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On March 22, 1987, a barge departed from Long Island, New York seeking a dumping ground for its cargo—3,100 tons of municipal waste. The nation watched as the barge traveled thousands of miles up and down the eastern seaboard and into the Caribbean trying unsuccessfully to unload the waste. This odyssey represents a growing national problem—what to do with the mounds of trash discarded every day by a throw-away society.

Shortly after the barge incident, one state took a bold and decisive step to cope with its solid waste problem which had reached a "crisis" stage. On April 20, 1987, New Jersey became the first state in the nation to require mandatory source separation and recycling of four types of municipal waste. According to Governor Thomas H. Kean, "[t]he recycling program will diminish substantially the prospect of New Jerseyans literally being buried in their own trash."

This note will discuss the development of environmental legislation which emphasizes the handling of hazardous wastes, but does not effectively address the rapidly declining numbers of disposal sites for an increasing volume of nonhazardous waste. Also, the note will examine the current solid waste problems faced by many states. More specifically, the note will evaluate New Jersey's attempt to solve its solid waste crisis by forceful and comprehensive legislation.

The New Jersey law revises and expands a voluntary recycling plan by requiring that all counties adopt district solid waste manage-

2. Id.
4. "Source separation" means that items such as glass, aluminum cans, and paper products are separated at the point of origin from other trash. N.J. STAT. ANN. § 13:1E-99.12 (West Supp. 1988).
ment plans which will reduce the municipal solid waste flow by fifteen percent at the end of the first year and twenty-five percent at the end of the second year.\textsuperscript{9} The counties must secure markets for the recycled materials;\textsuperscript{11} however, the law provides for a delay in source separation if the county fails to find a market.\textsuperscript{12} Additionally, municipalities must adopt ordinances requiring generators of municipal solid waste to source separate the designated materials.\textsuperscript{13} New Jersey Mandatory Statewide Source Separation and Recycling of Solid Waste Act, N.J. STAT. ANN. §§ 13:1E-99.11 - 99.32 (West Supp. 1988).

From colonial days into the early 1900’s, Americans perceived natural resources as plentiful, and thought nature was capable of caring for itself.\textsuperscript{14} The government encouraged unrestricted use of land by homesteading, industrial development, and railroad construction.\textsuperscript{15} There were no government restrictions on use of land, once claimed, and there were no penalties placed on factories that polluted the air, land, and water around them.\textsuperscript{16} This social attitude toward natural resources and unrestricted use of the land plus rapid population growth and industrialization eventually contributed to serious envi-

\textsuperscript{8} N.J. STAT. ANN. § 13:1E-99.13(a) (West Supp. 1988). “Solid waste” is defined by federal law as:

[A]ny garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under section 1342 of title 33, or source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954, as amended . . . .


New Jersey defines solid waste as “garbage, refuse, and other discarded materials resulting from industrial, commercial and agricultural operations, and from domestic and community activities, and shall include all other waste materials including liquids, except for solid animal and vegetable wastes collected by swine producers . . . .” N.J. STAT. ANN. § 13:1E-3(a) (West Supp. 1988).

Solid wastes such as flammable materials, chemicals, and explosives are known as “hazardous wastes.” 40 C.F.R. §§ 261.20-.24 (1988). Hazardous wastes are beyond the scope of this note and will not be discussed.

\textsuperscript{10} Id. § 13:1E-99.13(b)(4)(b).
\textsuperscript{11} Id. § 13:1E-99.14(a).
\textsuperscript{12} Id. § 13:1E-99.14(b).
\textsuperscript{13} Id. § 13:1E-99.16(b).
\textsuperscript{14} F. SKILLERN, ENVIRONMENT PROTECTION: THE LEGAL FRAMEWORK 2 (1981).
\textsuperscript{15} Id. at 4.
\textsuperscript{16} Id.
Illustrative of this point is the use of land as a waste receptacle. It is now estimated that this nation generates nearly "160 million tons of municipal solid waste" each year. Approximately eighty to ninety percent of this waste is placed in open dumps or sanitary landfills, but landfill capacity shortages are occurring in many areas of the nation, particularly in the Northeast.

Furthermore, not all empty land is suitable for use as a landfill. Water seeping through discarded refuse produces a liquid called leachate, which can carry pollutants into groundwater; therefore, areas with sandy or porous soils are unsuitable for siting new landfills. To avoid this problem, landfills should be placed in areas in which the soil contains natural liners, such as clay, or artificial plastic liners. The first option restricts the availability of suitable landfill sites, while the second option significantly increases the costs of operating one.

In addition to siting and water pollution problems, dumping

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17. Id. at 3-4. Environmental problems include air pollution, water pollution, and unregulated open dumps that degrade the environment.
20. "The term 'open dump' means any facility or site where solid waste is disposed of which is not a sanitary landfill which meets the criteria promulgated under section 6944 of this title and which is not a facility for disposal of hazardous waste." 42 U.S.C. § 6903(14) (1982).
21. Nichols, supra note 19, at 598. Since 1978 New Jersey closed 310 landfills, and New York closed 210 since 1983. Id. See also 1 ENVIRONMENTAL PROTECTION AGENCY, REPORT TO CONGRESS: SOLID WASTE DISPOSAL IN THE UNITED STATES ES-1 (Feb. 9, 1988) [hereinafter EPA REPORT] (stating that "nearly 70 percent of all municipal solid waste landfills are expected to close within 15 years").
23. Telephone interview with David Werling, Program Coordinator, Arkansas Department of Pollution Control and Ecology (Jan. 20, 1989).
24. Id.
25. Id.
solid wastes on the earth can result in the production of explosive levels of methane gas.\textsuperscript{26} As states impose more stringent requirements on landfill operators to line landfills, monitor groundwater, and control gas production, many small operators will close, exacerbating the disposal problem.\textsuperscript{27}

Those states seeking alternatives to landfills, such as incineration, discovered new problems relating to air emissions and ash disposal.\textsuperscript{28} Furthermore, public officials who encourage alternatives to landfilling encounter such strong public opposition that finding a site for an incinerator is extremely difficult.\textsuperscript{29} Thus, cities and states now face acute waste disposal problems and, in addition, the politically sensitive task of promoting alternatives.\textsuperscript{30}

Federal environmental legislation has been slow to develop, partly because solid waste management has traditionally been a local, not a national function.\textsuperscript{31} Prior to 1966 federal waste control activities were limited to research, although a national conference on solid

\begin{itemize}
\item \textsuperscript{26} EPA Solid Waste Disposal Facility Criteria, 53 Fed. Reg. 33,314, 33,319 (1988) (to be codified at 40 C.F.R. pts. 257-258) (proposed Aug. 30, 1988). Decomposing solid wastes produce methane gas which can reach explosive levels if not controlled. Investigations of methane levels have shown that the concentration of this gas can be above the explosive level up to 1,000 feet from the actual dump site. \textit{Id.}
\item \textsuperscript{27} \textit{Crisis as Opportunity}, 1 PCE SOLID WASTE MGMT. NEWSL. No. 1 at 4 (1988). In Arkansas many landfills are small, local operations with limited capital. \textit{Id.} Regulations requiring landfill upgrading or major investments in new equipment will force most of these facilities to close. \textit{Id.}
\item \textsuperscript{28} In October 1987 the EPA reported that ash from garbage incinerators in Philadelphia contained levels of dioxin that could increase the cancer risk in humans. More studies on incinerator ash are planned. \textit{EPA Studying Dioxins in Incinerator Ash as Potential Threat to Health in Philadelphia}, 18 Env’t Rep. (BNA) 1623-24 (Oct. 30, 1987). Protecting the environment requires a multi-media approach because air, water, and land pollution are closely related. Reorg. Plan No. 3 of 1970, 35 Fed. Reg. 15,623 (1970), reprinted in 42 U.S.C. § 4321 app. at 504 (1982). A single source may produce smoke which pollutes the air, solid wastes which pollute the land, and chemicals which pollute the water. \textit{Id.} Additionally, decreasing smoke production or water-polluting effluents results in more solid waste to pollute the land. \textit{Id.}
\item \textsuperscript{29} See Nichols, supra note 19, at 597. In March 1988 citizens in Fayetteville, Arkansas rejected a plan to build an incinerator even though the Northwest Arkansas Resource Recovery Authority had sold $22.5 million in bonds to finance the project, and the mayor estimated that it would cost $12 million to terminate it. Arkansas Democrat, March 10, 1988, at B3, col. 1. See also Recycling Moves to the Mainstream, 1 PCE SOLID WASTE MGMT. NEWSL. No. 2 at 2 (1988) (discussing rising costs and public opposition to incinerators as incentives for recycling solid wastes); Argento, \textit{The Solid Waste Crisis: A Need for Legislative Action}, 6 SETON HALL LEGIS. J. 389, 394 (1983) (discussing a New Jersey citizen group that banded together to fight the construction of an incinerator).
\item \textsuperscript{30} Nichols, supra note 19, at 597.
\item \textsuperscript{31} Prior to 1965 local environmental control was limited. A few local state health departments did encourage sanitary disposal of wastes and gave advice on locating sites. F. GRAD, supra note 22, § 4.02 at 4-34 to 4-35. A national survey in 1962 revealed that only 5 of
waste did result in publication of two technical manuals on refuse collection and disposal.\textsuperscript{32}

In 1965, however, President Johnson brought national attention to the subject when he encouraged Congress to seek "better solutions to the disposal of these wastes," and recommended national legislation to aid the states in developing solid waste management programs.\textsuperscript{33} Congress complied with the request and passed The Solid Waste Disposal Act of 1965.\textsuperscript{34} Although primarily research-oriented, the Act did provide grants for states to use for waste control planning.\textsuperscript{35} The passage of the National Environmental Policy Act (NEPA)\textsuperscript{36} in 1970 stimulated extensive environmental legislation at both the state and national levels. The federal emphasis, however, was on air and water pollution,\textsuperscript{39} and state waste control programs did not adequately address waste control concerns.\textsuperscript{40}

In 1976 the focus of waste control shifted to a national level with the passage of the Research Conservation and Recovery Act

\begin{itemize}
\item \textsuperscript{32} Id. at 4-35.
\item \textsuperscript{33} Id. at 4-56 (referring to AMERICAN PUB. WORKS A., MUNICIPAL REFUSE DISPOSAL (3d ed. 1970); AMERICAN PUB. WORKS A., REFUSE COLLECTION PRACTICE (3d ed. 1966)).
\item \textsuperscript{34} Special Message to Congress on Conservation and Restoration of Natural Beauty, I PUB. PAPERS 163 (Feb. 8, 1966).
\item \textsuperscript{37} By the middle of the seventies all states had solid waste management plans. F. GRAD, supra note 22, at 4-37 n.9 (listing all state legislation).
\item \textsuperscript{39} See acts cited supra note 38.
\item \textsuperscript{40} Anderson, supra note 35, at 642-43. Twenty-four states allowed local health departments to control solid waste disposal, and less than half of the states required cities and counties to develop solid waste management plans. Id. (citing 1 F. GRAD, TREATISE ON ENVIRONMENTAL LAW § 4.02 at 4-32 to 4-34.2 (1975)).
\end{itemize}
which addressed both hazardous and nonhazardous wastes. The Act established an Office of Solid Waste in the Environmental Protection Agency and authorized the promulgation of regulations for handling hazardous wastes. However, instead of a mandatory scheme for hazardous waste, Subtitle D of RCRA provided for voluntary state or regional nonhazardous waste plans.

Declaring the intent to eliminate "the last remaining loophole in environmental law, that of unregulated land disposal of discarded materials . . .," Congress, nevertheless, maintained that it did not intend to preempt state regulatory power. Consequently, although RCRA specifically prohibits open dumps, the only sanction against a state that does not make provisions for alternative methods of disposal is loss of eligibility for federal funds.

Recognizing that nonhazardous waste disposal problems are increasing, Congress amended RCRA in 1984 and directed the EPA to evaluate the adequacy of RCRA Subtitle D guidelines. The study was also to include an assessment of the need for additional enforcement authority.

This study revealed that current federal criteria and state regulations are inadequate for safe and effective solid waste management.

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43. Id. §§ 6921-34.
44. Id. §§ 6941-49. See also Anderson, supra note 35, at 664 (discussing how the Act required EPA to develop guidelines to be given to the states as a "how-to-do-it" handbook).
46. Id. at 33, reprinted in 1976 U.S. CODE CONG. & ADMIN. NEWS at 6271. The Report stated that "federal preemption of this problem is undesirable, inefficient, and damaging to local initiative." Id. The Supreme Court agreed that no preemption was intended in City of Philadelphia v. New Jersey, 437 U.S. 617 (1978).
48. Id. § 6947(b). To qualify for federal funds, a state must identify authorities involved in the waste management plan, prohibit new open dumps, close or modify existing ones, use resource recovery, sanitary landfills or other environmentally sound disposal methods. Id. § 6943. However, in 1981 federal funding ended. EPA REPORT, supra note 21, at 2.
51. Id. § 6949(a).
52. Id.
The deficiencies are the result of inadequate implementation of existing federal guidelines and of the need for additional regulatory provisions, such as requiring groundwater monitoring.\textsuperscript{54}

Although the EPA report proposes more stringent landfill regulations,\textsuperscript{55} it is clear that the original intent of RCRA remains intact—to "maintain States' lead role, with limited Federal involvement."\textsuperscript{56} Furthermore, there are no plans for additional enforcement authority.\textsuperscript{57} It appears that the burden of handling this nation's solid waste disposal problems rests squarely on the states.

How have the states handled this burden? A 1988 survey of forty-five state solid waste programs revealed that thirteen states admitted to having serious landfill capacity problems.\textsuperscript{58} Seven more further declared that their problems were actually at a crisis level.\textsuperscript{59} For example, New Hampshire indicated that many of its landfills are closing because they are full or causing groundwater contamination.\textsuperscript{60} Connecticut's geology makes much of its land unsuitable for disposal sites, and the larger urban areas are rapidly running out of space.\textsuperscript{61} New York closed over 200 landfills since 1983 because of strict state regulations, and expects to close half of the remaining sites within a few years.\textsuperscript{62} Ohio citizens are angry because New Jersey is using their state for a dumping ground.\textsuperscript{63} Because the state restriction of out-of-

\textsuperscript{54} Id.


\textsuperscript{57} Memorandum, supra note 53.


\textsuperscript{59} These states are Massachusetts, Missouri, Nebraska, New Hampshire, New York, Rhode Island, and Vermont. Id. 5 Env't Policy Alert at 2, 4 (Apr. 20, 1988), 5 Env't Policy Alert at 1 (May 4, 1988).

\textsuperscript{60} Id. 5 Env't Policy Alert at 2 (Apr. 20, 1988).

\textsuperscript{61} Id. at 1.


\textsuperscript{63} Special Report, supra note 58, 5 Env't Policy Alert at 3 (Apr. 20, 1988).
state trash violates the federal commerce clause, Ohio plans to circumvent this problem by dividing the state into local districts that can pass restrictive regulations.64

Although statewide crisis situations are predominantly in the Northeast, other regions have localized problem areas. Over seventy-five percent of Arizona's population resides in two large metropolitan areas,65 one of which still has landfill space. In Phoenix, waste is rapidly piling up.66 Arizona faces a unique problem in trying to find new landfill sites because eighty-eight percent of the land is either federally or state owned, and permission to use this land for landfills is difficult, if not impossible, to obtain.67 A city surrounded by federal land may face a serious disposal problem.68

In Arkansas, landfill capacity estimates vary from one and one-half years in the Northwest (Fayetteville area) to ten years in the East (Memphis area).69 Because it can take eighteen months to three years to get a permit and open a new landfill, the Northwest district faces serious and immediate disposal problems.70 It is also predicted that many Arkansas landfill operations will be forced to close if the proposed EPA regulations71 become law.72

Compounding the actual landfill capacity problem is public opposition toward the disposal of wastes. Two polls, conducted by the National Solid Waste Management Association in 1988, showed that although the public is concerned about the solid waste problem, only situation seems ironic because New Jersey in 1973 attempted to solve its solid waste crisis by passing the Solid Waste Management Act, ch. 39, 1973 N.J. Laws 9 (codified at N.J. STAT. ANN. §§ 13:1E-1 to -10 (West 1979) (repealed 1981), which prohibited the import of waste from other states into New Jersey for disposal. In City of Philadelphia v. New Jersey, 437 U.S. 617 (1978) the Supreme Court held that this law violated the interstate commerce clause. For creative ways to avoid violating the commerce clause see Evergreen Waste Sys., Inc. v. Metropolitan Serv. Dist., 820 F.2d 1482 (9th Cir. 1987) (an ordinance that treated in-state waste the same as out-of-state waste did not violate the commerce clause); Lefrancois v. Rhode Island, 669 F. Supp. 1204 (D.R.I. 1987) (state-subsidized landfill allowed to exclude out-of-state waste because the state was a market participant).

64. Special Report, supra note 58, 5 ENV'T POLICY ALERT at 3 (Apr. 20, 1988).
66. Id.
67. Id.
68. Id.
69. Conversation with David Werling, Program Coordinator, Arkansas Department of Pollution Control and Ecology, (Jan. 20, 1989).
70. Id.
71. See supra note 55.
thirty percent favor placing a landfill in their communities.\textsuperscript{73} The use of incinerators to burn wastes, as an alternative to land disposal, also sparks strong public opposition,\textsuperscript{74} in addition to producing air pollution problems.\textsuperscript{75} Resource recovery facilities do not fare any better in some states.\textsuperscript{76}

Many states turned to recycling to decrease the quantity of solid waste that has to be buried or burned. In the 1970's there was an initial interest in recycling out of concern for the environment.\textsuperscript{77} Today states are realizing the value of recycling as a viable and politically acceptable alternative to other methods of handling refuse.\textsuperscript{78} The schemes to accomplish recycling goals are as diverse as the cities and states themselves.

For example, Oregon passed a “Bottle Bill”\textsuperscript{79} in 1983 which placed a five cent refund value on beverage containers\textsuperscript{80} unless the containers are “certified” as reusable by more than one manufacturer.\textsuperscript{81} The purpose of the bill was to promote the use of reusable containers.\textsuperscript{82} California imposed a one cent deposit fee on glass, aluminum, and plastic containers which will increase to two cents in 1989 and three cents in 1992, if certain recycling goals are not met.\textsuperscript{83} In Seattle, Washington citizens who do not separate recyclable materials from their trash pay a higher disposal fee.\textsuperscript{84} This has resulted in a sixty to eighty percent participation in recycling.\textsuperscript{85}

Although many states have recycling programs and solid waste

\textsuperscript{73} Public Concern About Garbage Disposal Tops Police, Fire, Affordable Housing, Poll Shows, 19 Env't Rep. (BNA) 1247 (Oct. 28, 1988).
\textsuperscript{74} See supra discussion at note 29 and accompanying text. See also Nichols, Nation Copes with Garbage’s Rising Tide, 60 J. Water Pollution Control Fed’n 597, 597 (1988) (stating that public opposition delayed the building of seven plants worth more than two billion dollars).
\textsuperscript{75} See supra note 28 and accompanying text.
\textsuperscript{76} A resource recovery facility is one which converts wastes into other usable energy sources, such as steam. See Special Report, supra note 58, 5 Env't Policy Alert at 1 (May 4, 1988) (describing how lawsuits delayed a Brooklyn Navy Yard Facility).
\textsuperscript{77} Recycling Moves to the Mainstream, 1 PCE Solid Waste Mgmt’l Newsl. No. 2 at 2 (1988).
\textsuperscript{78} Id.
\textsuperscript{80} Id. § 459.820(1).
\textsuperscript{81} Id. § 459.860(2)(a)-(b).
\textsuperscript{82} Id. § 459.860(1).
\textsuperscript{84} Special Report, supra note 58, 5 Env’t Policy Alert at 5 (Apr. 20, 1988). Two Washington counties fund their solid waste programs by selling sorted cardboard to Taiwan and Japan. Id.
\textsuperscript{85} Id.
legislation is proliferating, very few have comprehensive plans. One state that does have such a plan is New Jersey. New Jersey's first attempt to solve its solid waste problem was the Solid Waste Management Act of 1970, which gave the Department of Environmental Protection (DEP) authority to develop a solid waste management program. The Waste Control Act of 1973 included a controversial ban on out-of-state waste that the United States Supreme Court held unconstitutional.

As densely populated urban areas and industries continued to produce more solid waste, the situation reached a crisis stage by 1974. The New Jersey Legislature then enacted the Solid Waste Management Act of 1975 to solve the problem of uncoordinated management of solid waste. The Act designated New Jersey's twenty-one counties and the Hackensack Meadowlands Development Commission as solid waste management districts. Each district was to develop and implement a comprehensive ten year plan for the mu-

87. A telephone survey conducted by the Arkansas Department of Pollution Control and Ecology in October 1988 revealed only six states with comprehensive recycling programs. A comprehensive program is considered to be one with adequate funding, grants, recycled material preference incentives, tax credits, and educational programs. These states are Connecticut, Florida, New Jersey, Oregon, Rhode Island, and Washington. Telephone conversation with Donna Etchieson, Senior Planner, Arkansas Department of Pollution Control and Ecology (Feb. 6, 1989).
91. N.J. STAT. ANN. § 13:11-10 (West 1979) (repealed 1981) provided in part: No person shall bring into this State any solid or liquid waste which originated or was collected outside the territorial limits of the State, except garbage to be fed to swine in the State of New Jersey, until the commissioner shall determine that such action can be permitted without endangering the public health, safety and welfare and has promulgated regulations permitting and regulating the treatment and disposal of such waste in this State ....
95. Id. § 13:1E-2(a) (West 1979).
96. Id. § 13:1E-19. The Hackensack district is now full and has been closed. Telephone interview with Joseph Carpenter, Office of Recycling, Department of Environmental Protection, Trenton, N.J. (Jan. 23, 1989).
municipalities in their districts. Nevertheless, in 1982 the New Jersey Supreme Court stated that there was still no workable solid waste management plan and ordered the DEP to formulate one.

Next New Jersey attacked its solid waste problem by passing the Clean Communities and Recycling Act. The Act placed a tax on solid waste at the disposal site. Revenue from the tax went into a State Recycling Fund. Forty-five percent of this money was to be returned to municipalities as grants in proportion to the amount of material recycled. The rest of it was to be used for other purposes, such as low interest loans and loan guaranties for recycling industries.

Despite these efforts, the waste crisis continued to grow. Finally, in "the most significant step yet taken to cope with New Jersey's growing solid waste disposal problems," New Jersey passed the most comprehensive mandatory recycling program in the nation.

The Act's objectives are to decrease the solid waste stream, to conserve and recover valuable resources, to increase the raw material supply for industry, and to reduce the burden on proposed resource recovery facilities. Furthermore, the Legislature declared that it is in the best interest of the public to make source separation and recycling of nonhazardous municipal solid waste mandatory.

Under the Act, New Jersey's counties have six months to prepare and adopt district recycling plans that will result in the recycling of fifteen percent of the previous year's total municipal solid waste stream at the end of the first year and twenty-five percent at the

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98. A.A. Mastrangelo, Inc. v. Commissioner of the Dept. of Env'tl. Protection of New Jersey, 90 N.J. 666, 680, 449 A.2d 516, 523 (1982) (dicta stating that although the DEP had formulated a statewide plan for solid waste disposal, the plan was inadequate).  
99. Id. at 688, 449 A.2d at 528.  
101. Id. § 13:1E-95(a).  
102. Id. § 13:1E-96(a).  
103. Id. § 13:1E-96(b)(1).  
104. Id. § 13:1E-96(b)(2).  
106. Id.  
108. Id. § 13:1E-99.11.  
109. Id.  
110. Id. § 13:1E-99-13(a).  
111. The "'total municipal solid waste stream' means the sum of the municipal solid waste
end of the second year.\textsuperscript{113}

Recognizing that the prerequisite for a successful recycling program is acquiring markets\textsuperscript{114} for the recycled materials,\textsuperscript{115} the county district plan must provide for locating markets\textsuperscript{116} for at least three recyclable materials, in addition to leaves.\textsuperscript{117} The county is to give priority consideration to those persons already engaged in the recycling business.\textsuperscript{118} Within six months after the approval of its recycling plan, a county must enter into contracts with recycling centers to market the designated recycled materials.\textsuperscript{119} The DEP may grant a one year exemption to a county that has been unable to locate a market for its materials or it may deny the exemption and assist the county in locating a market.\textsuperscript{120}

After the DEP approves the county plans, municipalities have six months to make provisions for collection systems for the recycled materials.\textsuperscript{121} Within thirty days of market contracts, they must adopt ordinances mandating that all residents, businesses, and institutions source separate the designated materials from the solid waste stream.\textsuperscript{122}

Additionally, municipalities must revise their master plans at least once every thirty-six months to require the inclusion of recycling plans in proposals for any new developments of fifty or more single family dwellings or twenty-five or more multi-family units, and commercial or industrial developments of one thousand or more square feet.\textsuperscript{123} They also must publicize the requirements of local recycling programs at least once every six months. This may be done by posting public notices, placing advertisements in newspapers, or mailing the information to residents.\textsuperscript{124}

\textsuperscript{112} Id. \S 13:1E-99.13(b)(4)(a).
\textsuperscript{113} Id. \S 13:1E-99.13(b)(4)(b).
\textsuperscript{114} Id. \S 13:1E-99.13(b)(4)(b).
\textsuperscript{115} Id. \S 13:1E-99.12.
\textsuperscript{116} Id. \S 13:1E-99.11.
\textsuperscript{117} Id. \S 13:1E-99.13(b)(3).
\textsuperscript{118} Id. \S 13:1E-99.13(b)(2).
\textsuperscript{119} Id. \S 13:1E-99.13(c).
\textsuperscript{120} Id. \S 13:1E-99.14(a).
\textsuperscript{121} Id. \S 13:1E-99.14(b).
\textsuperscript{122} Id. \S 13:1E-99.16(a).
\textsuperscript{123} Id. \S 13:1E-99.16(b).
\textsuperscript{124} Id. \S 13:1E-99.16(c).
\textsuperscript{124} Id. \S 13:1E-99.16(f).
The law also directs DEP to evaluate within eighteen months whether plastic and other non-aluminum beverage containers are being recycled at rates equal to glass and aluminum containers. The language of the statute hints at additional legislation on these materials.125 Also, the DEP has eighteen months to prepare a report on ways to recycle or dispose of tires.126

Since leaves are primarily a problem in the fall, residents are required to source separate them only from September 1st to December 31st each year.127 Municipalities must arrange for collection and transportation to leaf composting facilities.128 Furthermore, the law forbids sanitary landfills to accept truckloads of waste that are primarily leaves.129

The Act includes several market stimulus provisions. For example, leaf compost materials receive priority over other materials for use in maintaining public lands.130 The State Purchasing Director is to encourage use of recycled paper with the highest percentage of post-consumer waste material131 and may buy recycled paper even if it is priced slightly higher than virgin paper.132 The Act wisely includes an exemption from this requirement if the Director of Purchasing is unable to obtain competitive recycled paper contracts, but it does not remove the obligation to continue searching for future recycled paper product contracts.133 Likewise, the Transportation Department must modify specifications for highway construction to encourage use of recycled products.134

To assist and encourage industries to enter the recycling market, the Act provides a fifty percent business investment tax credit for industries that purchase recycling equipment.135 However, the DEP must certify the equipment as being eligible for the credit.136

125. Id. § 13:1E-99.19(a)-(b).
126. Id. § 13:1E-99.20. DEP is to investigate recycling of tires including "incineration, artificial reef construction, retreading, asphalt paving material manufacture, sludge composting and energy recovery . . . ." Id. The Department may also recommend imposing a deposit on tires, if necessary. Id.
127. Id. § 13:1E-99.22.
128. Id. § 13:1E-99.21(a).
129. Id. § 13:1E-99.21(b).
130. Id. § 13:1E-99.23.
132. Id. § 13:1E-99.25(a). The price of the recycled paper products must be within 10% of the price of virgin paper products. Id.
133. Id. § 13:1E-99.25(b).
134. Id. § 13:1E-99.28.
136. Id. § 42(b).
Funding for this statewide program comes from several provisions. An increase in the recycling tax levied on solid waste operators from $0.12 per cubic yard ($0.40 per ton) to $1.50 per ton will provide revenue for a State Recycling Fund. This revenue will be used to provide grants to municipalities and counties, low interest loans to recycling industries, and funding for market studies. The Act also appropriates $8,000,000 from the General Fund for start-up grants to counties and municipalities. An additional $700,000 from the General Fund will serve to implement the Act ($500,000), and to conduct market research ($200,000).

As of January 23, 1989, all counties had completed their solid waste management plans and submitted them for approval. More than four hundred curbside recycling programs were in place, and the fifteen percent goal had been reached.

To enforce the law, municipalities may impose fines or refuse to pick up trash that is not source separated. Some municipalities have enacted scavenger provisions to prevent theft of the recycled materials.

Officials from the DEP report that some problems occurred since enactment of the law. Paper dealers opposed the law on the grounds that the state could mandate collection of the materials, but could not mandate markets for the products. Indeed, so many municipalities are saving newspapers that the price of newsprint has dropped, and paper brokers and processors are charging ten to twelve dollars per ton to take paper for recycling. Nevertheless, the recycling cost is significantly less than disposal in a landfill. State officials hope that the market will soon stabilize and correct this

138. Id. § 13:1E-96(a).
139. Id. § 13:1E-96(b).
141. Id. § 51.
144. Id.
145. Id.
146. Id.
147. Telephone interview with Aletha Spang, Administrator, Office of Recycling, Division of Solid Waste, Department of Environmental Protection, Trenton, N.J. (Jan. 23, 1989).
148. Id.
149. Id.
150. Id. The current cost of landfill disposal ranges from $55 to $137 per ton of solid waste. Id.
problem.\footnote{151} Traditionally, public response to environmental problems has been reactive, rather than preventive, in nature.\footnote{152} Arkansas is no exception. A recent attempt to bring out-of-state trash into Arkansas for disposal produced immediate citizen reactions\footnote{153} and legislative responses.\footnote{154} Unfortunately, reactive legislation solves short-term problems while avoiding long-term solutions.

Although current Arkansas statutes require municipalities and counties to develop solid waste management plans,\footnote{155} very few of them have complied with these laws.\footnote{156} Thus, Arkansas currently faces severe solid waste disposal problems in the Northwestern part of the state, and the same problems are developing rapidly in other areas.\footnote{157}

Arkansas recently enacted legislation to address this problem. The Solid Waste Management and Recycling Fund Act\footnote{158} requires government entities to submit solid waste management plans pursuant to current statutes within two years.\footnote{159} The Act "mandates that recycling shall be integrated as a component of any Solid Waste Management Plan . . . ."\footnote{160} It empowers the Department of Pollution Control and Ecology to enforce compliance.\footnote{161}

To reduce reliance on landfills, the Act creates a Solid Waste Management and Recycling Fund to provide grants to districts and local governments for solid waste planning and facilities that integrate recycling into their systems.\footnote{162} Those districts or local governments that develop regional, rather than local, plans have priority for grant

\footnotesize{\begin{itemize}
\item[151.] \textit{Id.}
\item[152.] \textit{See supra} text accompanying notes 73-76.
\item[153.] \textit{See Ark. Democrat, Feb. 16, 1989, at 1A, col. 2 (citizens dressed in white garbage bags protest out-of-state trash); Ark. Democrat, Jan. 25, 1989, at 1B, col. 1 (story on efforts to stop the import of garbage to Southeast Arkansas); Ark. Gazette, Jan. 8, 1989, at 1B, col. 1 (debate over out-of-state trash in Desha and Chicot counties in Arkansas); Ark. Gazette, Dec. 21, 1988, at 1B, col. 2 (efforts to halt transporting trash from New York through Bryant, Ark. to Benton, Ark.).}
\item[154.] \textit{See Ark. Democrat, Mar. 7, 1989, at 9A, col. 1 (reporting on a proposal to halt the import of "Yankee garbage").}
\item[155.] \textsc{Ark. Code Ann.} §§ 8-6-211(a), -212(a) (1987).
\item[156.] Interview with Donna Etchieson, Senior Planner, Arkansas Department of Pollution Control and Ecology (March 22, 1989).
\item[157.] \textit{See supra} text accompanying notes 69-72.
\item[159.] \textit{Id.} § 8-6-604(a).
\item[160.] \textit{Id.} § 8-6-602(c).
\item[161.] \textit{Id.} § 8-6-604(b).
\item[162.] \textit{Id.} §§ 8-6-605 and 609(a)-(c).
\end{itemize}
Fees based on the amount of solid waste received at landfills provide revenue for the recycling fund.\textsuperscript{164} A companion Act requires the creation of regional solid waste planning districts and boards.\textsuperscript{165} These boards are to evaluate solid waste management needs in their areas and control the placement of new landfills according to the needs assessments.\textsuperscript{166}

This legislation demonstrates a growing awareness of the need for environmentally sound handling of enormous amounts of trash generated by a "throw-away" society. However, standing alone, it will not solve the disposal problems in Arkansas. The New Jersey crisis occurred despite years of waste control legislation, including a comprehensive voluntary recycling program.\textsuperscript{167} Other states, facing similar situations, are also mandating source separation and recycling on a statewide level.\textsuperscript{168}

A successful recycling program requires a multi-faceted approach. More legislation is needed to address markets for recycled products, including use in state purchasing contracts, tax incentives for businesses and industries that recycle, direct aid or tax credits for recycling equipment, and specific recycling goals.

Statewide mandatory source separation\textsuperscript{169} and recycling remain an option for Arkansas. Considering the New Jersey experience, the rapidly developing landfill space problems, and the minimal recycling activity in the state, more aggressive and comprehensive legislation is needed to avert a similar crisis.

\textit{Sherry C. Furr}

\textsuperscript{163} Id. § 8-6-609(a).
\textsuperscript{164} Id. § 8-6-606. The Act places a landfill disposal fee of fifteen cents per cubic yard of uncompacted waste, thirty cents per cubic yard of compacted waste, or one dollar per ton of solid waste received at the landfill. Id.
\textsuperscript{166} Id. § 8-6-704.
\textsuperscript{167} See supra text accompanying notes 88-105.
\textsuperscript{169} Current Arkansas law authorizes the governing bodies of counties and municipalities to "enact laws concerning all phases of the operation of a solid waste management system including hours of operation, character and kind of wastes accepted at the disposal site, [and] the separation of waste according to type by those generating them prior to collection . . . ." (emphasis added). ARK. CODE ANN. §§ 8-6-211(e), -212(e) (1987).