

1. INTRODUCTION

To understand the present state of solid waste management in West Virginia it is important to understand the past and what brought us to where we are today. Prior to the mid-1970's, solid waste collection and disposal in West Virginia was largely uncontrolled. Municipal dumps were created to consolidate waste in one regional site rather than many small areas. In many instances, waste was burned at these open dumps to reduce the volume. This method of solid waste "management" frequently resulted in the degradation of surface and groundwater that served as sources of domestic and industrial water supplies. In addition, these open dumps provided breeding places for disease carrying insects, rodents, and other animals that are potentially injurious to the public health. The proliferation of these open dumps adversely impacted public and private property values and the natural beauty of the State. When left uncontrolled, open dumps had an adverse effect on tourism, in addition to other devastating economic consequences.

In 1977 the State Legislature created the Resource Recovery-Solid Waste Disposal Authority, now known as the Solid Waste Management Board (SWMB), in response to the 1976 Federal Resource Conservation and Recovery Act (RCRA) and accompanying regulations. The creation of this agency represented West Virginia's first attempt to establish a statewide solid waste management planning entity. Because the state's primary objective at that time was to reduce the risks to public health by requiring adequate daily cover of the solid waste deposited in landfills, the Department of Health (DH) issued the permits to establish landfills. No liners were required.

In the early 1980's, the U.S. Environmental Protection Agency (USEPA) revised the criteria for solid waste facilities that could receive household hazardous waste or small quantity generator hazardous waste. This resulted in requiring the installation of liners and leachate collection systems. Since municipal solid waste facilities could not guarantee that household hazardous wastes were not present in the waste stream they were required to install liners and leachate collection systems to prevent groundwater and surface water contamination.

A 1988 USEPA report¹ predicted that by 1991, 45% of all U.S. landfills would be filled to capacity. It recommended that landfills have double liners and meet more stringent regulatory requirements. Increased planning, management and recycling activities were also suggested leading to current regulations, which requires the preparation of a state solid waste management plan.

The WV State Legislature responded with several important pieces of legislation. Collectively, these laws did the following:

1. Authorized the creation of regional and/or county solid waste authorities;
2. Required the preparation of Comprehensive Litter and Solid Waste Control Plans and Commercial Solid Waste Facility Siting Plans by local authorities and an overall State Solid Waste Management Plan;
3. Established wastesheds and solid waste assessment fees;
4. Required commercial landfill operators to obtain certificates of site approval and need;
5. Established landfill closure deadlines and a closure assistance fund; and
6. Authorized, encouraged and/or mandated the establishment of municipal and county recycling programs, goals and procurement practices.

These laws will be discussed in greater detail in this plan.

In **1993**, the Legislature passed several more important pieces of legislation designed to:

1. Regulate the disposal of sewage sludge (Senate Bill 288);
2. Extend the closure dates for unlined and single lined landfills to allow owners of these facilities additional time to install composite liners while assuring adequate disposal capacity (Senate Bill 289);
3. Extend the deadline for prohibiting the disposal of yardwaste and lead acid batteries in landfills until June 1, 1994, and tires until June 1, 1995; and
4. Prohibit the use of incineration technology for solid waste disposal except in the development of pilot projects (House Bill 2445). This legislation also eliminated the distinction between in-shed and out-of-shed assessment fees.

During the **1994** legislative session, Senate Bill 1021 was enacted. This legislation:

1. Extended the closure dates of landfills to December 31, 1994 for landfills that had either started construction on a composite liner, had obtained financing for such construction, or had demonstrated good faith efforts to obtain such financing;
2. Extended the completion date for phasing in the implementation of mandated municipality curbside recycling programs from January 1, 1994 to July 1, 1995;
3. Extended the date on which yardwaste was banned from disposal in landfills from June 1, 1994 to January 1, 1996; and
4. Authorized the SWMB to request that the Secretary of the Department of Environmental Protection (DEP) place into escrow accounts, up to two million dollars to fund two years of debt service for publicly owned landfills and transfer stations in order for permittees to obtain loans.

In addition, the Legislature, by concurrent resolution, approved the statewide landfill closure plan developed by the Department of Environmental Protection in consultation with the Public Service Commission (PSC).

During the **1995** legislative session:

1. Senate Bill 313 extended the closure deadline for three landfills until January 1, 1996;
2. Senate Bill 349 extended the effective date of the landfill ban on yardwaste until January 1, 1997. The effective date of the tire ban was extended until June 1, 1996.

During the **1996** legislative session:

1. House Bill 4224 bundled the Bureau of Environment rules. Included were DEP rules (Solid Waste Management, Waste Tire Management, Sewage Sludge Management) and SWMB rules (Development of Comprehensive Litter and Solid Waste Control Plans.)

During the **1997** legislative session:

1. House Bill 110 provided one million dollars for landfill assistance loans. The monies would be transferred from the Department of Environmental Protection's Solid Waste Reclamation and Environmental Response Fund to the Solid Waste Management Board;
2. House Bill 2333, the DEP rules bill, authorized additional language regarding reasonable and necessary exceptions in the yardwaste rule.

In addition, the Legislature, by concurrent resolution, established an interim committee to study the issue of scrap tire management. The committee was directed to study tire disposal, develop environmentally friendly alternatives, and provide for the cleanup of scrap tire sites.

During the **1998** legislative session:

1. Senate Bill 178 corrected language in previous solid waste laws that a federal judge declared unconstitutional because they unjustifiably discriminate against the importation and disposal of waste from other states;
2. Senate Bill 600 enabled landfills that were allowed to remain open until January 1, 1996, to be eligible for landfill closure assistance;
3. Senate Bill 601 provided that if persons responsible for collecting, hauling, or disposing of solid waste do not participate in the collection and payment of solid waste assessment fees, they will not be eligible to receive grants for recycling assistance under the provisions of W.Va. Code § 20-11-5a(h)(1);
4. Senate Bill 602 allowed the Secretary of the Department of Environmental Protection to transfer up to fifty cents per ton of solid waste disposed of in the state from the Landfill Closure Assistance Fund to the Solid Waste Enforcement Fund. The bill also reallocated twenty-five cents per ton that previously was used to assist counties and municipalities with wastewater treatment projects from the West Virginia Development Office to the Solid Waste Management Board Planning Fund to fund a Business and Financial Technical Assistance Program;
5. House Bill 2274 permitted the sale on the open market of products made from waste tires by prison inmates; and
6. House Bill 2726 prohibited persons from dumping garbage or trash into dumpsters located on the property of another person if leased, owned, or otherwise maintained by another person.

During the **2000** legislative session:

1. Senate Bill 427 was passed to address the scrap tire issue. A newly created "Tire Refuse/Environmental Cleanup Fund" is funded by a temporary tax of \$5.00 that has been added to the fee for obtaining a certificate of title to a motor vehicle. This bill gave authority to the Division of Highways (DOH) to administer the fund and oversee the cleanup of tire piles which were prioritized on a "waste tire remediation list." Illegal tire dumpers or property owners where illegal tire piles are dumped are liable for cleanup costs. Only those tires collected as part of a DOH cleanup project, a DEP "Pollution Prevention and Open Dump" program, or other state-authorized program,

- and for which no markets are available, may be deposited in landfills. The DOH was also given the authority to establish a program for residents and businesses to bring waste tires to county DOH headquarters for a fee. Tire retailers must accept used tires in exchange for those sold. Also, under this bill, salvage yards are prohibited from accumulating more than 100 waste tires without a proper permit;
2. Senate Bill 448 amended W. Va. Code § 22C-4-3 relating to the terms served by Solid Waste Authority members by staggering the member appointments. The bill provided for more continuity in experience on the boards. With the passage of the bill, two positions on each authority were impacted: the member appointed by the Secretary of the Department of Environmental Protection and the member appointed by the Chairman of the Public Service Commission. Beginning July 1, 2000, the member appointed by the DEP was appointed to an initial term of one year and the member appointed by the PSC was appointed to an initial term of three years. Both members were appointed to four-year terms thereafter. In addition the two mayoral appointees on the regional solid waste authorities were appointed to initial terms of one and three years. As with the DEP and PSC appointments, future appointments are to be made for four-year terms. The chart in Appendix H details the changes in both county and regional solid waste authorities when the new terms began;
 3. Senate Bill 306 and Senate Bill 308 authorized the Division of Natural Resources (DNR) to promulgate rules relating to the recycling grant program and the litter control grant program, respectively;
 4. House Bill 4192 authorized the DEP to promulgate rules on prevention and control of air pollution from combustion and refuse;
 5. House Bill No. 4230 authorized the Department of Environmental Protection to promulgate rules on the prevention and control of emissions from solid waste landfills;
 6. House Bill 4380 amended W. Va. Code § 11-13K-2 (relating to tax credits for agricultural equipment) and W. Va. Code § 20-11-7 (relating to the recycling program). The bill is intended to promote the beneficial use of poultry litter by (1) allowing a tax credit for its use as an agricultural fertilizer, and (2) requiring that the use of composted or deep stacked poultry litter products be given priority by all state agencies in their land maintenance and landscaping activities; and
 7. House Bill 4801 extended the deadline for submission of an application for landfill closure assistance from January 1, 1999 to December 31, 2000.

During the **2001** legislative session:

1. House Bill, 2222, "The Litter Bill", amended the criminal provisions related to littering and the enforcement of penalties. It also created the misdemeanor offense of littering from a motor vehicle. Additional provisions of the bill include: 1) restructuring penalties based on amounts of trash thrown out rather than number of offenses, 2) made picking up litter a mandatory sentence for anyone convicted of littering, 3) assessing points against driver's license for littering from a car, 4) assessing convicted litterer a fine of not less than \$100 or more than \$1,000 for cleanup, investigation and prosecution of the case, 5) directing money from civil penalties to a litter control fund for SWAs to be spent on litter prevention, cleanup and enforcement, 6) clarifying that SWAs may expend any available funds to operate solid waste

- facilities, litter control programs and recycling programs, 7) removing funds transferred from solid waste facilities operated by SWAs from the jurisdiction of the Public Service Commission and 8) allowing county commissions to hire county litter control officers.
2. House Bill 2218 elevated the Bureau of Environment to the Department of the Environmental Protection, a cabinet level department within the executive branch of government.
 3. Senate Bill 12 amended the definition of "solid waste" to exclude yardwaste, allowing residents to pile yardwaste on their own property.
 4. Senate Bill 406 authorized litter control officers to issue citations.
 5. Senate Bill 548 made failing to subscribe to solid waste disposal service or provide proper proof of disposition of waste a misdemeanor offense.
 6. Senate Bill 635 created and imposed a tax on the sale of new and reconditioned tires in WV to be used in waste tire remediation.
 7. Senate Bill 709 empowered county commissions to establish, operate and maintain residential garbage and refuse collection and disposal services by use of county-wide curbside collections points or green boxes.
 8. Senate Bill 715 allowed the Division of Highways to use funds from the tire remediation/environmental cleanup fund to pay people who turn in waste tires under the tire disposal program. Also, allowing payment to waste tire processing facilities to accept waste tires and authorizing the fund to be used for the tire disposal program.

During the **2002** legislative session:

1. Senate Bill 609 amended the Solid Waste Management Act as it relates to dealing with violations and penalties, and created a criminal penalty for illegal waste tire piles. The bill states, any person convicted of accumulating or disposing of one thousand or more tires is guilty of a felony and upon conviction, shall be imprisoned for no less than one and no more than five years and shall be required to clean up and properly dispose of the waste tires or reimburse the state agencies for the costs incurred in cleaning up the waste tires. Further, any person convicted may be fined not more than fifty thousand dollars for each day of the violation.
2. House Bill 4163 was bundled and gave approval to revisions to the Solid Waste Management Board's rule, 54CSR5 Disbursement Of Grants To Solid Waste Authorities, along with several other DEP bills.

During the **2003** legislative session:

1. Senate Bill 649 amended the Waste Tire Remediation and A. James Manchin Fund to finance infrastructure projects relating to waste tire processing facilities, which have a capital cost of not less than three hundred million dollars.

During the **2004** legislative session:

1. Senate Bill 444 requires county litter control officers to enforce litter laws established pursuant to W.Va. Code § 20-7-24 through 29 and Litter Control Programs.
2. House Bill 4027 created the “environmental excellence program”, creating incentives to exceed minimum environmental law requirements. It is a voluntary program, administered by the Department of Environmental Protection, allowing facilities which exceed minimum environmental standards to become eligible for benefits awarded to program participants.
3. House Bill 4455 allowed for the continuation of the A. James Manchin Fund, transferring the remaining balance of the funds to the state road fund and allowing the waste tire remediation program to continue until the first day of July, two thousand six, unless terminated sooner.

The purpose of developing the Solid Waste Management Plan is to:

1. Meet the requirements of W. Va. Code § 22C-3-7;
2. Comply with USEPA regulatory requirements for state plans found in 40 CFR, Part 256, Subparts A-G;
3. Ensure that adequate capacity of environmentally protective solid waste disposal facilities exist to meet the needs of the people of West Virginia;
4. Determine state actions required to meet the state’s reduction and recycling goals and other solid waste management policies; and
5. Provide guidance to local solid waste authorities and municipalities in meeting the state goals and solid waste management policies through implementation of integrated solid waste management programs. The planning horizon covered by this document extends to the year 2024. The plan is to be updated every two years in accordance with the Code.

The first step in developing a solid waste management plan for West Virginia is to determine the amount of solid waste generated in the state and to project the amounts that will be generated based on current and projected population levels. Perhaps more than any other factor, the demographics of an area, including geography, population, economic base, income, land use, and available transportation routes, determine both the waste generated in an area and the alternatives available to manage that waste. Some of the differences in the solid waste stream and management alternatives can be attributed to geographic region and population densities. As a result, for the purposes of analysis and because they already exist, all counties in the state are grouped and analyzed on the basis of wastesheds. First established in 1978, wastesheds are those areas which have common solid waste management problems and are appropriate units for planning solid waste management services.

This plan will also inventory existing solid waste management facilities and assess their capacities and the likelihood of their continued operation into the planning horizon. In 1988, the state promulgated emergency rules which became permanent in 1990 as part of 33CSR1, requiring the installation of double liners, daily cover provisions, leachate treatment, 30 year closure provision for ground and surface water monitoring and performance bonds. This plan will identify current

wasteshed tonnage capacities and project the available wasteshed tonnage capacities as a result of the legislation. It will also compare these capacities with waste generation rates in the beginning and at the end of the planning horizon. The plan will also identify the size, location and ownership of the remaining landfills and analyze these factors in determining whether they meet the solid waste management needs of the state and result in an economical and efficient solid waste disposal system.

If the only method of solid waste management being considered for West Virginia's future were landfilling, an estimate of the quantity of waste currently being disposed of and projected quantities for the future would be adequate for solid waste management planning. However, on the West Virginia hierarchy of solid waste management options, landfilling is the last alternative. Reduction, recycling, and reuse are preferred.

The state is in the planning and implementation phase of alternatives to landfilling. It is necessary to have a detailed understanding of the characterization of waste quantities and composition during these planning and implementation phases. The purpose of characterizing the composition of the waste generated is to assist in the planning of programs and facilities that are in accordance with the hierarchy of solid waste management alternatives established for West Virginia. A general characterization is sufficient to identify strategies and opportunities for future waste management on a statewide level. However, it is valuable to assess the quantity and composition data that is currently available in West Virginia and develop a strategy to best assemble the data that will support more detailed planning efforts in the future.

To the extent the data is available, the plan will examine existing practices to collect, reduce, recycle, reuse, compost, and dispose of solid waste and to manage special wastes. Based on the information about the tonnage of waste disposed of and the tonnage recycled, this assessment characterizes the current waste stream and makes projections about the future waste stream.

The second step in the development of a state solid waste management plan involves the identification, discussion, and analysis of current state programs (legislation) for solid waste management. This includes an evaluation of resources, program elements, and responsibilities in order to assess the needs of the state. In addition to an identification of goals, this step will include a discussion of issues and actions required to meet those goals. For example, a discussion of W. Va. Code § 20-11, "West Virginia Recycling Program", will include the identification of goals and issues such as technical assistance, public information, collection methods, and market development.

It should be understood that the planning recommendations presented in this document are oriented toward the achievement of strategic long term goals. Many of these goals can be found in state enabling legislation. These recommendations may appear to conflict with more short term or tactical recommendations advanced by other operating agencies responsible for day-to-day management of solid waste. However, it is important to be aware that one can arrive at a single destination via several routes and/or detours. Consideration and integration of several strategies will likely yield a better system for solid waste management.

1.1 Goals and Objectives

Provide an overall state plan for the proper management of solid waste:

- Consistent with the findings and purposes of W. Va. Code § 22-15, 22C-4, and 20-11; and
- Incorporating the county or regional plans developed pursuant to W. Va. Code § 22C-4-8 and 22C-4-24.

Legislative Findings

Uncontrolled, inadequately controlled and improper collection, transportation, processing and disposal of solid waste:

- Is a public nuisance and a clear and present danger to people;
- Provides harborage and breeding places for disease-carrying, injurious insects, rodents, and other pests harmful to the public health, safety and welfare;
- Constitutes a danger to livestock and domestic animals;
- Decreases the value of private and public property, causes pollution, blight, and deterioration of the natural beauty and resources, and causes adverse economic and social effects on the state and its citizens; and
- Results in the squandering of valuable, renewable, and recyclable resources contained in solid waste.

Materials recovery, or recycling of solid waste, and its proper disposal is beneficial for the general welfare of the citizens of this state. Materials recovery and recycling reduce the need for additional landfills and extend the life spans of the existing ones. Disposal of solid waste of unknown composition threatens the environment and the public health, safety and welfare. Therefore, it is in the public interest to identify the type and amount of solid waste accepted for disposal at West Virginia solid waste facilities.

1.2 Mission Statement

To provide guidance and direction to the state, county and municipal governments in:

- Protecting the public health and welfare by establishing a comprehensive program of solid waste collection, processing, recycling and disposal to be implemented by state and local government in cooperation with the private sector;
- Assisting in the planning and implementation of effective recycling programs;
- Reducing our solid waste management problems by establishing programs and plans based on an integrated waste management hierarchy. These are in order of preference.

Source Reduction:

Minimization of waste production and generation through product design and reduction of toxic constituents of solid waste.

Recycling, Reuse and Materials Recovery:

Separation and recovery of valuable materials from the waste stream through composting of food and yardwaste and by marketing recyclables.

Landfilling:

Reserved for non-recyclables and other materials that cannot practically be managed in any other way. This management option is a last resort.

1.3 State Priority Goals

It is the responsibility of the state to provide adequate, concise, realistic and environmentally appropriate rules for siting, design, construction and operation of all solid waste management facilities. It is the responsibility of the solid waste authorities and municipalities, with the state's assistance and guidance, to determine which method of solid waste management is economically feasible, health conscious, and environmentally sound for their particular community. The primary objective of developing and implementing a comprehensive state plan should be to protect the public safety, health and welfare of its citizens by:

- Providing for the safe and sanitary disposal of solid waste from all residential, commercial and industrial sources;
- Reducing the degradation of both ground and surface waters by eliminating open dumps, the promiscuous discarding of solid waste, and other deleterious methods of solid waste disposal;
- Eliminating the harborage and breeding places of insects and rodents that carry disease or are otherwise injurious to the public health, safety, and welfare;
- Reducing the volume of recyclable materials entering the waste stream; and
- Increasing the property values and restoring the natural beauty of the state by removing unsightly litter and open dumps from roadsides, streams, and other public places.

In order to accomplish these objectives, goals must be identified which are based on policies created through legislation that are consistent with the hierarchy of decision-making in an integrated solid waste management program.

GOALS

1. To reduce the amount, by weight, of solid waste disposed of at municipal solid waste disposal facilities through source reduction, recycling, reuse and composting on a statewide per capita basis.
2. To ensure that an adequate capacity of environmentally protective solid waste disposal facilities exists to meet the needs of the people of West Virginia.
3. To establish guidance, standards, rules and permitting requirements for reduction, recycling, reuse and composting programs, and facilities that will promote these practices.
4. To develop and implement educational programs that increase the awareness and understanding of the need to effectively reduce and manage solid waste among state officials, solid waste professionals, local government decision-makers, educators, business and industry personnel, the general public and students.
5. To develop solid waste reduction plans and increase the amount of materials

- recycled from state, county, municipal agencies, organizations and colleges.
6. To institute requirements, procedures and guidance that result in the implementation of local integrated solid waste management programs including appropriate management methods to deal with all components of the solid waste stream.
 7. To establish technical assistance programs to increase recycling, reuse and composting by local governments, private industry, commercial businesses and the general public.
 8. To establish and locate adequate and sustainable markets for materials recovered from the solid waste stream and educate administrators of local programs about marketing the materials.
 9. To ensure adequate and stable funding for the state solid waste management programs.
 10. To reduce littering and illegal dumping of solid waste in West Virginia.
 11. To establish mandatory solid waste collection systems in West Virginia.

1.4 Scope and Purpose

An integrated solid waste management system for the state of West Virginia is essential to reduce waste and preserve landfill capacity. Continued reliance on landfills will not solve the solid waste management problem. Alternative disposal methods must be investigated, including source reduction, recycling, reuse, and materials recovery with a view toward maximizing the benefits and minimizing the cost of each method of waste management.

W. Va. Code § 22-15-10 prohibits open dumps and makes it unlawful for any person to create, contribute to, or operate an open dump. It also prohibits landowners from having open dumps on their property unless it is approved by the DEP. It is also unlawful for any person “to install, establish, construct, modify, operate, or abandon any solid waste facility unless they hold a valid permit from the DEP.”

Solid waste appears to mean almost any by-product or unwanted material. In reality, its seemingly wide definition excludes many items and materials both explicitly and implicitly. Many air and water pollutants are not considered solid waste nor are hazardous or medical wastes, as these wastes have very different management needs.

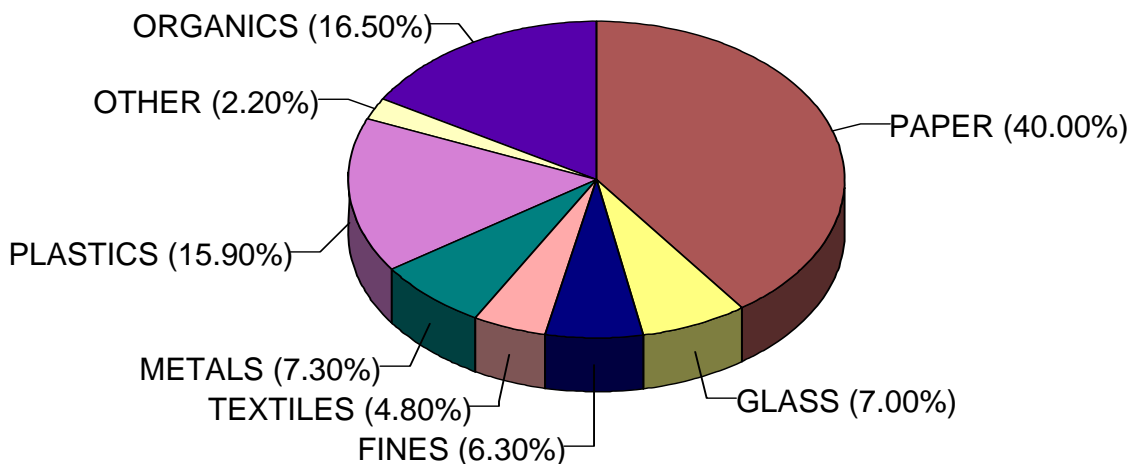
Waste generation and waste disposal are often used interchangeably. However, they have very different meanings. Waste disposal is the total amount of waste actually disposed of; waste generation is the total amount of waste disposed of plus the amount of material recycled and composted. The most recent calculations from the EPA indicate that U.S. residents, businesses and institutions generate more than 217 million tons of solid waste, which is approximately 4.4 pounds of waste per person per day, up from 2.7 pounds per person per day in 1960.² It is estimated that West Virginia generates 1.32 million tons per year of solid waste.³ The amount of waste generation in a particular region is dependent upon many variables, such as the number of residents, lifestyle habits, weather, season, number of holidays and the number and various types of commercial businesses and industry present in that particular region.

According to a 1997 waste characterization study conducted for the SWMB, the solid waste stream in West Virginia consisted of 40% paper, 16.5% organics, 15.9% plastics, 7.3% metals, 7% glass, 6.3% miscellaneous fines, 4.8% textiles and 2.2% other (Figure 1-1).⁴ These figures are calculated by weight.

Figure 1.1 Total WV Waste Generation, 1997

Total WV Waste Generation (1997)

Percent (by weight) before recycling



SOURCE: SWMB Solid Waste Characterization for Wastesheds F & H in WV (1997)

The USEPA uses slightly different categories to generate national figures. Their data on total waste generation indicates the solid waste stream consisted of: 35.7% paper, 12.2% yardwaste, 11.1% plastics, 5.7% wood, 5.5% glass, 7.9% metals, 11.4% food waste, 7.1% rubber, leather and textiles and 3.4% other (Figure 1-2). These figures are also calculated on a weight basis.⁵

Currently in the United States, approximately 30% of all municipal solid waste is recovered and recycled or composted, 15% is burned at combustion facilities and the remaining 56% is disposed of in landfills (Figure 1-3).⁶

The West Virginia Recycling Act, pursuant to W. Va. Code § 20-11-3, established a state goal of 50% reduction of the waste stream by 2010, with interim goals of 30% by 2000 and 20% by 1994. These goals may be reached by reduction, reuse, recycling and composting.

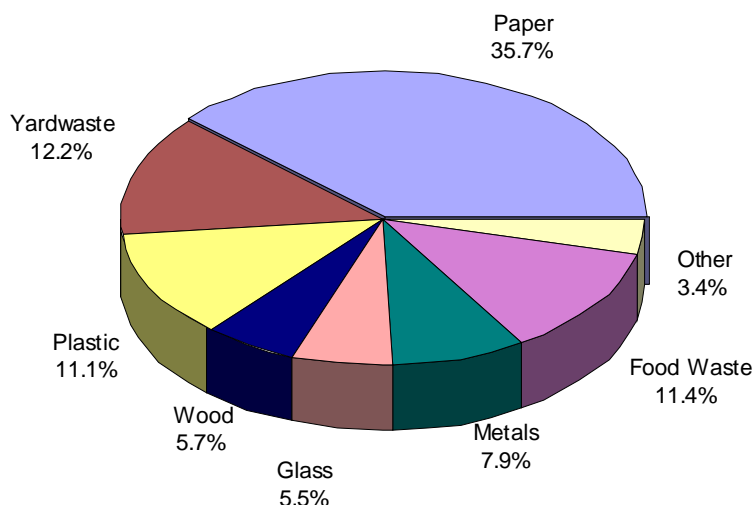
The US EPA has established a solid waste hierarchy in which source reduction is the highest level. The next level consists of reusing, recycling and composting. The third and last level consists of waste combustion and landfilling.⁷ In 1991, the West Virginia Legislature adopted a different hierarchy eliminating waste combustion. (W. Va. Code § 22C-4-1)

1. Source reduction;
2. Reuse, recycling and materials recovery; and
3. Landfilling.

Figure 1.2 Total US Waste Generation 2001

Total US Waste Generation (2001)

Percent (by weight) before recycling



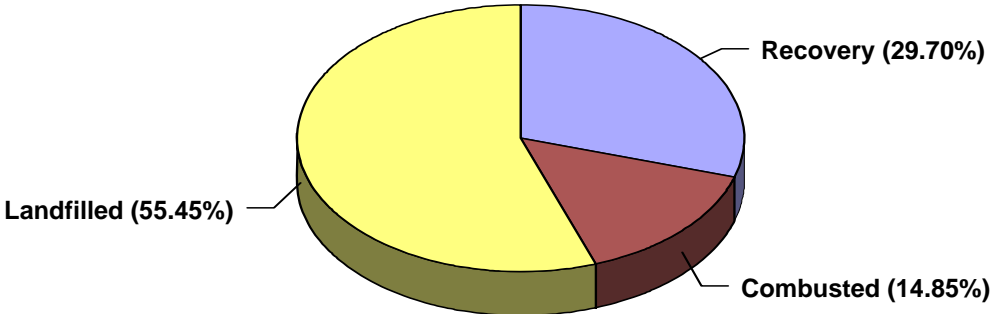
SOURCE: US EPA

The solid waste hierarchy is a useful tool for communities for setting goals and planning for solid waste management. The hierarchy is an arrangement of choices in which the higher levels are the most preferred options. All levels of the hierarchy are necessary. The SWMB has directed the local solid waste authorities to evaluate the solid waste hierarchy and include a description of this evaluation and how the authority gives preference to alternatives under the hierarchy in their Comprehensive Litter and Solid Waste Control Plans.

The first step in controlling litter and managing waste disposal is reducing the amount of solid waste being generated. Reduction could be achieved through education and drastic changes in public attitude toward the convenience of disposable packaging and products or through the passage of laws. Source reduction must occur at the manufacturing level. State and local authorities also need to be more involved in public education activities designed to impact the consumer attitude. Even with a successful educational plan and a radical change in consumer philosophy, solid waste will continue to be generated. Materials will have to be identified and separated from the waste stream while some waste will continue to be landfilled.

Figure 1.3 Management of Municipal Solid Waste in US, 2001

Management of MSW in US (2001)



SOURCE: US EPA

1.5 Summary of Agencies' Responsibilities

Department of Environmental Protection (DEP)

Three sections of the DEP are involved in solid waste management: the Division of Water and Waste Management (DWWM), Division of Land Restoration (DLR) and Environmental Enforcement (EE). EE enforces those regulations promulgated by the DWWM.

A single permit is required by W. Va. Code § 22-15, The Solid Waste Management Act, for operation of a solid waste facility. This permit must be issued in compliance with W. Va. Code § 22-11, The Water Pollution Control Act and consists of two parts: one requiring the review and approval of the DWWM and the other which incorporates the National Pollutant Discharge Elimination System (NPDES) requirements.

The DWWM is primarily responsible for the comprehensive permitting of solid waste facilities. When applications for permits are received, with the exception of Class F (industrial solid waste disposal) facilities, the DWWM reviews them for completeness and accuracy, checks for unfinished prerequisites, and investigates the background information of persons associated with the private operations. Once a facility is permitted, the DWWM oversees construction and/or renovation in accordance with regulation, permits and laws. If the need arises, the DWWM makes recommendations for legislative and regulatory changes, and the DWWM prepares preliminary drafts of regulations for public review. The DWWR is responsible for the discharge portion of the permit.

The Division of Land Restoration operates the Landfill Closure Assistance Program (LCAP) and the Pollution Prevention and Open Dump Program (PPOD). LCAP provides landfill closure assistance to the permittees of landfills which were required to close pursuant to certain closure deadlines. PPOD promotes clean-ups and prevention practices that help to eliminate open dumps.

The DWWM also serves as a data resource center. They accumulate various records and reports such as monthly and yearly tonnage reports. Upon request, the DWWM allows public access to this information. Across the state, the DWWM is responsible for permitting 62 (open and closed) sanitary landfills (Class A, B & C) for compliance with storm water and leachate control requirements. Initially, general permits were issued to those facilities without discharge.

The Office of Solid Waste, within the DWWR is responsible for completing site specific permits which enforce Solid Waste rules on lined ponds and sediment basin sizing. The DWWR issues WV/NPDES Water Pollution Control Permits for industrial and domestic wastewater discharges and develops permit requirements for wastewater disposal systems for solid waste facilities. The OWM currently permits industrial solid waste facilities in compliance with the requirements of W. Va. Code § 22-11, 22-12, and 22-15. A single Solid Waste/NPDES Water Pollution Control Permit is issued by DWWR for these facilities.

The DWWR is responsible for solid waste facilities, excluding Class F.

Environmental Enforcement (EE) is responsible for performing inspections and sampling to determine the compliance status of facilities permitted by the DWWM. They also provide compliance assistance to the regulated community through informal consultations with staff

members, training classes, “how-to” manuals, and referrals to federal, state and private industry resources and by conducting pre-closure inspections of industrial facilities.

EE utilizes criminal, civil and/or administrative enforcement procedures to compel compliance when necessary. They investigate citizen’s complaints related to point and non-point water pollution (non-coal), solid waste management, open dumps and industrial and construction stormwater and groundwater concerns.

EE places top priority on response to spills and fish kills. These investigations often entail close cooperation with local, state and federal agencies. ⁸

Division of Natural Resources (DNR)

The DNR is involved in solid waste management through participation in the Make-It-Shine program, Recycling Assistance Grants, Annual Educational Conference on Litter Control and Solid Waste Management and West Virginia Litter Laws.

Make-It-Shine is a comprehensive program involving state and local governments, business and industry and local community organizations working together to make West Virginia clean. Through cleanup, recycling, education, law enforcement and waste reduction, the program aspires to encourage West Virginians to make a personal commitment and take pride in our natural resources.

The Recycling Assistance Grants are funds generated by a recycling assessment fee levied and imposed upon the disposal of solid waste at all solid waste disposal facilities in this state. The director of the DNR allocates the proceeds of this fund. The majority of the funds are disbursed in grants to assist municipalities and counties for the planning and implementation of recycling programs, public education programs and recycling market procurement efforts. The Environmental Resources Section awards these grants.

Until 2003, the Governor’s Conference on Environmental Resources brought together approximately 400 business and industry leaders, municipal officials, government representatives, recyclers, environmentalists, and other key-players in the proper management of solid waste. The speakers from national, state and regional levels provided their expertise for technical education, increasing public support for effective integrated recycling and solid waste programs, and ways to expand markets for recycled materials. In 2004, the DNR joined with the Association of West Virginia Solid Waste Authorities to host the first Educational Conference on Litter Control and Solid Waste Management. The joint conference replaced the Governor’s Conference and the Association of West Virginia Solid Waste Authorities Conference, which were previously independent events.

Public Service Commission (PSC)

The PSC must grant or deny a Certificate of Need (CON) to any person applying for a permit from the DEP to construct, operate, or expand a commercial solid waste facility or a major modification to an existing permit. In considering whether to grant a Certificate of Need, the commission considers the following:

- The total tonnage of solid waste, regardless of geographic origin, that is likely to be delivered each month to the facility if the certificate is granted;

- The current capacity and lifespan of other solid waste facilities that are likely to compete with the applicant's facility;
- The lifespan of the proposed or existing facility;
- The cost of transporting solid waste from points of generation to the disposal facility;
- The impact of the proposed or existing facility on needs and criteria contained in the statewide solid waste management plan; and
- Any other criteria which the commission regularly utilizes in making such determinations.

The PSC may deny a Certificate of Need based upon one or more of the following:

1. The proposed capacity is unreasonable in light of the total tonnage of solid waste that is likely to be delivered each month to the facility if the certificate is granted;
2. The location of the facility is inconsistent with the statewide solid waste management plan;
3. The location of the facility is inconsistent with any applicable county or regional solid waste management plan;
4. The proposed facility is not reasonably cost effective in light of alternative disposal sites;
5. The proposal, taken as a whole, is inconsistent with the needs and criteria contained in the statewide solid waste management plan; or
6. The proposal, taken as a whole, is inconsistent with the public convenience and necessity.

Additional responsibilities of the PSC include the establishment and enforcement of rates and fees charged by commercial solid waste facilities.

Solid Waste Management Board (SWMB)

The SWMB is the coordinator between the Solid Waste Authorities (SWAs) and other State agencies in the area of solid waste management. The Board is composed of seven members. The Secretary of the Department of Health and Human Resources (DHHR), the Secretary of the DEP, or their designees, are members ex officio. The other five members are appointed by the Governor, by and with the advice and consent of the Senate; two appointees having three years of professional experience in solid waste management, civil engineering or regional planning and three appointees who are representatives of the general public.

One of the major duties of the SWMB staff includes providing technical assistance to the county and regional SWAs in the preparation, review, implementation, and update of their Comprehensive Litter and Solid Waste Control Plans and Commercial Solid Waste Facility Siting Plans. Rules have been established in the development of those plans that are consistent with the legislation. If an Authority fails to submit a plan, the SWMB staff must develop a plan for that local or regional SWA.

A Business and Financial Assistance Section program was funded in the 1998 legislative session to provide assistance to those SWAs and other public entities that operate solid waste facilities. The SWMB was directed to monitor those public facilities that have received loans, loan guarantees, or grants from the state in order to ensure proper use of funds, as well as the implementation of sound business practices in the operation of their facilities.

The objective is to build viable entities and eliminate the need for an eleventh hour financial bailout to keep operations going. The Legislature established a pro-active program that detects small

problems early and seeks solutions before they become larger issues. This program has been fully operational since January 1999.

Along with providing assistance and training to the SWAs, municipalities and other interested parties in identifying and securing markets for recyclables, the SWMB must provide help in the education of the public for source reduction, recycling and reuse. The critical need in waste management is communication through market access and public education to encourage people to reduce, reuse and recycle properly, and to realize that they are part of a larger continuous effort. In accordance with public awareness and heightened recycling, the SWMB must review mandatory recycling plans for consistency with criteria provided in legislation and county and statewide plans. In addition, as per W.Va. Code § 20-11-5(h), the SWMB must approve proposals for the establishment of materials recovery facilities for municipalities having a population greater than 30,000.

Through initiatives in research and development, the SWMB has prepared a comprehensive program for proper handling of yardwaste and lead acid batteries. A tire program has also been completed. For the extensive state outlook, the SWMB has the responsibility of preparing an overall state plan for the proper management of solid waste which incorporates the county and regional plans. The Board completed a study in 1997 entitled, "Solid Waste Characterization Study for Wasteshed F and Wasteshed H in West Virginia."

END NOTES FOR SECTION 1

1. USEPA, *A Report to Congress: Solid Waste Disposal in the United States*, 1988.
2. U.S. Environmental Protection Agency website, September 2000, www.epa.gov/epaoswer/non-hw/muncpl/facts.htm.
3. Figures developed from 2000 census information for West Virginia (1, 808,344) and per capita generation as reported by the Environmental Protection Agency and GAI Consultants, March 1997.
4. GAI Consultants, *Solid Waste Characterization Study for Wasteshed "F" and Wasteshed "H" in West Virginia*, West Virginia Solid Waste Management Board, Charleston, WV, March 1997.
5. U.S. Environmental Protection Agency website, September 2000, www.epa.gov/epaoswer/non-hw/muncpl/facts.htm.
6. Ibid.
7. Environmental Protection Agency, *An Agenda for Action*, p. 18-19.
8. Personal communication with Rick Pino and information obtained from the DEP's web site.