

**2000 ANNUAL REPORT**



**NEW MEXICO  
ENVIRONMENT DEPARTMENT**

**DECEMBER 1, 2000**

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## **EXECUTIVE SUMMARY**

The amount of municipal solid waste (MSW) disposed in New Mexico is steadily increasing. Almost two million more tons of solid waste were disposed in landfills in New Mexico during 1999 than in 1990, the year the Solid Waste Act was passed. During 1999, 3,037,416 tons of municipal solid waste were generated in New Mexico and 2,988,760 tons were disposed in New Mexico landfills. Although the disposed MSW tonnage is increasing, New Mexico still has ample landfill capacity to meet future needs. Adjusting for projected population growth and current diversion practices, there is approximately 30 years of landfill capacity available for future use.

The Act established a goal to divert 554,760 tons or 50% of the estimated waste generated in 1990 (the base year), by the year 2000. This goal will not be attained in the year 2000. During 1999, New Mexicans reported 290,427 tons of MSW diverted, which is 26% of the estimated MSW generated in the base year or 9.7% of the current waste stream. A significant increase in MSW diversion is not anticipated unless municipal governments and the solid waste industry adopt cost-effective diversion technology and practices.

The growing complexity of managing and disposing of MSW is driving the development of solid waste disposal alternatives. Within the United States, where traditional disposal practices have become an economic liability, waste diversion technology is providing cost-effective alternatives and solutions.

# **SOLID WASTE IN NEW MEXICO**

## **I. INTRODUCTION**

This document is the sixth report from the Secretary of the Environment Department to the Legislature on the status of solid waste management in New Mexico. It addresses the period from January 1, 1999 through December 31, 1999.

This report is prepared in accordance with the mandates of the New Mexico Solid Waste Act. The owners and operators of solid waste facilities in New Mexico provided the statistical information summarized in this report.

## **II. COMPREHENSIVE SOLID WASTE MANAGEMENT PROGRAM**

The New Mexico Solid Waste Act (Act), passed in 1990, required the development of a comprehensive solid waste management program by December 1, 1992 with implementation by July 1, 1994. The Act charged the Environment Department (NMED) with overseeing the majority of the requirements in the Act and the development of a comprehensive solid waste plan. The result was the *New Mexico Solid Waste Management Plan* that detailed statewide protocol addressing solid waste regulations, recycling, source reduction, transformation, and landfill disposal.

The regulatory mandates of the Act and the federal Resource Conservation and Recovery Act (RCRA) are implemented in New Mexico through the Solid Waste Management Regulations (20 NMAC 9.1). These regulations became effective on August 17, 1994 and the U.S. Environmental Protection Agency approved New Mexico's solid waste program on December 23, 1994.

### **Solid Waste Bureau**

The Solid Waste Bureau of the New Mexico Environment Department is responsible for the development, implementation and enforcement of the comprehensive program defined in the Act. Bureau programs address New Mexico solid waste management issues by integrating permitting, technical assistance, and compliance programs with grant funding for cost-effective and environmentally sound solutions.

### **Permitting Program**

New solid waste facilities are required to be permitted prior to construction and operation. New Mexico currently has 18 permitted landfills and 29 registered landfills. Other permitted facilities include 12 transfer stations, six recycling facilities, three compost facilities, and one infectious waste treatment facility. Since 1992, 89 landfills stopped accepting waste and closed or are in the process of closing.

**Permit Review** - Applications for new solid waste facility permits and modifications to existing permits are reviewed for accuracy and completeness. Technical assistance is provided as necessary. Four facilities were permitted in 1999 – a renewal for the City of Albuquerque Intermediate Processing Facility, Los Lunas Transfer Station, Las Vegas Transfer Station, and a variance from the side slope requirements for the closed City of Santa Fe Landfill.

**Groundwater Monitoring Suspension Petition Review** - Facility owners and operators seeking to suspend all or any portion of their groundwater monitoring requirements must obtain approval from the NMED. Currently three petitions are under review.

**Closure/Post-Closure Plan Review** - Landfill closure plans are reviewed to ensure that landfills will be properly capped and maintained in accordance with regulations. Factors such as type and application of final cover, contouring, drainage and vegetation are examined in the review process. Twenty-eight closure plans were pending at the beginning of 1999. During the year, ten closure plans were approved and nine additional plans were received.

**Approval/Review of Ground Water Monitoring** - Solid Waste Management Regulations require periodic sampling of ground water from monitoring wells at most landfills. Facility owners or operators must submit ground water monitoring system plans for approval by the Department. Ground water monitoring reports, along with results from laboratory analyses of ground water samples, are submitted to the Permit Section and reviewed to determine whether any of the specified constituents exceed prescribed limits. If contaminants are detected at or above specified levels and it cannot be demonstrated that they are from a source other than the landfill, the operator must conduct assessment monitoring in accordance with the regulations. Currently, there are five landfills sites at which a Phase I investigation is proceeding to determine the nature and extent of the contamination plume. In 1999, 44 landfills conducted ground water monitoring. Nineteen landfills have received suspensions/exemptions from ground water monitoring requirements and 14 landfills have been requested to begin monitoring. The Bureau is reviewing 51 small landfills (receive less than 20 tons per day) to determine if they will be required to initiate ground water monitoring.

## **Enforcement Program**

All solid waste facilities are regularly inspected to ensure compliance with solid waste management regulations. Reports of illegal dumping are also investigated. Citations may be issued for regulatory violations. Offenders may agree to pay the penalty and correct the problem within a specified time period, or they may choose to contest the citation through the administrative process. The seriousness of the violation and consideration of any previous violations determine the size of the monetary penalty.

During 1999, program staff conducted 252 compliance monitoring inspections of regulated facilities. One hundred and six (106) Notices of Violation (NOV), three Administrative Compliance Orders and ten Field Compliance Orders were issued. Three hundred forty-four (344) illegal dumping complaints were investigated, resulting in 295 NOV's, 124 clean-ups and 74 remediation projects greater than \$1,000 in cost.

## **Technical Assistance Program**

Source reduction, recycling, household hazardous waste management, composting, transfer station, and landfill operations are addressed in the education programs developed by the Bureau. The Bureau gives presentations to interested citizens and school groups. In 1999, the Bureau made over 50 such presentations.

**Planning Assistance** - Program staff provide technical assistance to local officials on solid waste facility operations, cost-effective practices and strategic planning. Programs are tailored to local community needs and emphasize service, quality, price competitiveness and proper disposal of solid waste.

**Training and Certification of Operators** - Operator training and certification courses mandated by the regulations are made available to solid waste personnel on a regular basis at locations around the state. In 1999, over 148 new certifications were issued for operators of landfills, transfer stations, composting and recycling facilities. Eight different classes involving 201 students were conducted.

**Research and Publications** - Program staff collect and manage statewide solid waste data, prepare the *New Mexico Solid Waste Report*, review proposed legislation, research solid waste management technologies, and prepare special reports and data requests. Solid waste publications are distributed to interested individuals.

**Recycling and Household Hazardous Waste (HHW)** – Program staff promote local and regional recycling efforts and the proper handling of HHW through education and technical assistance. During 1999, educational demonstrations and literature were made available to approximately 3,000 New Mexicans and 25 communities through coordinated New Mexico Recycles Day events. Another 500 people attended recycling presentations.

## **Other Solid Waste Programs and Projects**

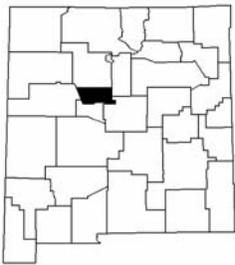
**Solid Waste Facility Grant Fund** - Direct financial assistance to local governments was provided by this grant fund in 1995, 1996, 1997 and 1999. Grant funding was appropriated by the legislature from Governmental Gross Receipts Tax revenues. Funding amounts were: \$9.2 million in 1995; \$4.5 million in 1996; \$3.6 million in 1997; and \$3.2 million in 1999. (See Appendix F)

**Tire Recycling Program** - The 1994 Tire Recycling Act created the Tire Recycling Fund. Funding was provided from annual motor vehicle registration fees. Grant awards are made to eligible counties, municipalities and cooperative associations for the abatement of tire dumps and to significantly reduce the disposal of tires in landfills by encouraging recycling. In 1999, funding was redirected to the Highway Fund and the existing balance in the fund will be expended by 2002. Nine awards, totaling more than \$2.1 million, have been made by the Department. Five additional awards totaling \$450,000 are pending approval. (See Appendix E). New Mexico has recycled in excess of 1,000,000 tires since the inception of the program.



### III. REGIONAL AND COUNTY PROFILES

The New Mexico Solid Waste Management Regulations require counties and municipalities to provide a means of disposal for waste generated within their jurisdictions. Many local governments achieve disposal compliance through cooperative associations. These associations can be formal or informal, and often are ratified through a Joint Powers Agreement (JPA) to deal with policy, administration, and the day-to-day operations of the solid waste management system. The following is an alphabetic list of New Mexico counties, solid waste authorities, and solid waste management associations.

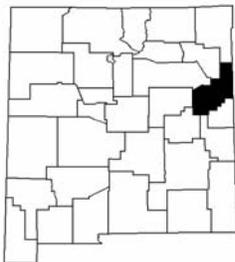


**Bernalillo County** – The Bernalillo County service area contains a population of approximately 520,000 within an area of 1,200 square miles. Solid waste from Bernalillo County is handled by five area landfills, two of which are located within the County. The Cerro Colorado Landfill, owned and operated by the City of Albuquerque, is located west of Albuquerque and provides the primary disposal capacity for the City. The City of Albuquerque also operates a material recovery facility at the landfill to sort and process recyclable materials from the City's curbside collection program. Landscape waste and biosolids are collected and composted at the City's composting facility located on the West Mesa.

Cerro Colorado does not accept construction and demolition (C&D) waste. C&D waste is disposed of at the Southwest Landfill, Rio Rancho Landfill and Sandoval County Landfill. Most residential solid waste collection in unincorporated areas of Bernalillo County is handled by contracted haulers and disposed of at the Rio Rancho Landfill in Sandoval County. Bernalillo County has implemented a "Pay-as-You-Throw" rate schedule for County residents and is working on designs for a new transfer station for the east mountain area. Bernalillo County was awarded \$500,000 from three Solid Waste Facility Grant Fund cycles for transfer equipment and to renovate its East Mountain Transfer Station.

Bernalillo County and Torrance County constructed the Torrance County/Bernalillo County Regional Landfill east of Moriarty. Bernalillo County and the Torrance County Solid Waste Authority (TCSWA) entered into a JPA for the use and operation of landfill, which receives waste generated in Torrance County and in the east mountain area of Bernalillo County.

Albuquerque and Bernalillo County contract for services for operation of a permanent household hazardous waste facility. Bernalillo County also conducts up to ten community cleanups and household hazardous waste collection events every year at several locations throughout the County.

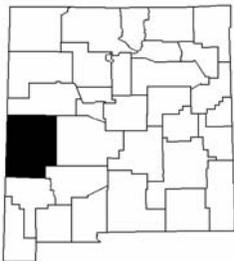


**Canadian River Association** - The Canadian River Association (CRA) consists of the Villages of Logan and San Jon and the unincorporated areas of Quay County. CRA also collects and hauls MSW from the Village of House. CRA services an area of 2,883 square miles and a population of approximately 3,900. The Association was the recipient of a \$400,000 grant from the 1997 Solid Waste Facility Grant Fund (SWFGF) cycle to buy equipment and close two landfills. The CRA purchased dumpsters, one side-loading, and two front-loading compactor trucks, a brush chipper, and support equipment with these funds. The Association applied to NMED for funding to establish a tire recycling project. A grant has

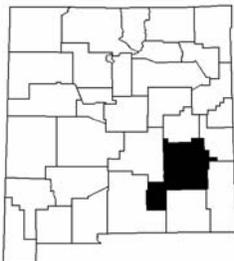
been offered to establish this program in their service area.

The San Jon Landfill is in the process of closure. The Logan Landfill has been converted to a C&D only landfill. The Association currently hauls waste to the City of Tucumcari Landfill, and has a contract agreement with the City of Amarillo, Texas for contingency waste disposal.

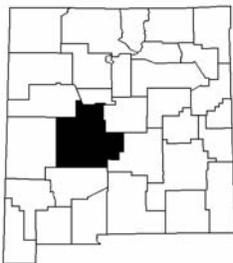
The City of Tucumcari was awarded solid waste facility grants of \$500,000 in 1997 and \$200,000 in 1999 for construction of a new solid waste facility and to purchase landfill equipment. The City has installed additional monitor wells in an effort to determine the source of contamination at the existing landfill.



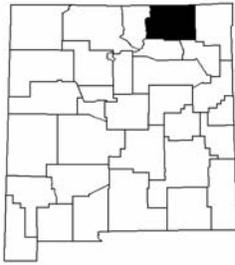
**Catron County** - The service area covers about 6,900 square miles, with a population of approximately 2,600 people, and include three active landfills: Pie Town, Reserve, and Glenwood. Catron County has established a solid waste fee system for households, and is considering purchasing a chipper to reduce disposal and burning of yard waste and brush. The County received \$435,000 from the 1996 and 1997 cycles of the SWFGF to build five transfer stations and close its landfills. A contract for the development of landfill closure plans has been awarded.



**Chaves County** - The service area covers about 6,100 square miles and has a population of approximately 58,000. There are informal agreements regarding solid waste management between the County, the City of Roswell, and other municipalities in the County. The City of Roswell Municipal Landfill provides solid waste disposal for the area. The City also operates a recycling program consisting of a processing facility and numerous drop-off sites throughout the City. A paint exchange and drop-off site, including used oil collection, is located at the landfill. The County operates two convenience centers for county residents through its road department.

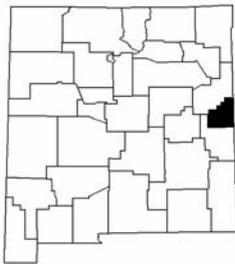


**Central Solid Waste Authority** - This Authority consists of the Village of Los Lunas, the City of Belen, the City of Socorro, the Village of Magdalena and Socorro County. The service area covers 6,600 square miles with a population of approximately 27,000. The Authority was the recipient of a \$90,000 grant from the 1999 SWFGF cycle to purchase a new collection vehicle for the Village of Magdalena and the County of Socorro was awarded \$100,000 to help fund the construction of a landfill. Earlier grants (\$700,000 in 1995 and \$200,000 in 1996) were used to construct a transfer station near Los Lunas, close seven landfills, and purchase transfer equipment. In June of 1998, the Authority entered into an agreement with Waste Management, Inc. (WMI) for waste disposal at the Rio Rancho Landfill in Sandoval County. The City of Belen entered into an agreement with WMI for waste collection and disposal. Los Lunas opened its new transfer station in 1999. The City and County of Socorro and the Village of Magdalena are evaluating solid waste options, including the possibility of constructing a new landfill.



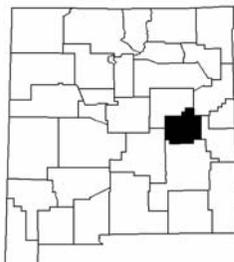
**Colfax County** - The service area includes all of Colfax County, except for the extreme western portion, and covers approximately 3,800 square miles with a population of 12,600. Angel Fire and Eagle Nest are members of the Taos Intergovernmental Council. Angel Fire received a \$75,000 award from the 1999 SWFGF to construct a transfer station and Raton received a \$200,000 to purchase landfill equipment. The Raton Landfill is the only active landfill in this service area. The service area operates with informal agreements among the local governments concerning solid waste management.

The City of Raton and Colfax County are evaluating their disposal options. They are considering either building a landfill in another location, expanding the Raton Landfill vertically, or transporting waste to the Northeast New Mexico Regional Landfill (NENMRL). The Town of Springer currently uses the NENMRL site.

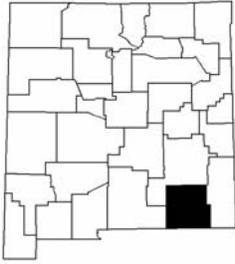


**Curry County** - The Curry County service area covers about 1,400 square miles and has a population of approximately 41,000. There are two active landfills within the County, the new Clovis Regional Landfill, which opened on May 24, 1999 and a small asbestos landfill on Cannon Air Force Base. Curry County, the City of Texico, and the Village of Melrose utilize the Clovis Regional Landfill for municipal solid waste (MSW) disposal. The Village of Grady uses a private collection service that disposes the refuse at the City of Tucumcari Landfill.

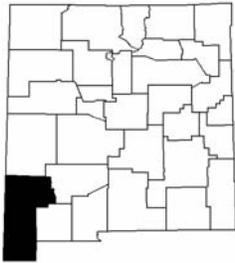
The City of Clovis has applied for a composting facility permit at its waste water treatment facility. Mulch produced from diversion of yard waste at the landfill and the City's Christmas tree recycling program is given to residents or is used by the City for landscape applications. The recycling program includes drop-off sites around the City and a waste oil collection site at the landfill. The City was awarded \$300,000 from the 1999 SWFGF cycle for construction of a maintenance facility at the new regional landfill. Cannon AFB, through a contract, operates a recycling facility for use by base personnel. The base also has a household hazardous waste collection program. Several large dairies in the area compost manure, which is used in agricultural applications.



**De Baca County** - The service area covers about 2,400 square miles and has a population of approximately 2,300. The Fort Sumner Landfill is the only operational landfill in the County. The County owns the landfill and the Village operates it. An application for a permit is being prepared for submittal to the Department. De Baca County received \$180,000 from the 1999 SWFGF to purchase equipment and for landfill improvements. The County does not provide public MSW collection service nor does a private MSW collection service operate in the County.

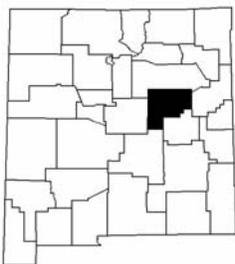


**Eddy County** - Eddy County's service area covers about 4,200 square miles and has a population of approximately 49,000. The County and the City of Carlsbad jointly own the Sand Point Landfill, which is operated by Waste Connections, Inc. The City of Artesia operates a transfer station, as does the County at the Village of Loving. Commercial collection services are available to most County residents living outside the incorporated areas of the County. Recycling is provided by the Carlsbad Association for Retarded Citizens (CARC), which operates several drop-off sites and a recycling center. The City of Carlsbad continues to use scrap tire bales in the Pecos River restoration project.

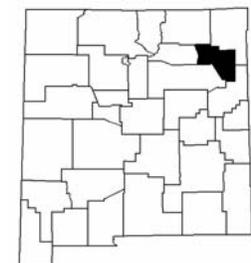


**Grant County Solid Waste Authority** - The Authority consists of Grant County, Hidalgo County, Silver City, Bayard, Santa Clara, Hurley, and Lordsburg. The population served is 34,000 in an area of 7,400 square miles. The Authority operates the Silver City recycling program. It also purchased the Silver City Landfill on July 1, 1996 and renamed it the Southwest New Mexico Regional Landfill (SWNMRL). The Authority was a recipient of \$70,000 in assistance from the 1999 cycle of the SWFGF. The funds are to be used to purchase a horizontal baler and containers for convenience centers.

The Authority has been the driving force for two cooperative actions by members and non-members. The first cooperative developed a tire recycling project and is composed of two Authority members (Grant and Hidalgo Counties) and a non-member (Luna County). The second is an informal working association between two members (Hidalgo County and City of Lordsburg) to monitor small landfills closed in 1997. Since closure, all waste is collected at a materials recovery transfer station, with disposal at the SWNMRL in Silver City. Hidalgo County received \$125,000 from the 1999 cycle of the SWFGF to purchase transfer equipment and materials and for the Animas Landfill closure.

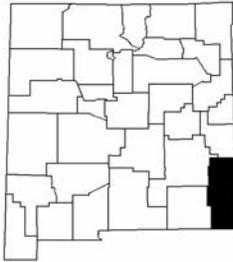


**Guadalupe County** - Guadalupe County covers roughly 3,000 square miles and has a population of approximately 4,220. The City of Santa Rosa Landfill and the Town of Vaughn Landfill are the only active landfills in the County. The Anton Chico and Cuervo Landfills have stopped receiving waste and final closure activities are complete. The County operates several convenience sites as part of its collection and haul system. Solid waste from the County is disposed of in the Santa Rosa Landfill. The County obtained \$100,000 of funding through the FY 1999 SWFGF cycle to purchase transfer equipment. No recycling programs have been established in the County. Santa Rosa is considering constructing a new landfill and has been working with an engineering firm to locate a suitable site. The Town of Vaughn has purchased a collection truck and dumpsters in anticipation of closing its landfill.

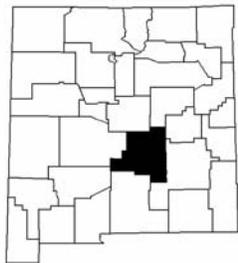


**Harding County** - Harding County's service area covers 2,139 square miles and has a population of approximately 950. Harding County is a member of the High Plains Waste Management Association and does not provide collection or disposal services to County residents. County residents can use the convenience center in the Village of Roy and the Village of Mosquero Landfill for disposal.

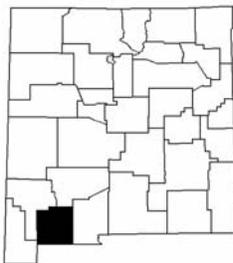
The closure plan for final closure of the Roy Landfill was approved in June 1999. Waste from the Roy convenience center is hauled to the Northeast New Mexico Regional Landfill for disposal. The Village of Mosquero has hired an engineering firm to complete a C&D landfill permit application, complete a closure plan for the MSW landfill, and to complete their convenience center project. The closure plan was submitted to NMED in April 2000 and is under review. This work is funded through a \$100,000 grant awarded during the 1995 SWFGF cycle.



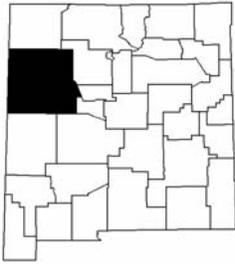
**Lea County Solid Waste Authority** - The service area covers about 4,400 square miles and has a population of approximately 55,800. The Lea County Solid Waste Authority consists of Lea County and all of the incorporated municipalities in the County. Commercial collection service is available to County residents living outside of the incorporated areas. The Authority's new landfill east of Eunice opened in July 1999 and is operated by Waste Connections, Inc. The Hobbs Landfill stopped accepting MSW when the new landfill opened. C&D waste was accepted at the Hobbs Landfill until final closure contours were achieved. The County obtained \$264,000 of funding from the 1999 SWFGF cycle for three convenience centers within the County. The Cities of Lovington and Hobbs each operate recycling programs. Several large dairies in the area compost manure for use in agricultural applications.



**Lincoln County Solid Waste Authority** - The service area covers about 4,900 square miles and has a population of approximately 12,200. The Lincoln County Solid Waste Authority is composed of Lincoln County and all incorporated municipalities within the County except the Village of Ruidoso, which withdrew from the Authority in 1998. The Village still retains partial ownership rights with the LCSWA in the Otero/Lincoln County Landfill located north of Orogrande in Otero County. The Village is working with a consultant and an engineering firm to upgrade the Gavilan Canyon Transfer Station with funds obtained through the 1996 and 1999 SWFGF cycles. The Village also upgraded its collection fleet and transfer trailers. The LCSWA continues to utilize the Gavilan Canyon Transfer Station through an agreement with the Village. The LCSWA also operates a recycling center in Ruidoso Downs and drop-off sites located throughout the County. The Village of Corona obtained 1999 SWFGF funding to purchase a new compactor and roll-off container for additional capacity.

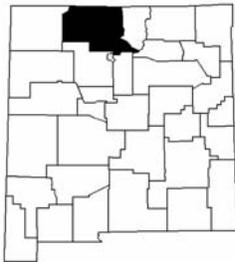


**Luna County** - The Luna County area contains 18,100 people residing in 3,000 square miles. The Village of Columbus Landfill closed in April 1998. The Village was the recipient of \$300,000 for landfill closure and transfer station assistance from the 1996 cycle of the SWFGF. The City of Deming Landfill is currently active, but will close following construction of a new landfill at Cambray, 20 miles east of Deming. The City received a \$300,000 SWFGF grant for landfill closure design and for construction of a transfer station in 1996. The only recycling is aluminum at Reynolds Recycling and appliances and metals recycling at the Deming Landfill.



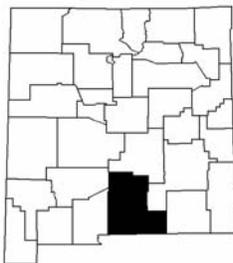
**Northwest New Mexico Regional Solid Waste Authority (NWNMRSWA)** - The NWNMRSWA includes the Cities of Gallup, Grants, and Milan, and the Counties of Cibola and McKinley. The service area has a population of 84,500 and is 9,600 square miles. The Authority operates the Red Rocks Landfill, northeast of Thoreau, along with transfer stations in Gallup and Milan. The Authority assumed operations of the McKinley County convenience stations, is assisting McKinley County and Cibola County with closure of several landfills, and operates convenience centers on the Navajo reservation. The Authority

received SWFGF awards of \$200,000 in 1996 and \$20,000 in 1999 for the purchase of transfer equipment.

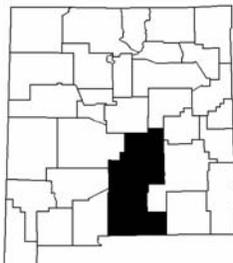


**North Central Solid Waste Planning Committee (NCSWPC)** - This group consists of Los Alamos County, Rio Arriba County, the City of Espanola, San Juan Pueblo, and Santa Clara Pueblo. The service area has a population of 52,500 and covers 6,000 square miles. The two active landfills in the area are the Los Alamos County and the Coyote-Youngsville Landfill. The NCSWPC received \$100,000 from local governments to study sites for a regional landfill. The Legislature also appropriated \$375,000 in 1993 and 1994 for Rio Arriba County landfill closures, regional solid waste planning, land acquisition,

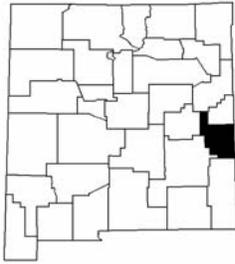
facility construction, and equipment purchases. The group was awarded \$1,000,000 from the 1996 cycle of the SWFGF for landfill and transfer station construction. A landfill site in the Ojo Caliente area has been selected and procedures necessary to acquire the land are underway. The group also received \$300,000 from the 1997 SWFGF cycle for additional transfer station construction.



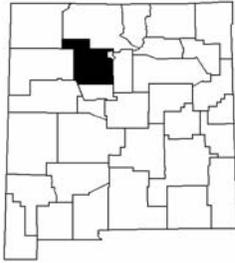
**Otero County Solid Waste Authority** - The service area has a population of 52,000 in 6,600 square miles. Private companies collect Alamogordo's waste and Otero County provides service for citizens in unincorporated areas of the County. All waste in the area is disposed of in the Otero/Lincoln County Landfill located near Orogrande. The County was awarded \$210,000 from the 1996 cycle of the SWFGF for closure of their landfill. Otero County operates the La Luz Transfer Station and Alamogordo operates the La Velle Transfer Station. All recycling is being handled at the La Luz facility.



**Otero/Lincoln County Solid Waste Authority** - This service area consists of Lincoln County, Otero County, and the City of Alamogordo. The area has a population of 64,000. This Authority opened the Otero/Lincoln County landfill in January 1995. Financing for the landfill was secured by the Environmental Gross Receipts Tax (EGRT) of the local governments comprising the two Authorities. Tipping fees are used to pay debt service. The Authority received a grant from the 1996 cycle of the SWFGF in the amount of \$200,000 for landfill equipment.

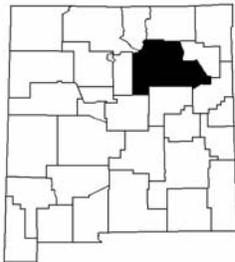


**Roosevelt County** - Roosevelt County's service area covers 2,500 square miles and has a population of approximately 16,500. The City of Portales closed its landfill in July 2000 and waste from the City and County is being hauled to the Clovis Landfill. Portales has hired an engineering firm to investigate sites for possible permitting of a new landfill. The City received a \$150,000 SWFGF award from the 1999 cycle to purchase solid waste transfer equipment. Several large dairies in the area compost manure for use in agricultural applications.



**Sandoval County** - Sandoval County has a population of 63,300 within an area of 3,700 square miles. The Sandoval County and Rio Rancho Landfills provide waste disposal services for the County. The Rio Rancho Landfill is owned and operated by Waste Management of New Mexico, Inc. The Sandoval County Landfill, located a few miles north of the Rio Rancho Landfill, is nearing its permitted capacity. Sandoval County was issued a permit August 5, 1998, which included a 12-acre expansion. Sandoval County's recycling program recycles steel cans, plastics, corrugated containers, mixed paper and newsprint at area schools. Keep Rio Rancho Beautiful operates a recycling program in Rio Rancho in conjunction with Waste Management.

Sandia Pueblo constructed a transfer station in 1995 to replace its landfill. The Pueblo's waste is hauled to the Rio Rancho Landfill. Zia and Jemez Pueblos transport their waste to the Sandoval County Landfill. Santa Ana, Santa Domingo, and Cochiti Pueblos are working to establish collection, hauling alternatives, and closure plans for their open dumps.



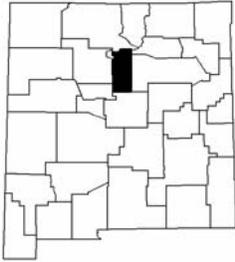
**Sangre de Cristo Solid Waste Authority** - This Authority consists of Mora County, San Miguel County, the City of Las Vegas, and the Villages of Pecos and Wagon Mound. The service area covers 6,700 square miles with a population of 30,000. Rural convenience stations are located throughout the region. Las Vegas provides residential curbside and commercial waste collection services and operates a transfer station, which opened in the fall of 2000. Members of the Authority transport waste to the Northeast New Mexico Regional Landfill near Wagon Mound.

The Las Vegas Landfill closed on March 1, 1999, and is undergoing final closure and an assessment of the extent of groundwater contamination caused by the landfill. San Miguel County's Villanueva Landfill stopped receiving waste in April, 1998. In 1999, the Authority received a \$220,000 SWFGF grant to purchase transfer equipment for San Miguel County.

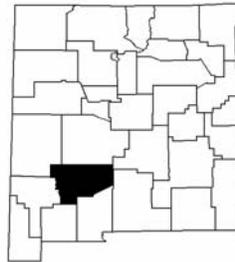


**San Juan County Regional Solid Waste Management Authority** - This Authority includes Farmington, Aztec, Bloomfield and San Juan County. The service area has a population of 91,600 in an area of 5,500 square miles that includes parts of Colorado. The County owns the San Juan County Regional Landfill, which is operated by Waste Management. Waste is also accepted from transfer stations on Navajo tribal lands at Shiprock, Upper Fruitland, Sand Springs, Huerfano and Waterford. A private hauler from Colorado

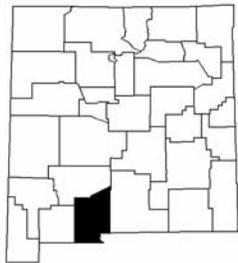
collects MSW for the Town of Bloomfield and transports it to Colorado.



**Santa Fe Solid Waste Management Agency** - The political boundaries of Santa Fe County define this service area that covers 1,900 square miles with a population of 98,900. The Agency, comprised of Santa Fe County and the City of Santa Fe, operates Caja del Rio Landfill. The City of Santa Fe operates a transfer station and provides for household and commercial collection, including recycling collection, within its municipal boundaries. The County operates several convenience centers which also serve as recycling collection points.

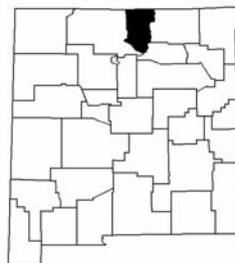


**Sierra County** - Sierra County, with an area of 4,200 square miles, has a population of 9,900. Both the Sierra County Landfill and the Truth or Consequences Landfill are active. Sierra County, which plans to seek a permit for a small exempt landfill, received a \$210,000 SWFGF award in 1999 to purchase landfill equipment. Truth or Consequences is developing a recycling program.

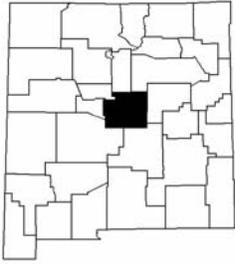


**South Central Solid Waste Authority** - This Authority consists of Dona Ana County and the City of Las Cruces, which have a service population of 170,000 people in an area of 3,800 square miles. The Authority began operating a regional landfill at Corralitos and a transfer station in Las Cruces in 1996. The City operates a recycling center adjacent to the transfer station. The recycling center collects and recycles paper products, plastic, corrugated cardboard and tires. They also collect and dispose of used motor oil, paint and household hazardous waste.

Camino Real Environmental Center, Inc., a subsidiary of Waste Connections, owns and operates the Camino Real Landfill in Sunland Park. The landfill, the state's largest in terms of tons of waste disposed, receives waste from Dona Ana County, El Paso, and Juarez.

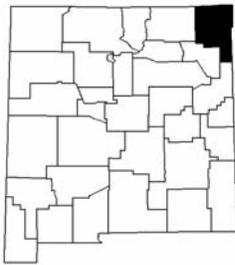


**Taos Intergovernmental Council** - Taos County and western Colfax County define this group which serves 23,400 people in an area of 2,300 square miles. Members include the Town and County of Taos, Taos Pueblo, Picuris Pueblo, Taos Ski Valley, and the Villages of Red River, Questa, Angel Fire and Eagle Nest. Disposal is provided at the Taos Landfill, owned by the City of Taos and operated by Waste Management of New Mexico, Inc. Recycling in Angel Fire and Eagle Nest is provided by Moreno Valley Recycling. Angel Fire is currently designing a new transfer station that will also serve Eagle Nest and Red River. Taos County received \$210,000 from the 1999 SWFGF to construct and equip convenience centers and to help close the old portion of the Taos Landfill. The Town of Taos has applied for a permit to expand its existing landfill.

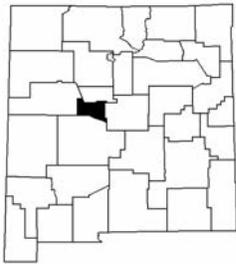


**Torrance County Solid Waste Authority** - Torrance County and the communities of Estancia, Moriarty, Willard, Encino and Mountainair are members of this Authority. The service area contains 3,400 square miles with a population of 10,300. The Authority has developed a collection and transportation system that includes six transfer stations and over 50 six-yard dumpsters throughout the County. Waste is disposed at the Torrance County/Bernalillo County Regional Landfill, which is operated under a Joint Powers Agreement between the two counties. The Authority is responsible for operations while Bernalillo County contributes financially to the project. The

Authority was awarded \$165,000 from the 1999 SWFGF to purchase a roll-off truck and construct a convenience center.



**Union County** - The service area covers about 3,800 square miles and has a population of approximately 4,100. The City of Clayton's landfill is the only active landfill in the service area and provides disposal capacity for County residents and all incorporated municipalities in the County. The City has retained an engineering firm to site and permit a small exempt landfill.



**Valencia County** - Valencia County contains 32,700 people in an area of 1,500 square miles. The one active landfill in the County, Tri-Sect, has a capacity of more than 30 years, and is owned by Waste Management of New Mexico, Inc. The Tri-Sect Landfill currently receives only petroleum contaminated soil. The City of Belen has closed its landfill and has contracted with Waste Management for collection of refuse and disposal at the Rio Rancho Landfill. A transfer station has been constructed adjacent to the inactive Belen Landfill. The Village of Los Lunas, a member of the Central Solid Waste Authority,

operates a transfer station and hauls waste to the Rio Rancho Landfill. Bosque Farms contracts with Waste Management for collection and disposal at the Rio Rancho Landfill. Isleta Pueblo has a transfer station and the refuse is transported to the Cerro Colorado Landfill in Bernalillo County.

#### **IV. REGIONAL SOLID WASTE MANAGEMENT ORGANIZATIONS**

##### **Southwest Public Recycling Association**

The Southwest Public Recycling Association (SPRA) is a non-profit organization based in Tucson, with satellite offices in Phoenix, Denver and Santa Fe. Formed in 1991 by the mayors of twenty southwestern cities, SPRA presently represents over 5 million people from approximately 104 political jurisdictions, with over 85 associate members. In New Mexico, voting members include Albuquerque, Santa Fe, Las Cruces, Roswell, Socorro, Otero County, Farmington, Los Alamos County, Grants, Milan, Gallup, and Truth of Consequences.

SPRA's mission is to promote, strengthen and provide leadership in waste reduction, reuse, recycling

and composting throughout the Southwest. SPRA is funded by membership dues and fees for services. In addition, SPRA has received support from the U.S. Environmental Protection Agency, the New Mexico Energy, Minerals and Natural Resources Department, and other comparable agencies in other states.

### **New Mexico Recycling Coalition**

The New Mexico Recycling Coalition (NMRC) is a non-profit organization whose mission is “*Improving the quality of recycling and source reduction in New Mexico.*” NMRC develops projects which create awareness and support for recycling. The group has a diverse membership including private sector businesses; local, state and federal government agencies; and other non-profit organizations.

### **New Mexico Organics Recycling Organization**

The New Mexico Organics Recycling Organization (NMORO) is a non-profit organization which offers organics recycling expertise to help increase solid waste diversion and create useful products. The organization acts as a clearinghouse for backyard composting educational materials, provides free market development and regulatory compliance support, and conducts composting workshops. NMORO also works with government agencies to promote projects which divert organic materials from landfills and utilize compost in public areas.

### **Solid Waste Association of North America**

The Solid Waste Association of North America (SWANA) is an international non-profit organization composed of state and regional chapters. New Mexico is represented by the Roadrunner Chapter, whose membership primarily includes solid waste professionals from industry and local and state government. SWANA emphasizes technical research and education, solid waste management innovations, and operations training through regional and international conferences and a wide variety of operator certification classes.

### **Pollution Prevention**

The *Green Zia Environmental Excellence Program* (Green Zia) is an Environment Department program that works with businesses and federal facilities to reduce waste. One emphasis of the Green Zia program is to incorporate source reduction into core business practices. The accomplishments of Green Zia include: developing recognition award concepts, criteria and training material; identifying strategic partnerships and business interested in promoting Green Zia Programs; establishing an Advisory Council to help oversee and implement pollution prevention statewide.

## V. FINDINGS AND RECOMMENDATIONS

### Evaluation of Solid Waste Management Programs

With the enactment of the 1984 amendments to the Resource Conservation and Recovery Act (RCRA), Congress directed the Environmental Protection Agency (EPA) to develop environmentally protective landfill standards. The proposed Subtitle D standards, released in draft form in 1988, previewed the design, construction, and operating standards for future municipal solid waste (MSW) landfills. Accordingly, public and private owner/operators made significant changes in their solid waste management policies and programs. The resulting transition to Subtitle D landfills is still in progress and many communities are facing solid waste management concerns and decisions that differ from the concerns of the past decade.

Over the last decade, an increased number of regulatory agencies have begun scrutinizing the collection and management of MSW. In the past, a unilateral decision, made by a city official, could determine where a waste disposal site was located. Today the decision-making process must include: the mode of collection, recycling programs, hazardous waste handling, regulatory compliance for air emissions, site geology, technical feasibility, permitting, environmental justice issues, development costs, construction costs, operational costs, closure costs, post closure costs, and financial assurance. The complexity of siting, permitting, and operating an MSW landfill, in conjunction with health and regulatory issues, has led some communities to make decisions based on popular trends rather than critically assessing local needs, options and solutions.

Throughout the country, the trend has been to build more transfer stations and convenience centers and fewer landfills. (*EPA Environmental Fact Sheet EPA530-F-00-024 April 2000*). About half of the local governments in New Mexico have joined cooperative associations established to help control disposal costs and provide solid waste management for their members. For the remainder, MSW collection, transportation, and disposal choices are limited. This is due in part to the costs associated with constructing, operating, closing, post closure care, and financial liabilities of landfills.

Community waste management decision-makers are beginning to establish practices and programs that look at waste streams in a macro perspective, rather than targeting individual waste components. Community waste stream management versus customary specialty waste stream management (i.e., municipal solid waste, water treatment waste, sludge waste, agriculture waste, etc.) enables proven business practices and innovative technology to form the basis for developing cost-effective community solutions. Effective community waste reduction programs can delay the necessity of building or closing waste disposal facilities while minimizing the adverse environmental potential of the disposed waste. Combining community waste management solutions and innovative technology is proving to be cost-effective, manpower efficient, and environmentally friendly for many U.S. communities.

Increasing the operating life of landfills by reducing the amount of waste disposed is important for several financial and environmental reasons. Although New Mexico has ample land suitable for siting landfills, minimizing waste disposal minimizes the need for capital spending on planning, permitting, construction and closing of waste disposal facilities.

## **Evaluation of Solid Waste Diversion Goals**

New Mexico diverted 290,427 tons of material from landfill disposal in 1999. This represents 9.7% of the waste stream and calculates to a 26% State diversion rate (base year calculation method mandated in the Act). Diversion trends indicate that New Mexico will not achieve the diversion goal, 50% by the year 2000, established by the Act.

Most of New Mexico's recycling programs focus on diverting specific materials contained within municipal solid waste. These programs include community drop-off centers and curbside collection, or a combination of the two. However, due to growth in population and waste generation, more total solid waste is being disposed of today than when these programs began.

Creating additional recycling programs patterned after current practices may not offer cost-effective solutions. In an informal sample poll of four cities representing 33% of the State's population, the cost per ton of material recycled exceeded \$100. With tipping fees ranging from \$0 to \$60 dollars per ton, landfill disposal will likely continue to be the predominant waste management alternative.

To change this pattern, diversion programs that take advantage of economies of scale will have to be implemented. Communities could channel resources towards development of diversion programs that target elimination of the largest components of the waste stream, such as: construction and demolition waste - 26%, commercial waste - 37% and residential waste -19%. Since organic material comprises approximately 75% of these components, composting and chipping of these organics would result in lower volumes disposed and lower disposal costs.

## **Evaluation of Recycled Material Markets**

Recycled material prices in 1999 were higher than 1998, except for ferrous metals and plastics, which fell significantly. Unpredictable prices and limited municipal budgets have created a state of flux for many recycling programs throughout North America. Many communities are attempting to reduce manpower and capital costs by outsourcing recycling activities to private recycling companies or by cutting back on recycling services.

The recycling industry does not track recycling changes at the community level, but it does track price and market changes on a national level. Recovered tonnage and regional prices are used to develop data on eight recyclable materials which are used as key indicators of the market as a whole. The key indicators are: old corrugated containers (OCC), old newspaper (ONP), mixed paper, glass containers, steel cans, aluminum cans, PET bottles and HDPE bottles.

### **Old corrugated containers (OCC)**

In 1999, the average price for OCC was \$63.65 per ton, which is up from \$54.38 per ton in 1998. At \$63 a ton, the 1999 value is above the average historical price range of \$40 to \$50 per ton. Market analysts are predicting OCC demand to stabilize in the near future, as foreign demand is expected to level off.

### **Old newspaper (ONP)**

The price of ONP increased from \$19.17 per ton in 1998 to \$30.42 per ton in 1999, a 59% increase. Two key factors continue to influence ONP market prices: export markets supply and demand fluctuations, and continued growth in the use of electronic transferred information as an alternative to more traditional means of written communication, such as newspapers.

### **Mixed paper**

The average mixed paper price in 1999 was \$13.33 per ton, an increase over the 1998 average price of \$6.67. Overall, mixed paper tends to be in short supply. Paperboard mills are continuing to develop new technologies that allow mixed paper to be substituted for other paper grades.

### **Glass containers**

Based on clear glass prices, the value of recovered glass containers increased in 1999 to \$12.50 from \$11.33 per ton in 1998, a 10% increase. This price represents clear glass only; other glass types vary significantly, based on local markets.

### **Steel cans**

The price for baled steel cans in 1998 was \$59.42 and dropped to \$28.25 per ton in 1999. This price represents the amount that municipalities may expect to receive when marketing post-consumer steel cans.

### **Aluminum cans**

The price for aluminum decreased to \$851.67 per ton in 1999, down from \$953.33 in 1998, an 11% decrease. The Aluminum Association estimates that 66.5% of aluminum beverage containers were recycled in 1999.

### **PET bottles**

In 1998, PET bales sold for \$97.50 per ton. In 1999 they sold for approximately \$44.17 per ton. The decrease in price paid for post-consumer baled PET bottles was largely driven by lower virgin resin prices. This came about due to low demand and the closing of old, inefficient virgin resin mills.

### **HDPE bottles**

HDPE prices decreased in 1999, to \$48.17 per ton. Similar to PET bottles, the recycled HDPE bottle market responded to decreases in virgin resin prices.

Pricing sources: ONP, OCC and high-grade paper - *Pulp & Paper's North American Fact Book*; mixed waste paper, clear glass, steel cans, aluminum cans, PET and HDPE - *Recycling Times*; baled materials - *Waste News* freight-on-board index and Mary Kohrell Recycling.

## Recycled Materials

Year	Paper	Ferrous	Non-Ferrous	Glass	Plastic	Compost w/o sludge	Oil	Wood	Tires	Other Organic	Total
1993	43,147	40,154	32,412	3,423	460	48,245	N/A	N/A	N/A	N/A	167,841
1994	62,577	25,252	13,586	4,181	333	23,634	N/A	N/A	N/A	16,226	145,789
1995	58,395	60,432	18,629	2,223	853	8,257	N/A	N/A	N/A	3,077	151,866
1996	46,009	42,546	8,166	1,432	252	16,364	9,907	72,039	N/A	10,494	207,209
1997	47,307	63,404	4,642	1,926	621	17,407	22,566	92,603	9,066	7,592	267,134
1998	53,831	70,040	11,102	2,587	388	13,606	10,563	92,532	5,333	3,800	263,782
1999	75,561	84,693	9,204	3,511	425	5,916	8,997	93,025	6,336	2,759	290,427

**Table 1. Material Recycled in New Mexico by Tonnage and Category (1993-1999).**  
(See Appendix D.)

## Solid Waste Generated

	1993	1994	1995	1996	1997	1998	1999
<b>Municipal Waste</b>	984,341	1,237,538	1,395,956	1,789,217	2,009,319	2,081,036	2,261,327
<b>Construction and Demolition Waste</b>	650,000	874,033	918,525	989,603	898,435	839,867	776,089
<b>TOTAL WASTE GENERATED</b>	<b>1,634,341</b>	<b>2,111,571</b>	<b>2,314,481</b>	<b>2,778,820</b>	<b>2,907,754</b>	<b>2,920,903</b>	<b>3,037,416</b>

**Table 2. Total Tons of Solid Waste Generated in New Mexico (1993 – 1999).**

Table 2 summarizes New Mexico solid waste generation data. An increase in waste generated in New Mexico is attributed to an increase in population and support services, economic growth, increased reporting accuracy and tourism.

## Solid Waste Disposed

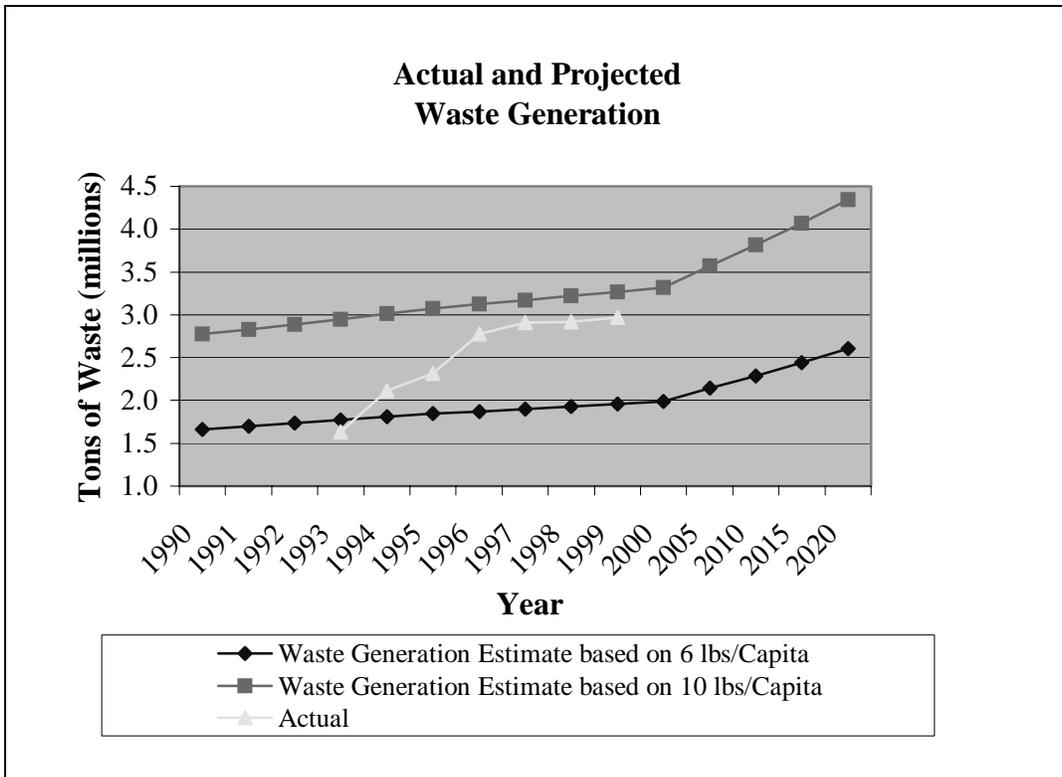
	1993	1994	1995	1996	1997	1998	1999
<b>Municipal Waste Generated In New Mexico (From Table 2)</b>	1,634,341	2,111,571	2,314,481	2,778,820	2,907,754	2,920,903	3,037,416
<b>Out-Of-State Waste Disposed In New Mexico Landfills</b>	209,500	293,028	239,067	305,529	112,160	236,542	241,771
<b>Waste Diverted from Landfills</b>	167,841	145,789	151,866	207,209	267,134	263,782	290,427
<b>TOTAL: SOLID WASTE DISPOSED IN NEW MEXICO</b>	<b>1,676,000</b>	<b>2,258,810</b>	<b>2,401,682</b>	<b>2,877,140</b>	<b>2,752,780</b>	<b>2,893,663</b>	<b>2,988,760</b>

**Table 3.** Total Tons of Solid Waste Disposed in New Mexico (1993 – 1999).

Table 3 summarizes solid waste disposal data. The increases in total solid waste disposed is attributable to an increase in population and support services, economic growth and increased reporting accuracy made possible by the fact that more New Mexico communities are transporting waste to large landfills where the refuse is weighed rather than estimated. In areas where tonnage or volume is being estimated, the amounts reported can vary widely due to the ranges provided in the conversion table shown in Appendix G.

## Solid Waste Generation Rates

The municipal solid waste generated in New Mexico during 1999 was 3,037,416 tons, which calculates to 1.46 tons of waste generated per resident. This equals 8 pounds of generated waste per person per day (pcd). The per capita waste calculation is based on a population estimate of 1,818,448 and adjusted for a 10% contribution to the waste stream from tourism. If per capita waste generation stays between 6 and 10 pounds, the 20-year projection for annual waste disposal is between 2.7 million tons and 4.8 million tons (Figure 1). Annual increases in waste disposal estimates are a function of projected population growth. (*Population Projections for the State of New Mexico, Volume B, New Mexico Population Outlook in the 21st Century*, Bureau of Business and Economic Research, University of New Mexico, May 1999).



**Figure 1. Actual and Projected Waste Generation**

Figure 1 depicts actual annual waste generation up to and including 1999, and projected waste generation after 1999 based on 6 pounds and 10 pounds per capita. Limited data existed prior to 1993 because reporting requirements were not formalized at that time.

### **Solid Waste Disposal Capacity**

In 1999 several landfills were expanded or opened in New Mexico, adding more permitted space than was used in 1999. The total amount of available landfill space is approximately 141,274,000 cubic yards and the amount of waste disposed in New Mexico was 2,988,760 tons. These data indicate that New Mexico currently has approximately 30 years of landfill capacity. The projected remaining capacity in each landfill is provided in Appendix C.

### **Bioreactor Demonstration Projects**

The State had two demonstration projects in progress during 1999. Each is a process design project aimed at enhancing the development and recovery of methane gas from organic material. Both projects are testing the feasibility of using a portion of the solid waste stream as a substrate to generate methane gas. The first project, led by the City of Albuquerque, developed and published a guidebook evaluating the logistical, social, regulatory and economic feasibility of producing biogas (methane) energy. The second demonstration project is located on the campus of New Mexico State University, Las Cruces. A pilot scale plant has been constructed to test technical options and other variables for two-phase anaerobic digestion. An interim report, which discusses the design, operation, feedstock and initial results of the pilot plant, was published in March 1998.

## **Emerging Waste Management Practices and Technology**

In approximately two dozen U.S. communities, traditional waste management disposal practices have been replaced with a waste disposal strategy which uses a mechanical digester in combination with automated composting. Mechanical digesters are designed to combine the entire unsorted municipal solid waste stream with other community waste having a high nitrogen content (municipal biosolids, septage or dairy manure) to produce rough compost. This rough compost accounts for approximately 80% of the original waste. Left behind is a condensed, sanitized, inorganic waste stream, predominately composed of metals and plastics that can then be recycled.

The primary digester product, rough compost, can be cured to produce finished compost (40 CFR 503 compliant), a useful product that can be sold or distributed for use on rangeland, farms, parks, and roadways as a soil amendment. The undigested inorganic portion of the waste stream is condensed, which enables cost effective and efficient recovery of recyclable materials or reduced expense if transported and disposed at the landfill.

This approach can reduce the amount of waste normally disposed by 75% while converting the nitrogen source waste into a useful product. Additional benefits include: minimizing long-term environmental liability normally associated with disposal of MSW, sludge, and manure; the elimination of multiple waste streams and disposal costs; avoiding the necessity of permitting numerous facilities; minimization of manpower requirements; and increased longevity of landfills.

## **Status of the Implementation of the Solid Waste Act**

As described in Section II of this report, the Department has established and is currently implementing most elements of the comprehensive solid waste management program required by the Solid Waste Act and the Tire Recycling Act. Those elements include:

- A program to provide standards for facility construction and operation, to process and issue permits, and to review and approve closure plans
- A program to inspect and audit facilities to ensure operating and record keeping standards are maintained, and to enforce against illegal dumping and improper handling of waste
- A program to certify facility operators, publish educational brochures and provide technical assistance to the solid waste community
- A program to develop regulations, compile and analyze report data, publish an annual report, and special reports as required
- A protocol to review applications for Solid Waste Facility Grant Funds
- A scrap tire management program and Tire Recycling Grant program

Due to limited funding, the requirement to implement statewide recycling programs, publish a statewide business recycling directory, and encourage proper handling and disposal of household hazardous waste is not currently being met

### **Recommendations for Future Programs**

- Develop a program to promote the use of full cost accounting as a local government waste management tool to help local waste managers evaluate options and make appropriate decisions for their communities
- Coordinate with New Mexico county and city administrations to develop a program that encourages local ordinances to reduce illegal dumping
- Research and present cost-effective alternatives to local governments to increase diversion of municipal solid waste streams, construction/demolition materials and organic waste

## VI. APPENDICES

### Appendix A - Active Landfills in New Mexico, 1999

**Bernalillo County**

Kirtland AFB  
Sandia Labs  
Southwest  
Cerro Colorado

**Grant County**

Southwest NM  
Regional

**Otero County**

Otero/Lincoln

**Santa Fe County**

Caja del Rio

**Catron County**

Glenwood  
Pie Town  
Reserve

**Guadalupe County**

Vaughn  
Santa Rosa

**Quay County**

Logan C&D  
Tucumcari

**Sierra County**

Sierra County  
T or C

**Chaves County**

Roswell

**Harding County**

Mosquero  
Roy C&D

**Rio Arriba County**

Coyote/Youngsville

**Socorro County**

Socorro

**Colfax County**

Raton

**Lea County**

Hobbs/Lea County  
Lea Land  
Lea County Regional\*\*

**Roosevelt County**

Portales

**Taos County**

Taos

**Curry County**

Cannon AFB (Asb)  
Clovis

**Los Alamos County**

Los Alamos County  
LANL Area J

**Sandoval County**

Rio Rancho  
Sandoval County

**Torrance County**

Torrance County\*\*  
Keers (Asbestos)

**De Baca County**

De Baca County

**Luna County**

Deming

**San Juan County**

San Juan Regional  
Sweetmeats\*

**Union County**

Clayton

**Dona Ana County**

Camino Real  
Corralitos  
White Sands  
Main Post

**McKinley County**

Northwest NM  
Regional

**San Miguel County**

Las Vegas\*

**Valencia County**

Los Lunas\*  
Tri-Sect

**Eddy County**

Sand Point

**Mora County**

Northeast NM  
Regional

\* closed in 1999

\*\* opened in 1999

## Appendix B - Waste Disposal (tons x 1000)

COUNTY	FACILITY	1994	1995	1996	1997	1998	1999	% Total (1999)
<b>Bernalillo</b>	Cerro Colorado	418.86	505.21	514.85	453.12	442.60	466.25	15.6%
	Kirtland AFB	119.96	59.37	141.87	63.82	68.20	65.48	2.2%
	Sandia Labs	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
	Southwest	212.60	293.66	252.00	246.23	133.15	132.60	4.4%
<b>Catron</b>	Glenwood	0.16	0.33	0.38	0.35	.31	.30	0.0%
	Pie Town	0.03	0.14	0.02	0.20	.21	.12	0.0%
	Reserve	0.81	0.66	0.76	0.84	.78	.50	0.0%
<b>Chaves</b>	Roswell	37.71	42.74	46.26	56.94	NR	67.60	2.3%
<b>Colfax</b>	Raton	10.89	11.32	12.66	14.74	11.96	10.77	0.4%
<b>Curry</b>	Cannon AFB	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
	Clovis	43.77	60.03	76.21	67.31	67.88	46.31	1.5%
<b>De Baca</b>	Ft. Sumner / De Baca	0.96	1.63	1.49	0.97	1.92	1.44	0.0%
<b>Dona Ana</b>	Camino Real	299.59	239.07	311.28	451.87	449.04	510.24	17.1%
	Corralitos	0.00	0.00	58.07	116.00	123.42	128.03	4.4%
	White Sand Main Post	0.12	0.25	0.03	-	NR	9.79	0.3%
<b>Eddy</b>	Sand Point	0.00	34.74	32.77	63.46	61.62	59.58	2.0%
<b>Grant</b>	Southwest NM	-	14.40	29.70	NR	30.10	34.22	1.1%
<b>Guadalupe</b>	Santa Rosa	1.90	5.83	7.86	8.14	12.31	10.31	0.3%
	Vaughn	.02	.02	NR	NR	1.60	.76	0.0%
<b>Harding</b>	Mosquero	0.16	0.08	NR	NR	.38	.20	0.0%
	Roy C&D	-	-	-	-	.47	.47	0.0%
<b>Lea</b>	Hobbs-Lea County	39.35	35.93	56.20	108.88	68.83	30.51	1.0%
	Lea County	-	-	-	-	-	22.91	0.8%
	Lea Land	-	-	-	1.26	8.09	10.74	0.4%
<b>Los Alamos</b>	Los Alamos County	41.93	38.67	52.27	27.90	43.34	49.70	1.7%
	Los Alamos Nat'l Lab	0.04	0.02	0.07	0.03	0.00	10.50	0.4%
<b>Luna</b>	Deming	19.51	18.67	24.65	26.12	31.63	37.77	1.3%
<b>McKinley</b>	Northwest NM Reg'l	0.00	0.00	0.06	129.51	129.51	122.90	4.1%
<b>Mora</b>	Northeast NM Reg'l	-	-	-	-	6.40	31.65	1.1%
<b>Otero</b>	Danley C&D	8.54	19.76	16.92	3.57	NR	NR	0.0%
	Otero/Lincoln Co.	44.40	85.04	61.12	61.65	66.84	69.71	2.3%
<b>Quay</b>	Logan C&D	0.28	0.81	0.24	0.35	.63	0.00	0.0%
	Tucumcari	5.70	8.45	9.00	39.47	21.09	17.66	0.6%
<b>Rio Arriba</b>	Coyote/Youngsville	0.70	1.50	0.16	5.43	.11	.14	0.0%
<b>Roosevelt</b>	Portales	13.71	18.31	21.13	23.69	21.90	23.05	0.8%
<b>Sandoval</b>	Rio Rancho	232.96	219.28	369.78	251.12	421.75	393.73	13.2%
	Sandoval County	107.43	33.95	173.13	206.31	229.94	178.50	6.0%
<b>San Juan</b>	San Juan County	89.93	147.14	175.65	53.81	153.02	181.65	6.1%
	Sweetmeats	0.10	0.03	13.00	0.01	.02	NR	0.0%
<b>San Miguel</b>	Las Vegas	16.98	14.6	42.52	NR	NR	1.77	0.1%
<b>Santa Fe</b>	Caja Del Rio	0.00	0.00	0.00	82.90	138.11	152.69	5.2%
<b>Sierra</b>	Sierra County	1.80	2.48	3.70	4.06	4.50	5.16	0.2%
	T or C	10.42	9.84	6.36	5.39	5.49	5.70	0.2%
<b>Socorro</b>	Socorro	4.10	5.50	16.04	NR	12.34	10.05	0.3%
<b>Taos</b>	Taos	31.57	25.70	22.51	22.72	30.61	31.82	1.1%

## Appendix B – Continued

COUNTY	FACILITY	1994	1995	1996	1997	1998	1999	% Total (1999)
<b>Torrance</b>	Keers Envir. (Asbes.)	0.93	0.00	11.82	11.83	4.28	4.05	0.1%
	Torrance County	-	-	-	0.00	12.50	28.82	1.0%
<b>Union</b>	Clayton	2.61	2.13	2.51	2.77	2.60	NR	0.0%
<b>Valencia</b>	Los Lunas	7.65	7.95	6.37	6.85	6.60	8.00	0.3%
	Tri-Sect	5.59	19.17	26.78	50.94	47.15	12.14	0.4%
<b>TOTAL*</b>							<b>2,988.76</b>	<b>100.0%</b>

NR - No annual report received from a landfill open during the reporting period

\* - Total reflects landfills operating in the reporting period

## Appendix C - 1999 Landfill Capacity Status (Cubic Yards)

FACILITY	Beginning Capacity CY	CY used in 1999	Remaining Capacity (CY)
Cerro Colorado *	50,525,250	1,010,505	49,514,745
Caja del Rio	6,146,120	366,667	5,779,453
Camino Real	11,637,570	1,206,124	10,431,446
Cannon AFB - Asbestos	NR	NR	NR
Clayton *	19,954	3,088	16,866
Clovis	2,517,500	260,000	2,257,500
Corralitos	18,256,238	320,072	17,936,166
Coyote/Youngsville	NR	NR	NR
Datil	NR	NR	NR
De Baca County	275,000	8,353	266,647
Deming	1,107,800	97,770	1,010,030
Glenwood	NR	NR	NR
Hobbs/Lea County	100,000	100,000	0
Keers Environmental, Inc. *	82,775	70	82,705
Kirtland AFB *	4,562,966	228,148	4,334,818
Los Alamos National Laboratory - Area-J	166	23	143
Lea County	5,699,000	74,319	5,624,681
Lea Land - Industrial	12,992	5,000	7,992
Logan - C&D	NR	NR	NR
Los Alamos County	1,030,000	100,000	930,000
Los Lunas	NR	NR	NR
Mosquero	3,000	1,368	1,632
Northeast NM Regional	5,800,000	114,500	5,685,500
Otero/Lincoln County	124,226	8.07	116,115
Pie Town	NR	NR	NR
Portales	NR	NR	NR
Raton	265,130	59,583	205,547
Northwest NM Regional *	2,485,538	165,703	2,319,835
Reserve	NR	NR	NR
Rio Rancho	5,932,300	277,900	5,654,400
Roswell	2,500,000	162,500	2,337,500
Roy*	700	450	250
San Juan County	2,428,200	699,766	1,728,434
Sand Point	6,773,933	133,057	6,640,876
Sandoval County *	2,986,805	385,394	2,601,411

## Appendix C - Continued

<b>FACILITY</b>	<b>Beginning Capacity CY</b>	<b>CY used in 1999</b>	<b>Remaining Capacity (CY)</b>
Santa Rosa	147,740	50,000	97,740
Sierra County *	521,335	19,453	501,882
Socorro	NR	NR	NR
Southwest	2,533,387	125,972	2,407,415
Southwest Regional	2,053,140	34,219	2,018,921
Sweetmeats - Special Waste *	6,002	33	5,969
Taos	41,400	27,600	13,800
Torrance County	4,776,519	103,076	4,673,443
Tri-Sect	0	0	0
Truth or Consequences *	244,772	15,917	228,855
Tucumcari	93,333	43,333	50,000
Vaughn	NR	NR	NR
White Sands (Main Post)	NR	NR	NR
<b>TOTAL</b>	<b>147,849,181</b>	<b>6,575,106</b>	<b>141,274,074</b>

\* Estimate based on 1998 Solid Waste Annual Report

NR Not Reported

## Appendix D - Materials Recycled – 1999

<b>MATERIAL</b>	<b>TONS</b>
Mixed paper	5,373
Old corrugated containers (OCC)	55,910
White paper	1,318
Computer paper	216
Magazines	84
Old newspaper (ONP)	15,932
Box board	405
Adjustment for duplicate facility handling & counting	<20,212>
Other paper	16,531
<b>Sub-Total – Paper</b>	<b>75,557</b>
Polyethylene Terephthalate (PET)	113
High Density Polyethylene (HDPE)	250
Other plastic	67
<b>Sub-Total – Plastic</b>	<b>430</b>
White goods	3,609
Iron	58,913
Steel/Tin cans	1,356
Other metal	20,814
<b>Sub-Total - Ferrous</b>	<b>84,692</b>
Aluminum	7,398
Other non ferrous	1,806
<b>Sub-Total – Non Ferrous</b>	<b>9,204</b>
Clear glass	619
Brown glass	417
Green glass	15
Mixed glass	2,460
<b>Sub-Total – Glass</b>	<b>3,511</b>
Anti freeze	219
Carpet padding	585
Tires	6,336
Motor oil	8,997
Lead acid batteries	607
<b>Sub-Total – Other</b>	<b>16,744</b>
Other organic	1,567
Used wood	93,025
Composting w/o sludge	5,916
Composting w/sludge	25,993
<b>Sub-Total – Other Organic</b>	<b>126,501</b>
<b>Total Tons</b>	<b>316,639</b>

## Appendix E - Tire Recycling Fund Status - 1999

NAME	OFFERED
Canadian River Association	\$200,000
City of Albuquerque	\$50,000
Grant County	\$70,000
Torrance County	\$130,000
<b>TOTALS</b>	<b>\$450,000</b>

Tire Recycling Fund grant offers were made to the entities named in the above table. Terms and conditions of the awards are currently being negotiated.

## Appendix F - 1999 Solid Waste Facility Grant Fund Awards

APPLICANT	AWARD	PROJECT
Angel Fire, et al	\$75,000	Construct transfer station
Bernalillo County	\$200,000	Renovate East Mountain Transfer Station
Central SWA	\$90,000	Purchase new collection vehicle for Magdalena
Clovis	\$300,000	Construct maintenance facility at the Clovis Landfill
Corona	\$17,500	Purchase compactor bin and open top container
De Baca County	\$180,000	Purchase landfill equipment and/or improvements
Grant County SWA	\$70,000	Purchase horizontal baler and containers; convenience centers
Guadalupe County	\$100,000	Purchase transfer equipment
Hidalgo County	\$125,000	Purchase truck, trailer, materials, and Animas LF closure transfer equipment
Lea County	\$264,000	Construct and equip 3 convenience centers
NW NM Reg. SWA	\$20,000	Purchase transfer equipment
Portales	\$150,000	Purchase equipment to transfer waste to Clovis Landfill
Raton	\$200,000	Purchase and install horizontal baler and conveyer
Ruidoso	\$200,000	Renovate Gavilan Canyon Transfer Station
Sangre de Cristo SWA	\$220,000	Purchase 2 truck chassis, trailer, and containers – San Miguel Co.
Sierra County	\$210,000	Purchase landfill equipment
Socorro County	\$100,000	Construct landfill
Taos County	\$210,000	Construct and equip convenience centers; Taos Landfill closure
Torrance County SWA	\$165,000	Purchase roll-off truck and accessories; construct convenience centers
Tucumcari	\$200,000	Purchase landfill equipment
Vaughn	\$80,000	Purchase containers and close landfill
<b>TOTAL</b>	<b>\$3,176,500</b>	

## Appendix G - Conversion Table

Category	Recyclable Materials ( u/c = uncompacted / compacted & baled )	Volume	Weight  (in pounds)
FOOD SCRAPS	Food scraps, solid and liquid fats	55-gal drum	412
GLASS	Whole bottles	1 Cubic Yards (CY)	500-700
	Semicrushed	1 CY	1,000-1,800
	Crushed (mechanically)	1 CY	1,800-2,700
	Uncrushed to manually broken	55-gal-drum	300
	Refillable beer bottles	1 case = 24 bottles	10-14
	Refillable soft drink bottles	1 case = 24 bottles	12-22
	8 oz glass container	1 case = 24 bottles	12
LEAD ACID BATTERIES	Car	1 battery	39.4
	Truck	1 battery	53.3
	Motorcycle	1 battery	9.5
METALS	Aluminum cans (whole)	1 CY	50-75
	Aluminum cans (compacted)	1 CY	250-430
	Aluminum cans (uncompacted)	1 full grocery bag	1.5
		1 case = 24 cans	0.9
	Ferrous cans (whole)	1 CY	150
	Ferrous cans (flattened)	1 CY	850
	Ferrous cans (whole)	1 case = 6 cans	22
	Air conditioners (room)	1 unit	64.2
	Dishwashers	1 unit	92
	Dryers (clothes)	1 unit	130
	Freezers	1 unit	193
	Microwaves ovens	1 unit	50
	Ranges	1 unit	181.1
	Refrigerators	1 unit	267
	Washers (clothes)	1 unit	177
Water heaters	1 unit	131	

## Appendix G - Conversion Table – Continued

Category	Recyclable Materials ( u/c = uncompacted / compacted & baled )	Volume	Weight (pounds)
PAPER	Newspaper uncompacted	1 CY	360-505
	Newspaper compacted/baled	1 CY	720-1,000
	Newspaper 12in stack	-	35
	Corrugated uncompacted	1 CY	50-150
	Corrugated compacted	1 CY	300-500
	Corrugated baled	1 CY	700-1,000
	Computer paper uncompacted	1 CY	655
	Computer paper compacted	1 CY	1,310
	Computer paper case	2800 sheets	42
	White Ledger stacked (u/c)	1 CY	375-465 / 755- 925
	White Ledger crumpled (u/c)	1 CY	110-205 / 325
	Ream of 20# bond; 8-1/2in.x11in	1 ream = 500 sheets	5
	Ream of 20# bond; 8-1/2in.x14in	1 ream = 500 sheets	6.4
	White Ledger	1 case = 72 pads	38
	Tab cards uncompacted	1 CY	605
	Tab cards compacted/baled	1 CY	1,215 -1,350
	Yellow legal pads	1 case = 72 pads	38
	Colored message pads	1 carton = 144 pads	22
	Telephone directories	1 CY	250
	Mixed ledger flat	1 CY	380/755
	Mixed ledger crumpled (u/c)	1 CY	110-205 / 610
	PLASTIC	Soda bottles whole uncompacted	1 CY
Soda bottles whole compacted		1 CY	515
Soda bottles whole uncompacted		Gaylord	40-53
Baled		30in.x60in.	500-550
Granulated		Semiload	30,000
Granulated		Gaylord	700-750
8 bottles (2L size)		16L	1
HDPE Baled		32in. x 60in	900
HDPE Granulated		Gaylord	800-1,000

## Appendix G -Conversion Table - Continued

Category	Recyclable Materials ( u/c = uncompacted / compacted & baled )	Volume	Weight (pounds)
	HDPE Granulated	Semiload	42,000
	Other plastic uncompacted	1 CY	50
	Other plastic compacted/baled	1 CY	400-700
	Mixed PET and HDPE	1 CY	32
	Film baled	Semiload	44,000
	Film baled	30in. x 42in. x 48in.	1,100
TEXTILE	Mixed textile	1 CY	175
TIRES	Car tires whole	1 tire	21
	Car tire crumb	1 tire	12
	Truck tires whole	1 tire	70
	Truck tire crumb	1 tire	60
WOOD	Wood chips	1 CY	625
	Pallets	-	30-100 (40 avg.)
YARD TRIMMINGS	Grass clippings uncompacted	1 CY	350-450
	Grass clippings compacted	1 CY	550-1,500
	Leaves uncompacted	1 CY	200-250
	Leaves compacted	1 CY	300-450
	Leaves vacuumed	1 CY	350
FURNISHINGS	Foam rubber mattress	1 mattress	55
MSW	Residential uncompacted	1 CY	150-300
	Commercial uncompacted	1 CY	300-600
	MSW (compacted in Truck)	1 CY	500-1,000
	MSW (landfill density)	1 CY	750-1,250

Source: EPA 530-R-97-011 September 1997 Measuring Recycling A Guide for State and Local Governments

## **Appendix H - Glossary of Terms**

Act -- The Solid Waste Act, NMSA 1978, Section 74-9-1 through 74-9-42.

Cell -- A confined area engineered for the disposal of solid waste.

Closed facility -- Any solid waste facility that no longer receives solid waste; and for landfills, those closed in accordance with the regulations in effect at the time of closure.

Compost -- Organic matter produced from solid waste which has undergone a controlled process of decomposition and pathogen reduction, and has been stabilized to a degree which is potentially beneficial to plant growth and which is used as a soil amendment, growing medium amendment or other similar uses.

Composting -- The process by which biological decomposition of organic solid waste is carried out under controlled conditions. The process stabilizes the organic fraction into a material which can be easily and safely stored, handled and used in an environmentally acceptable manner.

Construction and demolition debris -- Materials generally considered to be not water soluble and nonhazardous in nature, including, but not limited to, steel, glass, brick, concrete, asphalt roofing materials, pipe, gypsum wallboard and lumber from the construction or destruction of a structure project, and includes rocks, soil, tree remains, trees and other vegetative matter that normally results from land clearing. If construction and demolition debris is mixed with any other types of solid waste, it loses its classification as construction and demolition debris. Construction and demolition debris does not include asbestos or liquids, including, but not limited to, waste paints, solvents, sealers, adhesives or potentially hazardous materials.

Cooperative association -- A refuse disposal district created pursuant to the Refuse Disposal Act, NMSA 1978, Sections 4-52-1 through 4-52-15, or a sanitation district created pursuant to the Water and Sanitation District Act, NMSA 1978, Sections 73-21-1 through 73-21-54, a special district created pursuant to the Special District Procedures Act, NMSA 1978, Sections 4-53-1 through 4-53-11, a Solid Waste Authority created pursuant to the Solid Waste Authority Act, NMSA 1978 Sections 74-10-1 through 74-10-100, or other such association created pursuant to the Joint Powers Act, NMSA 1978 Sections 11-1-1 through 11-1-7.

Landfill -- A solid waste facility that receives solid waste for disposal.

Municipal landfill -- A discrete area of land or an excavation that receives household waste and that is not a land application unit, surface impoundment, injection well or waste pile as these terms are defined under 40 CFR 257.2. A municipal landfill may also receive other types of RCRA Subtitle D waste such as commercial solid waste, nonhazardous sludge, small quantity generator

waste, industrial solid waste, construction and demolition debris and other special wastes as defined in Section 105.BZ *New Mexico Solid Waste Management Regulations 20 NMAC 9.1* October 27, 1995 (NMSWR). A municipal landfill may be publicly or privately owned and may be existing, new or a lateral expansion.

Municipality -- Any incorporated city, town or village, whether incorporated under general act, special act or special charter, incorporated counties and class H counties.

Other organics -- The combined categories of recycled material including anti-freeze, cooking oil, carpet, and carpet padding.

Recyclable materials -- Materials that would otherwise become solid waste if not recycled and that can be collected, separated or processed and placed in use in the form of raw materials, products or densified-refuse-derived fuels.

Recycling -- Any process by which recyclable materials are collected, separated or processed and reused or returned to use in the form of raw materials or products.

Sludge -- Any solid, semi-solid, or liquid waste excluding treated effluent generated from a municipal, commercial, or industrial waste water treatment plant, water supply treatment plant, or air pollution control device.

Small exempt landfill -- Any new or existing municipal landfills or lateral expansion that dispose of less than 20 tons of solid waste daily, based on an annual average, and that are exempt from the design requirements in Subpart III of the NMSWR.

Small transfer station -- A transfer station with a total operational rate of 120 cubic yards or less per day of solid waste which does not include separated recyclable materials.

Solid waste -- Any 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.

Solid waste facility -- Any public or private system, facility, contiguous land and structures, location, improvements on the land, or other appurtenances or methods used for processing, transformation, recycling or disposal of solid waste, including landfill disposal facilities, transfer stations, resource recovery facilities, incinerators and other similar facilities.

Source reduction -- Any action that causes a net reduction in the generation, volume, or toxicity of solid waste.

Transfer -- The handling and storage of solid waste for reshipment, resale, or disposal, or for waste

reduction or resource conservation.

Transfer station -- A facility managed for handling and storage of solid waste in large containers or vehicles for transfer to another facility.

Transformation -- Incineration, pyrolysis, distillation, gasification or biological conversion other than composting.

Yard refuse -- Vegetative matter resulting from landscaping, land maintenance and land clearing operations.