the export of United States wastes. Rather, the objective of the Waste Export Control Act is to correct the shortcomings of our current export control program and to provide a framework for fulfilling our international agreements and global environmental responsibilities." *Id.*

220. *Id.* at 109 (statement of Barry L. Malter). The bill states that waste exports may not go forward without an EPA permit and that permits may not be issued until the EPA, in consultation with the Secretary of State, has promulgated such regulations "including regulations on permits, manifests, packaging, labeling, transporting, reporting, record keeping, pre-treatment, treatment, storage, and disposal." H.R. 2525, 101st Cong., 1st Sess. § 12003(i) (1989). In developing these regulations, the Administrator is required to "actively solicit public comment . . ." *Id.* Barry Malter testified that he had been advised by EPA officials that the implementation of these regulations could take three to five years. *Hearings 1, supra* note 10, at 110 (statement of Barry L. Malter). In the meantime, he said, "we will have trade with Canada disrupted." *Id.* at 93.

221. *See supra* notes 66-111 (comparing different regulatory standards for hazardous and nonhazardous waste).

222. H.R. 2525, 101st Cong., 1st Sess. § 12003(j)(1)(A) (1989).

223. *Id.* at § 12002(b)(C).

224. *Id.* at §§ 12003(b), 12005.

225. ENVIRONMENTAL DEFENSE FUND, COMING FULL CIRCLE: SUCCESSFUL RECYCLING TODAY 10-11 (1988) (revealing benefits of substituting secondary resources for virgin resources). For example, the amount of energy required to recycle an aluminum can is only five percent of the energy needed to produce a can from raw ore. L. BLUMBERG & R. GOTTLIEB, *supra* note 2, at 200.

226. Eliminating the export option would require increased use of the only alternatives, recycling and conservation. The Office of Technology Assessment reported that utilization of current technology could eliminate as much as half of the hazardous waste generated in the

tic disposal facilities would place an additional strain on existing repositories.²²⁷ These concerns give rise to the fundamental question of the value of exporting nonhazardous waste. In the present United States system, few ultimately profit from waste export. The United States loses valuable resources²²⁸ while other countries are burdened with materials that they may not be able to dispose of adequately.²²⁹ The consequence of this is injury to humans and the environment.²³⁰

3. Enforcement

The Waste Export Control Act contains mechanisms to eliminate the enforcement problems of the present waste export control program. The wide scope of the permit system ensures that permit recipients are in a position to deal responsibly with waste export.²³¹ It also provides a tracking and an accountability system that is currently absent under RCRA by making the requirements of the application much more explicit.²³²

An additional enforcement mechanism of the Act is the authority vested in the EPA to halt waste export transactions.²³³ Currently, the EPA is powerless to stop even a dangerous export if the import-

United States within the next few years. 10 Int'l Envtl. Rep. (BNA) 362 (July 8, 1987). The report cautioned, however, that because of industry reluctance to reduce waste, technical assistance on behalf of the government is necessary for the elimination of United States' generated hazardous waste. *Id.* The report criticized the EPA's efforts at waste reduction and recommended that Congress establish a separate federal program within EPA to support waste reduction. *Id.* According to the report, four states have larger waste reduction programs than the EPA. *Id.*

227. See Wash. Post, Oct. 28, 1989, at B1, B7, col. 1 (reporting recent "poo-poo choo-choo" train shuttled from Baltimore to numerous Louisiana towns carrying sewage sludge illustrating receptacle shortage).

228. *Hearings 1, supra* note 10, at 160 (testimony of Jim Vallette, Green Peace) (describing adverse economic impact on the United States from exporting waste). Not only are valuable recyclable materials lost, but "capital flows out of . . . the U.S." when exporters pay recipient countries to accept the waste. *Id.* Therefore, the international waste trade adds to the trade deficit. *Id.*

229. See *supra* notes 49-53 and accompanying text (describing problems associated with third world disposal capabilities).

230. A tragic example of the dangers in exporting hazardous materials to less regulated markets occurred in 1971, when an American corporation exported methyl mercury to Iraq. *Abolish the Double Standard, supra* note 54, at 71 n.6. Although methyl mercury is considered a fungicide and not technically waste, its use is prohibited in the United States. *Id.* No such prohibitions existed in Iraq and it was improperly used as a fungicide for wheat and barley seeds used for baking. *Id.* Subsequent consumption of bread and cakes made from the contaminated grain killed more than 6,000 people. *Id.*

231. H.R. 2525, 101st Cong., 1st Sess. § 12003 (1989).

232. *Id.*

233. *Id.* The bill reads "no person may, directly or indirectly, export from the United States any solid waste covered by this subtitle unless he has first obtained a permit from the Administrator . . ." *Id.* § 12003(a)(1). Furthermore, the Act declares that "nothing shall preclude the Administrator from reviewing, modifying or revoking a permit at any time during its term." *Id.* § 12003(g).

ing country agrees to accept the shipment.²³⁴ Under WECA, this potentially disastrous situation would be less likely to occur because the EPA would command the authority to prevent waste transportation to countries where facilities are inadequate.²³⁵

Of course, the stepped-up enforcement provisions of WECA are accompanied by increased administrative costs. The requisite user fees, however, defray the cost of running a waste export control program.²³⁶ This relieves some of the pressures of budgetary constraints and allows a greater investment in the program. Given the expected rise in the amount of waste generated and the increased pressure to export that is likely to follow, this provision becomes especially important.

III. RECOMMENDATIONS

WECA adequately responds to the deficiencies in the current waste export program, and should be employed as an interim measure. The ultimate goal of legislation in this area, however, should be a complete ban on exports of nonhazardous waste and a strictly regulated export program for hazardous waste.

A large percentage of nonhazardous waste consists of recyclable or reusable resources that can be used in this country.²³⁷ Rather than retaining these post-consumer goods for American consumption, under the current system they are sent abroad. A majority of the nonhazardous waste stream is recyclable or reusable materials.²³⁸ Because the earth's resources are finite, it is imperative that the United States develop a waste disposal system that dispels the

234. Porterfield & Weir, *supra* note 18, at 343.

235. H.R. 2525, 101st Cong., 1st Sess. § 12003(j) (1989).

236. *Id.* § 12004.

237. ENVIRONMENTAL DEFENSE FUND, *supra* note 224, at 1 (noting that as much as 80% of waste stream could be recycled).

238. *Id.* Additionally, RCRA mandates that waste reduction should be the first line of defense against the generation of waste and its attendant problems. *Hearings I, supra* note 10, at 17 (statement of Rep. John Conyers, Jr.). More than 99% federal and state pollution control money is allocated to cleaning up pollution *after* waste is generated, with less than one percent spent on waste reduction. *Id.* There is also indirect but increased pressure from Third World countries to dispose of waste in the United States because an increasing numbers of these countries are banning waste import. *Id.* at 164 (testimony of Greenpeace); *see also supra* note 210 (discussing number of Third World countries banning hazardous waste import). The following are the countries that ban waste exports as of June, 1989: Algeria, Bangladesh, Barbados, Belize, Benin, Burundi, Bulgaria, Cameroon, Comoros, Congo, Dominican Republic, Gabon, Gambia, Ghana, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Indonesia, Ivory Coast, Jamaica, Kenya, Lebanon, Liberia, Libya, Mali, Niger, Nigeria, Panama, Peru, Philippines, Saint Lucia, Senegal, Sierra Leone, Solomon Island, Tanzania, Togo, Tonga, Trinidad & Tobago, Vanautu, Venezuela, Western Samoa, Zambia, and Zimbabwe. *Hearings I, supra* note 10, at 164 (testimony of Greenpeace).

The following table indicates the composition of municipal solid waste in the United States for the years 1970 and 1984, and the projected composition for the year 2000.

notion that natural resources can continue to be exploited recklessly. A necessary step toward this goal is to stop exporting this valuable material. Technology exists to reduce the amount of waste generated by at least fifty percent through recycling and reuse.²³⁹ The result of reducing waste would be less waste to dispose of and less constriction on present waste receptacles. This, in turn, would reduce pressure to export.²⁴⁰

Hazardous waste should only be exported when a bilateral agree-

Materials Discarded into the Municipal Solid Waste Stream (In Millions of Tons and Percents):

Materials	1970		1984		2000	
	Tons	Percent	Tons	Percent	Tons	Percent
Paper and Paperboard	36.5	33.1	49.4	37.1	65.1	41.0
Glass	12.5	11.3	12.9	9.7	12.1	7.6
Metals	13.5	12.2	12.8	9.6	14.3	9.0
Plastics	3.0	2.7	9.6	7.2	15.5	9.8
Rubber and Leather	3.0	2.7	3.3	2.5	3.8	2.4
Textiles	2.2	2.0	2.8	2.1	3.5	2.2
Wood	4.0	3.6	5.1	3.8	6.1	3.8
Other	—	0.1	0.1	0.1	0.1	0.1
Food Wastes	12.7	11.5	10.8	8.1	10.8	6.8
Yard Wastes	21.0	19.0	23.8	17.9	24.4	15.3
Misc. Organics	1.8	1.6	2.4	1.8	3.1	2.0
Totals	110.3	100.0	133.0	100.0	158.8	100.0

L. BLUMBERG & R. GOTTLIEB, *supra* note 2, at 11.

239. See *supra* note 225 (discussing report by Office of Technology Assessment concluding that as much as half of hazardous waste generated by United States could be eliminated); see also ENVIRONMENTAL DEFENSE FUND, *supra* note 224, at 10 (suggesting that at least 80% of solid waste is technically recyclable and/or compostable).

240. The benefits of recycling are numerous. ENVIRONMENTAL DEFENSE FUND, *supra* note 224, at 11. There are minor adverse environmental effects to recycling, such as transportation of waste and waste residue. *Id.* These costs, however, are minor compared to the harm generated by the current manufacturing and disposal processes. *Id.* Recycling preserves natural resources. *Id.* at 10 (noting that recycling one ton of newspapers saves 17 trees). Virgin materials are unnecessary in the manufacturing process because products are generated from using post-consumer material. Recycling also reduces the energy used and pollution created from manufacturing new products. *Id.* at 10-11.

Benefits from Substituting Secondary Resources for Virgin Resources (Percent Reduction):

	Paper	Glass	Steel	Aluminum
Energy	23-74	4-32	47-74	90-97
Air Pollution	74	20	85	95
Water Pollution	35	—	76	97
Mining Wastes	—	80	97	—
Water Use	58	50	40	—

Id. at 11. In addition, recycling avoids hazardous disposal methods such as landfilling and incinerating. *Id.* Furthermore, recycling creates more job opportunities than alternate disposal methods. *Id.* at 12. An estimated 36 jobs are necessary to recycle 10,000 tons of material as opposed to 6 new jobs for an equivalent amount of landfilling or 0.9 new jobs for incineration. *Id.* at 12-13.

ment exists with the importing country. Such an agreement must ensure that the importing country has the knowledge and technology to safely treat, store, and dispose of the waste. It should also provide liability provisions that impose liability costs on the exporter through RCRA and CERCLA. Imposing the costs of cleaning up foreign waste disposal sites on the exporter provides a powerful incentive to practice responsible disposal methods. Because one of the primary reasons for exporting waste is to avoid potential liability under CERCLA, extending CERCLA liability beyond United States borders will force potential exporters to reconsider export decisions and to look for alternative and less costly means of disposal, such as source reduction and recycling. The Waste Export Control Act eliminates the incentive to escape RCRA and CERCLA liability by retreating to foreign countries.²⁴¹

CONCLUSION

The United States is faced with a mounting waste disposal crisis. The current waste export control program, administered pursuant to RCRA, does not effectively control the problem because it lacks remedial provisions and does not provide regulations for nonhazardous waste export. WECA adequately responds to these deficiencies and implements a comprehensive waste control program. The bill's major contribution is in the area of liability, where it extends CERCLA and RCRA into the international arena. In addition, the bill addresses currently unregulated nonhazardous waste exports by including them under the umbrella of RCRA. A more effective program, however, would end nonhazardous waste export, strictly limit hazardous waste export, and establish a comprehensive recycling and reuse program.

241. See *supra* notes 49-63 and accompanying text (discussing incentives to export waste).