West Virginia Solid Waste Management Plan 2007

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The 2007 West Virginia Solid Waste Management Plan emphasizes the importance of integrated waste management based on the hierarchy of:

- **Source Reduction**
- **Reuse**
- **Recycling**
- **Landfilling**

WEST VIRGINIA
SOLID WASTE MANAGEMENT PLAN

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EXECUTIVE SUMMARY

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Prior to the mid 1970s, solid waste collection and disposal in West Virginia was largely uncontrolled. Waste management was accomplished by creating municipal dumps, with the idea of isolating pollution to a few large areas. In many instances, waste was being burned in open dumps to reduce the volume. This method of solid waste "management" often resulted in the degradation of surface and groundwaters that serve as sources of domestic and industrial water supply.

The purpose of developing this Plan is to:

1. Meet the requirements of W. Va. Code § 22C-3-7.
2. Comply with U.S. Environmental Protection Agency (USEPA) regulatory requirements for state plans found in 40 Code of Federal Regulations (CFR), Part 256, Subparts a-f.
3. Ensure that an 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 reduction and recycling goals and other solid waste management policies.
5. Provide guidance to local solid waste authorities and municipalities in meeting the state goals and solid waste management policies, trough implementation of integrated solid waste management programs. Theplanning horizon covered by this document extends to the year 2026. In accordance with the code the plan is to be updated very two years.

LANDFILLS

As of September 1, 2006, West Virginia had 18 Municipal Solid Waste (MSW) landfills and 18 transfer stations in operation throughout the state. The most recent landfill closure occurred in September, 2002, at the Webster County Landfill. The Department of Environmental Protection (DEP) revoked Webster County's permit in 2004 and the authority is in the process of appealing the DEP's decision to the Environmental Quality Board (EQB). Midwest Disposal in Summers County closed in 2001. In 2004, HAM Landfill in Monroe County, which was previously permitted for asbestos only, was permitted and has begun accepting municipal solid waste. As of September 1, 2006, there were 18 MSW landfills (see Figure 3-1). This does not include Copper Ridge Landfill in McDowell which is currently under construction and will begin taking waste in the near future. Table 3-1 identifies the MSW landfills open on September 1, 2006.

Significant consolidation activity occurred in the hauling and disposal sectors of the solid waste management industry over the last several years. However, the Public Service Commission (PSC) has reported seeing that trend slowing in 2006. As of September 27, 2004, PSC had

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approved all of the motor carrier certificates of need (MC) petitioned for by Waste Management, Inc. to merge into one entity. Figures from 2000 show that Waste Management owned 5 of the 18 landfills and controls 38% of the state's permitted capacity.

In assessing disposal needs and projecting revenue to support solid waste management programs, it is imperative to identify the movement of solid waste into and out of the state. In 2003, 229,386 tons of waste were imported for disposal into West Virginia landfills from adjacent states; whereas in 2005, 166,592 tons were imported. In 2003, 382,975 tons of solid waste were exported to landfills located in adjacent states, whereas, in 2005, 413,688 tons of waste were exported. The result of the import and export activity in 2005 was that 247,096 more tons of waste left the state than entered. As of publication there appears to be sufficient disposal capacity for the foreseeable future.

Composting's role in managing solid waste continues to be important. There are currently 4 permitted commercial composting facilities and 21 registered composting activities in WV.

West Virginia's solid waste management statutes were revised in the 1998 legislative session to correct language in the statutes which had been declared unconstitutional.

SOURCE REDUCTION AND RECYCLING

The West Virginia Recycling Act established recycling goals that would reduce the per capita disposal of solid waste 20% by January 1, 1994, 30% by January 1, 2000 and 50% by January 1, 2010. In accordance with these goals this document attempts to examine every facet of reduction, reuse and recycling of West Virginia's municipal waste stream. It also attempts to evaluate the degree to which these efforts have been successful. This plan defines certain types of recycling projects and processes. Recommendations are made that would increase the likelihood of the state meeting its waste diversion goals. The predominant conclusion in most sections of this plan shows the need for more public education and awareness to achieve the above stated legislative goals.

The major task in any public information program is to evaluate the target audience, set goals and keep the message simple. Public service announcements, leaflets and promotional material will help get the message across.

Section 5.2 on **Source Reduction** details waste reduction and reuse, waste prevention programs, enviroshopping, government procurement, reuse and the West Virginia Materials Exchange. Recommendations and conclusions from this section are listed below:

- Change of consumer purchasing behavior patterns occur gradually; therefore, ongoing public information programs will be required to achieve source reduction.
- Estimates of total potential sales of products made from recycled material to state, county and municipal agencies and the private sector are needed. This could lend support for encouraging manufacturers to locate in West Virginia to produce products made from recycled materials.
- Recycled purchases by the state should include, at a minimum, paper products, motor oil, laser printer toner cartridges and printer ribbons, plastics, lumber, buckets, boxes, parking lot tire stops, signposts, highway guardrail supports, fence posts, highway paving material, outdoor park equipment, and compost.
- The state should encourage local businesses and governments to purchase recycled-content products by providing information about product availability and performance and by sponsoring product shows, workshops and seminars on buying.
- Local solid waste authorities (SWAs) should sponsor swap meets for reusable items and flea markets to promote waste exchange.
- Charitable organizations or civic groups can promote product reuse by repairing items so they can be reused. In promoting reuse, they also provide job opportunities.
- The Solid Waste Management Board (SWMB) has established the West Virginia Materials Exchange to connect producers and users of recyclable materials. The Exchange can be accessed via the Internet, at www.state.wv.us/swmb/exchange or by catalog.

Section 5.3, **Potential Recyclables Characterization and Analysis,** assesses the state legislative goals and establishes the methodology for providing sound interpretation of the municipal waste stream and the diversion rates needed to achieve the mandated goals. Conclusions and recommendations for this section follow:

- Given current solid waste management practices, it will be difficult, if not impossible, to achieve the recycling goals established by the legislature.
- A concerted effort must be made to increase the participation and capture rate in existing recycling programs. This will require development and implementation of a public information program.
- New and innovative ideas must be formulated to provide an incentive for people to reduce or recycle. One such idea might be a variable rate system, also referred to as “pay as you throw”. This type of collection rate may be more equitable to the citizens and give them the incentive to reduce and/or recycle their household waste.
- Each SWA or processing facility should identify the major

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components that characterize their waste stream. They should analyze the marketability of each material and develop a plan that will achieve a constant flow of recyclables to the marketplace.

- The type and amount of material generated is directly impacted by demographics, socio-economic conditions and type of dwellings. Each solid waste authority or recycling center should evaluate the conditions that make up its residential base.
- A survey of industry and business should be conducted to determine their involvement in recycling, the types of waste they are generating and what they are or could be recycling.
- It may be necessary to increase the number and percentage of subscribers to a collection service to maximize participation in a curbside recycling program.
- Currently there are no reporting requirements that effectively gauge the diversion of MSW from landfills by recycling. There is only the reporting of tonnage deposited into landfills.
- Legislation should be considered that would have recyclers report the amount of waste diverted through recycling while protecting the privacy of proprietary business information.
- A waste characterization study for urban and rural areas was completed in 1997. It was determined that the state average waste generation rate is 4 lb. per person per day.

Section 5.4, **Recycling Facilities**, describes existing recycling facilities, their location and information on their recycling programs. It is recommended that a study be conducted to determine the processing capacity of existing publicly and privately owned recycling equipment and identify where additional equipment may be required.

Section 5.5, **Markets**, provides a market overview, an assessment of existing markets, a definition of marketable wastes, a listing of cooperative markets, barriers to future markets, market development, staffing and possible future markets. This section also includes a discussion of electronic recycling. Recommendations and conclusions for this section are listed below:

- Shipping secondary materials long distances to markets may make costs greater than the selling price.
- An assessment of the local and regional marketplaces for each material to be recycled should be conducted before designing a recycling program.
- Cooperative marketing should be pursued by rural counties to improve their position in the marketplace.

- A number of small intermediate materials processing facilities have been established around the state. For the most part these facilities are operated by the solid waste authorities. The majority of them do not have all the equipment they need and are too small to market materials in high enough volumes to bring in revenue sufficient to sustain their efforts.

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Section 5.6, **Recyclable Materials Collection**, identifies different types of collection systems including: municipal curbside collection, county curbside programs, drop-off programs, buy-back centers, multi-family housing collection, commercial, institutional and industrial recovery, state agencies, college and universities, primary and secondary schools and state tourism areas. It also identifies special wastes and hauler involvement. The following conclusions and recommendations were identified:

- Curbside programs will achieve maximum participation, but are more costly than drop-off programs.
- In some rural areas of the state, curbside programs would not be feasible due to sparse population and lack of accessibility to homes because of the mountainous terrain. Convenient locations and ongoing education and promotion are important factors in the successful operation of drop-off centers.
- Each SWA should coordinate with their respective municipalities, contract haulers, commercial and in industrial establishments in addition to their recycling center to give input for their county or regional plan.
- Local SWAs need to work with businesses and trade organizations to provide information utilizing existing printed materials and to get feedback on recycling efforts. State incentives, such as those discussed in the section on Source Reduction, could be offered to business and industry to achieve recycling goals and encourage the use of recycled materials in their manufacturing process.

Processing Facilities are discussed in Section 5.7. It defines material recovery facilities and evaluates planning criteria for their location.

Public Education, Information and Administrative Needs are discussed in Section 5.8. This section identifies the need to involve the general public, commercial and institutional establishments and industries in the educational process. America Recycles, an annual nationwide event celebrated on November 15, is also discussed. The event promotes the social, environmental and economic benefits of buying recycled content products.

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- Education has become as crucial to a recycling program's success as stable markets and permanent collection sites.
- An overall campaign for recycling should be implemented and coordinated in the form of public service announcements, news releases, flyers, posters, educational material and speaking engagements to schools, workshops and community groups.
- A state steering committee made up of private and public partners is in place to organize volunteers and events for America Recycles. All SWAs should sponsor events and participate in America Recycles.

Section 5.9, **Roles and Responsibilities**, explains the roles of county and regional solid waste authorities, county commissions and municipalities. It also defines the responsibilities of the SWMB, the DEP, the DNR, the Public Service Commission (PSC) and various recycling programs and grants provided by the state.

Permitting Requirements for most recycling centers and facilities are listed in Section 5.10. They cover all phases of the permitting process.

- The permitting process is a long and arduous process with overlapping requirements. It may be possible to streamline the process.

Funding, Section 5.11, explains the sources and distribution of funding for West Virginia's recycling programs and the concept of Full Cost Accounting.

SPECIAL WASTES

Hazardous Waste

Hazardous wastes have been regulated since 1976 by the Federal Resource Conservation and Recovery Act (RCRA). RCRA was amended in 1984 by the Hazardous and Solid Waste Amendments (HSWA). The regulations that define and govern management of hazardous wastes are codified in 40 CFR, Protection of the Environment.

W. Va. Code § 22-18 is the Hazardous Waste Management Act. The Secretary of the DEP has the responsibility for the promulgation of rules. These rules are to be consistent with the federal regulations but can be no more stringent.

The DEP, Division of Water and Waste Management (DWWM), is the enforcement agency in the regulation of hazardous waste.

Household Hazardous Waste (HHW)

The USEPA criteria for hazardous waste status applies to paints,

thermometers, flammables, carcinogenic chemicals and other home use chemicals. Because Congress did not intend to cover household items in the rigid waste control mechanism or RCRA they are generally accepted in nonhazardous municipal solid waste landfills.

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Although paint cans, insecticides, cleaning supplies, motor oil, aerosol sprays, medicines, cosmetics and solvents account for less than one percent (1%) of the solid waste stream, they still pose a health risk to sanitation workers and hazards to equipment and the environment.

Sewage Sludge Disposal

The disposal of municipal sewage sludge (MSS) generated within West Virginia is regulated by the DEP in two ways: through the issuance of National Pollutant Discharge Elimination System (NPDES) permits under the Title 33 Series 2 Rules and by defining wastes that can be disposed of in solid waste facilities under Section 4.13.8 of the Title 33 Series 1 Rules. The issuance of NPDES permits are the responsibility of the DWWR of the DEP and is the primary method of regulating MSS disposal. The landfilling of sludge is now limited to 12,500 tons per month for Class A facilities and 5,000 tons per month for Class B facilities.

Water treatment facilities, like wastewater treatment facilities, are under DEP's regulatory control. The regulating of these facilities is part of the comprehensive program for managing sludge. DEP has assumed the permitting responsibilities of package treatment plants as part of their comprehensive sludge management program.

Agricultural Waste

Agricultural waste has been disposed of utilizing land application. However, poultry producers are now being challenged to effectively utilize litter. The Legislature passed House Bill 4380 in 2000 to promote the beneficial use of poultry litter by allowing a tax credit for its use as an agricultural fertilizer and requiring the use of composted or deep stacked poultry litter products be given priority by all state agencies in their land maintenance and landscaping activities.

Other agricultural waste problems include the "farm dump" and the disposal of chemicals used on the farm. The animal remains disposed in landfills are poultry and livestock. The emergence of the aquaculture industry will be accompanied by an increase in the amount of fish carcasses and waste that must be disposed of or composted. Other states such as Georgia, Maryland and Virginia are currently composting poultry remains. The promulgation of composting rules provides West Virginia with an alternative to landfilling these wastes.

Pollution Control Residuals

The major producers of air pollution control residuals are electric power

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generation plants, coal producers, foundries, chemical plants and cement kilns. All power plants in West Virginia use coal to produce electricity. Each power plant has its own landfill. The largest is the John Amos Power Plant in Putnam County. Also, all coal producers, foundries and cement kilns use coal as a fuel, with some chemical plants also using coal as an energy source.

All coal producers and cement kilns in West Virginia have their own landfills or refuse piles. Some chemical plants have their own landfills. According to DEP Division of Air Quality (DAQ) officials, the cost of on-site ash disposal is roughly equivalent at a municipal solid waste landfill and an on-site industrial landfill. Although costs are similar, many chemical plants have concerns about their on-site industrial landfills becoming potential USEPA superfund sites.

Mining Waste

West Virginia is the second leading producer of coal in the United States. Two types of mining exist within the state: underground and mountain top mines. Although the ways of extracting the coal differ greatly, the waste or "gob" generated is the same. In both cases, only the seam of coal is removed. However, this seam contains unusable gob along with the coal. The gob/coal is transferred to a preparation plant where the usable coal is screened out. The rest of the gob is disposed of on-site in a gob pile, also known as a stock or refuse pile. Today, 30% of this previously unusable gob generates power because of available new technology.

The DEP's Division of Mining and Reclamation (DMR) promulgates rules on refuse piles, such as diversions, underdrains and compacting requirements and for impoundments.

Industrial Waste

According to DEP Industrial Solid Waste Rules, 33CSR1, Section 2.5.4, "industrial waste" means any solid waste generated by manufacturing, or industrial processes that is not a hazardous waste regulated under subtitle "C" of RCRA. Such wastes may include, but are not limited to, waste resulting from factories, processing plants, refineries, fertilizer/ agricultural chemicals; food and related products/by-products; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals, manufacturing/foundries; organic chemicals; slaughter houses, mills, tanneries, electric power generating plants, mines or mineral processing operations; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; textile manufacturing; transportation equipment; and water treatment.

The major producers of industrial wastes in West Virginia are mining operations (coal refuse) and coal fired electricity generators (fly ash and

bottom ash). The majority of industrial wastes are disposed of in an industrial solid waste landfill.

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Industrial wastes are regulated by DEP Solid Waste Management Permitting Unit and industrial permits under the DEP Division of Water and Waste Management. The average permitted industrial waste disposed of in on-site industrial landfills, according to the DEP-DWWM is approximately 453,111 tons/month.

A total of 93,207 tons of industrial waste was disposed of in West Virginia MSW landfills during 2005. This represents 9% of the total municipal waste stream according to the DEP-DWWM landfill tonnage reports. This, however, is only a portion of the industrial waste generated in West Virginia in one year as most industrial waste goes to Class F industrial disposal facilities.

Bulky Goods

The PSC established an application and approval procedure for haulers to implement a regularly scheduled residential bulky goods collection service.

Tires

In 2000, the Legislature passed Senate Bill 427 in order to address the concerns over waste tire piles. It created a new fund called the "A. James Manchin Fund" which is funded by a temporary tax of $5.00 on issuance of motor vehicle titles. The Division of Highways was given the authority to administer the fund and oversee the remediation of the scrap tire piles. As of August 12, 2002, the program had collected $7,453,036 and had spent $2,289,809 cleaning up 185 of the 201 identified tire piles. By September 2004, all identified piles had been cleaned up.

During the 2005 legislative session, W. Va. Code § 22-15A-9 established that the Commissioner of the Division of Highways shall work with and may use moneys in the Fund to contract with the Secretary of the DEP to accomplish the remediation of waste tire piles. The Fund consists of the proceeds from the sale of waste tires, fees collected by the Division of Motor Vehicles and any other funding source available for waste tire remediation. Any unprogrammed balance remaining in the Fund at the end of the fiscal year is transferred to the State Road Fund.

In addition, W. Va. Code § 22-15A-10 gave the Secretary the authority to establish a tire disposal program within the DEP to provide for a cost effective and efficient method to accept passenger car and light truck waste tires at locations designated by the DEP. The Secretary may pay a fee for each tire and may also establish a limit on the number of tires an individual or business may be paid for during any calendar month.

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During 2006, a state wide waste tire collection received 4,925.39 tons of waste tires. The tires were properly disposed of by West Virginia Tire Disposal, Inc.

ECONOMIC IMPACT OF MUNICIPAL SOLID WASTE MANAGEMENT

The proper management of municipal solid waste provides a significant and measurable boost to the state through job creation and contributes millions of dollars to the state's economy annually. For instance:

- West Virginia's landfills, transfer stations, waste haulers and recycling centers paid out approximately $60 million dollars in wages in 2005.
- These same organizations and businesses maintained at least 2,079 jobs during the same period.
- Salaries and wages in waste management compare favorably to other relevant employment sectors ranging from $496 to $610, compared to $381 in the retail sector.

CONCLUSIONS

Although West Virginia and the local SWAs have stepped up their solid waste management activities in recent years, there is still much to be done to meet the objectives of recent solid waste management legislation and to effectively manage solid waste. The purpose of the WV Solid Waste Management Plan is to identify what actions still need to be taken and who should take them.

An integrated solid waste management system, which includes source reduction, reuse and recycling, is essential to reduce waste and preserve landfill capacity. Continued reliance on landfills as the sole disposal method will not solve the solid waste management problems. West Virginia must comply with USEPA regulations (40 CFR, Part 256, Subparts A-G) which require that states look at alternative methods including source reduction, reuse, recycling and materials recovery.

If West Virginia and its local SWAs continue to make progress toward the goals contained in this Plan, the state will be successful in managing its solid waste in a manner that protects public health, the environment and reduces the waste stream destined for disposal.

Chapter 1

Introduction

1. INTRODUCTION

Notes

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 also had an adverse effect on tourism, in addition to other devastating economic consequences.

In 1977 the state created the Resource Recovery-Solid Waste Disposal Authority, now known as the Solid Waste Management Board (SWMB), in response to the 1976 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/or surface water contamination.

A 1988, USEPA report 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:

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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.
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.
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 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.
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, ap proved the statewide landfill closure plan developed by the Department of Environmental Protection in consulta tion with the Public Service Commission (PSC).

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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

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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.
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 au-

thority 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 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.
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 li-

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cense 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 countywide 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.

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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 capitol 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.

During the **2005** legislative session:

1. Senate Bill 428 related to the Rehabilitation Environmental Action Plan (REAP) by addressing the improper management of commercial and residential solid waste, which can adversely affect West Virginia's natural resources and public health. To ensure these issues are managed efficiently, this legislation consolidated litter control, open dump elimination and reclamation, waste tire clean up and recycling programs into one program to be maintained by the Department of Environmental Protection. It also set forth penalties for wrongful disposal of litter and to promote pollution prevention, it provides for

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litter control and recycling programs and education.

2. House Bill 3356 related to the powers and duties of the Solid Waste Management Board; providing for performance reviews of authorities and performance measures; required proposal of legislative rules for implementation of review process and system; circumstances under which solid waste management board is authorized to intervene in and supersede the exercise of authority related to certain county or regional solid waste authorities that operate a solid waste facility; provided for establishment of a uniform chart of accounts delineating common revenue and expense account naming conventions to be adopted by all county and regional solid waste authorities; and requiring audits of authorities.

During the **2006** legislative session:

1. House Bill 4453 related to law-enforcement powers and duties of conservation officers; provided for the statewide authority of conservation officers to enforce litter control laws; and related to the procurement and execution of related arrest and search warrants dealing with littler control.

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.
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 2026. 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.

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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. 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 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

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the tonnage of waste disposed 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.

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-3, 22C-4, and 22-15A.
- 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 harm ful 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.
- 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 ex-

tend 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.

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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

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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.
- 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.

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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, this 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 in 2003 indicates that U.S. residents, businesses and institutions generate more than 236.2 million tons of solid waste, which is approximately 4.5 pounds of waste per person per day, up from 2.7 pounds per person per day in 1960.[2] It is estimated, using figures from the 2000 census, that West Virginia generates 1.32 million tons per year of municipal 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 com-

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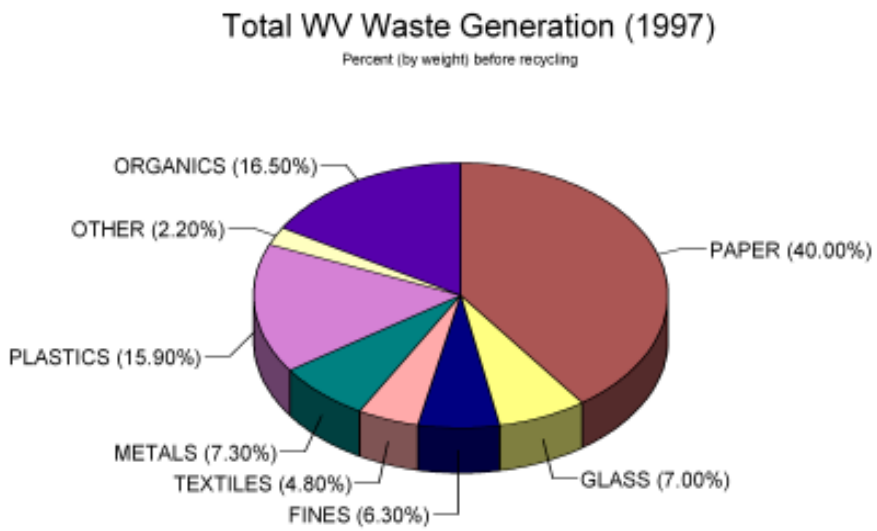
mercial businesses and industry present in that particular region.

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.

SWMB FIGURE 1-1



The USEPA uses slightly different categories to generate national figures. Their data on total waste generation indicates the solid waste stream consisted of: 35.2% paper, 12.1% yardwaste, 11.3% plastics, 5.8% wood, 5.3% glass, 8% metals, 11.4 7% food waste, 7% 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, 14% 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 § 22-15A-16 established a state goal of 50% reduction of the waste stream by 2010. These goals may be reached by reduction, reuse, recycling and composting.

The USEPA 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 com-

bustion 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.
3. Landfilling.

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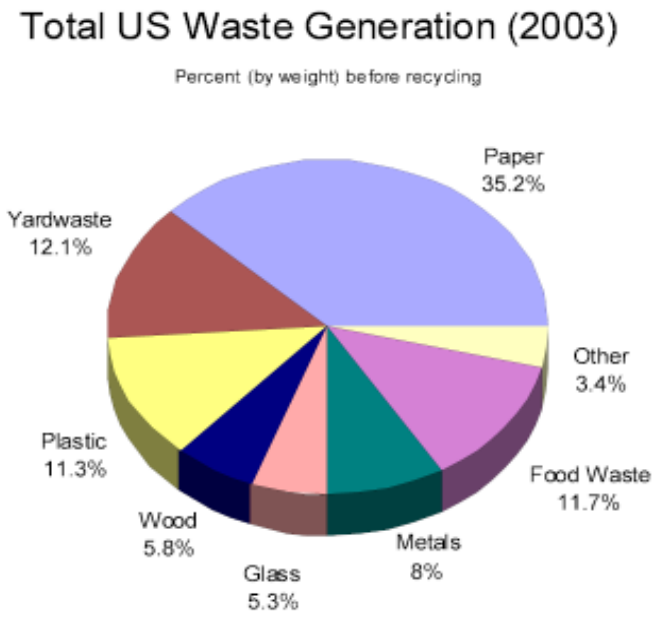
SWMB FIGURE 1-2



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, 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 con-

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sumer 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.

1.5 Summary of Agencies' Responsibilities

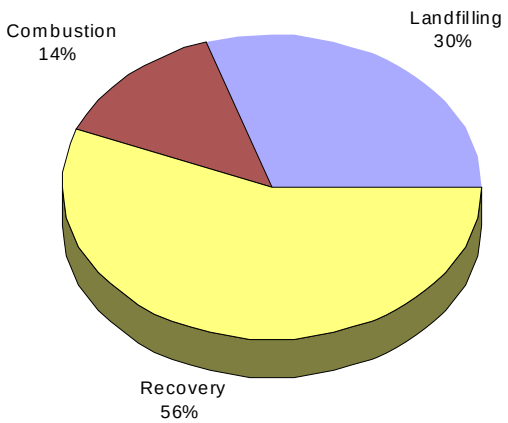
Department of Environmental Protection (DEP)

Within the DEP the following areas are involved in solid waste management: the Division of Water and Waste Management (DWWM), the Office of Environmental Remediation, through the Landfill Closure Assistance Program and Rehabilitation Environmental Action Plan (REAP), and Environmental Enforcement (EE). EE enforces those regulations promulgated by the DWWM.

SWMB FIGURE 1-3

Management of MSW in US (2003)

(Total Weight = 229 Million Tons)



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 pre-requisites, 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.

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The Office of Environmental Remediation operates the Landfill Closure Assistance Program (LCAP) and REAP programs such as 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 cleanups 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 (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 Waste Management, 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 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, 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]

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REAP is also involved in solid waste management through participation in the Make It Shine program, Adopt A Highway, Operation Wild Flower, 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, local governments, business, 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 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 Association of West Virginia Solid Waste Authorities, REAP and other sponsors host the annual Educational Conference on Litter Control and Solid Waste Management. The joint conference replaced the Governor's Conference on the Environment and the Association of West Virginia Solid Waste Authorities Conference, which were previously independent events.

Division of Natural Resources (DNR)

DNR conservation officers are involved in solid waste management through enforcement of litter laws. A portion of the officer's salary is paid through solid waste assessment fees.

Public Service Commission (PSC)

The PSC can grant or deny a Certificate of Need (CON) which is a permit required for construction, operation and expansion of a commercial solid waste facility. 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.

- Any other criteria which the commission regularly utilizes in making such determinations.

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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.
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 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 opera-

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tion 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. The program has been operational since January 1999.

In 2005, the legislature through House Bill 3356 gave the SWMB the responsibility of developing performance measures for and conducting performance reviews of solid waste authorities.

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 §22-15A-18(h), the SWMB in conjunction with the PSC 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 2006, 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 2006 , 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.

Chapter 2

Population and Solid Waste Projections

2. POPULATION AND SOLID WASTE PROJECTIONS

Notes

2.1 Demographics[1]

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 that is generated in an area and the options available to manage that waste. For example, a county with a low density population and little industry will not only have a smaller wastestream for disposal, but the wastestream will be comprised primarily of residential waste that may differ in composition from commercial and industrial waste. Management options, such as markets for recyclables or the construction of disposal facilities, will be different in these areas as opposed to more urbanized areas.

The number and capacity of solid waste management facilities needed and the availability of land for these facilities also varies among regions. In West Virginia, demographics vary tremendously across the state. Therefore, this section of the plan is devoted to a description of the demographics of West Virginia as a whole and of its seven (7) wastesheds. The remaining sections of this volume will draw upon the demographic data presented here and its impact on solid waste management in West Virginia.

After an uninterrupted period of growth from 1870 through1930, West Virginia's population level began to fluctuate. It increased by 104,000 during the 1940s, declined by 145,000 in the 1950s, lost another 116,000 in the 1960s, increased 205,000 in the 1970s, decreased 156,000 in the 1980s and stabilized in the 1990s with a population growth of just under 15,000. Most counties followed the state's trend. Only 3 counties lost population in the 1970s, and only 10 counties gained population in the 1980s.

Despite the large fluctuations, the states population was only 67,000 people fewer in 1990 than in 1960. The total 1990 state population was 1,793,477. Although the ups and downs almost balanced statewide, county populations varied sharply. Berkeley, Jefferson, Monongalia and Putnam each gained between 17,000 and 26,000 people from 1960 to 1990, whereas Kanawha, Logan, McDowell and Ohio each lost 17,000 to 46,000 people. The state lost 4% of its population, but McDowell lost 51%, Berkeley gained 75% and Jefferson gained 92%.

A clear geographical pattern formed. Twelve counties grew more than 15% and 9 declined by more than 15%. The gaining counties mostly were either in or near the eastern panhandle or in the center of the triangle formed by Charleston, Huntington and Parkersburg. The declining counties mostly clustered in the southern coalfields or northern panhandle.

From an economic perspective, West Virginia was hit hard in the 1980s by employment declines in well-paying basic industries, particularly mining

Notes

and certain manufacturing sectors. These changes reduced spending power within the state, affecting other industries and leading to increased population out migrations.

In the 1990s West Virginia's economic performance outpaced that of the previous decade but did not exhibit significant growth. While the population of the nation as a whole grew by 13.1%, West Virginia's population increased by only 0.8%. West Virginia experienced an overall population increase of 14,467 people, twenty five counties declined in population with four southern coalfield counties losing 11% to 22% of their populations. Population loss was also acute in the northern panhandle and parts of central West Virginia. The eastern panhandle counties of Jefferson, Berkeley, Morgan, Hardy and Hampshire along with Putnam experienced significant gains in population.

According to US Census figures available at the time of publication, for the period January 2000 through December 2005, West Virginia grew by 0.5% as opposed to a US growth rate for the same period of 5.3%. Between 2010 and 2030, the state is projected to grow by 2.0%. Local population growth seems to be following the patterns of the 1990s. While it appears the states population will be stable over the next twenty years, various regions within the state are expected to experience various levels of growth or decline. For the period, 2010 - 2030, the population of Wasteshed A is expected to decline by 2.9%, Wasteshed B is projected to increase by 2.9%, Wasteshed C is projected to increase by 0.6%, Wasteshed E increased by 12.0%, Wasteshed F is projected to decline by 0.2%, Wasteshed G is projected to decline by 1.9% and Wasteshed H is projected to increase by 0.4%.

2.2 Wasteshed Analysis

For the purpose of waste management, the state has been divided into seven zones, referred to as "Wastesheds." Each wasteshed has its own demographic characteristics and its own set of waste management needs.

Solid waste planning includes the prediction of future needs. Section 2.2 provides tonnage projections based on population projections compiled by the West Virginia University Regional Research Institute (RRI) and a waste characterization study conducted for the Solid Waste Management Board by GAI Consultants of Charleston, WV. The study was completed in March 1997.

Tonnage projections in this section are computed using the four pounds per person, per day rate indicated by the SWMB waste characterization study, which is discussed in Section 2.3 of this chapter, along with projected population rates from RRI. It should be noted that all projections, both population and tonnage, are based on historical data. They do not factor in external concerns such as economic fluctuations, variations in the local business activity, changes in law or government regulation and many other factors that tend to affect the local wastestream.

In part, waste projections are calculated using long-term population projections obtained from the Regional Research Institute (RRI) at West Virginia University. To calculate long term population changes, RRI uses birth and death rates combined with in-migration and out-migration rates. In-migration and out-migration rates are released by the US Census Bureau in five year units. For instance, 1985-1990, 1990-1995 and 1995-2000. The projections in this chapter are based on the most current data available at the time of publication.

Data presented in the "projected landfill tonnage requirements" tables in Section 2.2 constitutes municipal solid waste only as defined by 33CSR1, Solid Waste Management Rule. The tables on "wastestream composition" detail tonnages received by landfills for the last full year that data was available providing a summary of non-municipal solid waste needs.

Using these calculations, Section 2.2 provides a wasteshed by wasteshed analysis of projected population rates and monthly municipal solid waste tonnage projections along with a summary of non-municipal solid waste needs through the year 2030.

Notes

Notes

Wasteshed A

Wasteshed A consists of Brooke, Hancock, Marshall, Ohio, Tyler and Wetzel counties, all located in the extreme northern part of the state. Wasteshed A currently has three approved solid waste facilities; the Wetzel County Landfill, the Short Creek Landfill and the Brooke County Landfill. In addition, the area has access to several landfills in the state of Ohio. For a detailed discussion of landfills and waste imports and exports, see Chapter 3.

Population projections covering the years 2010 through 2030 indicate that populations in 4 out of 6 counties will decrease. Hancock County is expected to lose around 6.2%, Marshall 6.0%, Wetzel 7.1% and Brooke 0.1%. Tyler is expected to grow by 4.3%. Ohio County will neither grow nor decline. Overall, Wasteshed A population will decline by 2.9%.

FY 2005 Wastestream Composition for Wasteshed A[2]

Municipal Solid Waste (MSW)		Non Municipal Solid Waste (NMSW)	
Residential Waste	42.9%	Asbestos	0.1%
Commercial Waste	21.8%	Construction/demolition	4.5%
Sewage Sludge**	12.8%	Industrial Sludge	3.1%
Total MSW	**77.5%**	Industrial Waste	12.2%
		*Other Waste	1.8%
		Petroleum Contaminated Soil	0.8%
		Tires	0.0%
		Total NMSW	**22.5%**

*Other waste consists of various components that on an individual basis make up less than 2% of the wastestream.

**According to 33CSR1, Solid Waste Management Rule, “Municipal Solid Waste means any household or commercial solid waste as defined in this rule and any sludge from a waste treatment plant or a water treatment plant.”

Figure 2-1 Projected Population 2010 through 2030 for Wasteshed A

Notes

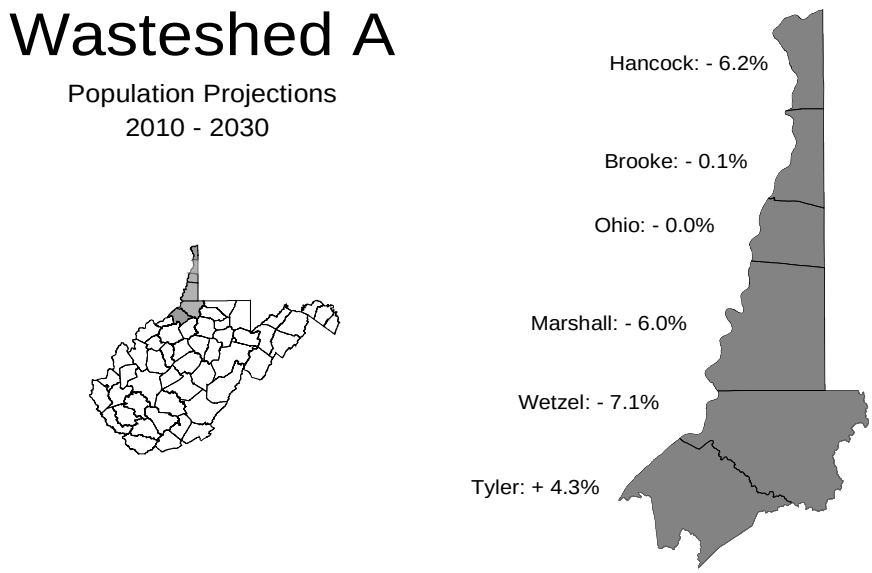


Table 2-1 Projected Monthly Municipal Solid Waste Tonnage for Wasteshed A

	2010	2015	2020	2025	2030
Brooke	1,477	1,460	1,453	1,455	1,464
Hancock	1,823	1,772	1,741	1,723	1,716
Marshall	2,022	1,975	1,944	1,924	1,908
Ohio	2,715	2,681	2,673	2,687	2,715
Tyler	583	587	593	601	609
Wetzel	983	955	936	924	918
Totals	**9,603**	**9,430**	**9,340**	**9,314**	**9,330**

Notes

Wasteshed B

Wasteshed B consists of 14 counties in north and north central West Virginia including Barbour, Braxton, Clay, Doddridge, Gilmer, Harrison, Lewis, Marion, Monongalia, Preston, Randolph, Taylor, Tucker and Upshur counties. Wasteshed B has four approved solid waste facilities; the City of Elkins Landfill in Randolph County, the Tucker County Landfill, S & S Grading and Meadowfill landfills in Harrison County. There is also one waste tire monofill, the Pace Tire Monofill, located near Kingwood in Preston County.

Overall the population of Wasteshed B is expected to be stable through 2030. Nine of the fourteen counties in Wasteshed B are expected to gain population through 2030. The majority of growth in Wasteshed B will come from Braxton, Doddridge, Monongalia and Taylor counties. Only Clay, Preston, Upshur and Tucker will decline. Overall, Wasteshed B will grow by 2.9%.

FY 2005 Wastestream Composition for Wasteshed B

Municipal Solid Waste (MSW)		Non Municipal Solid Waste (NMSW)	
Residential Waste	43.0%	Asbestos	3.9%
Commercial Waste	23.7%	Construction/demolition	11.9%
Sewage Sludge**	3.1%	Industrial Sludge	0.9%
Total MSW	**69.8%**	Industrial Waste	10.4%
		*Other Waste	1.8%
		Petroleum Contaminated Soil	0.8%
		Tires	0.5%
		Total NMSW	**30.2%**

*Other waste consists of various components that on an individual basis make up less than 2% of the wastestream.

**As defined by 33CSR1, Solid Waste Management Rule, "Municipal Solid Waste means any household or commercial solid waste as defined in this rule and any sludge from a waste treatment plant or a water treatment plant."

Figure 2-2 Population Projections 2010 through 2030 for Wasteshed B

Notes

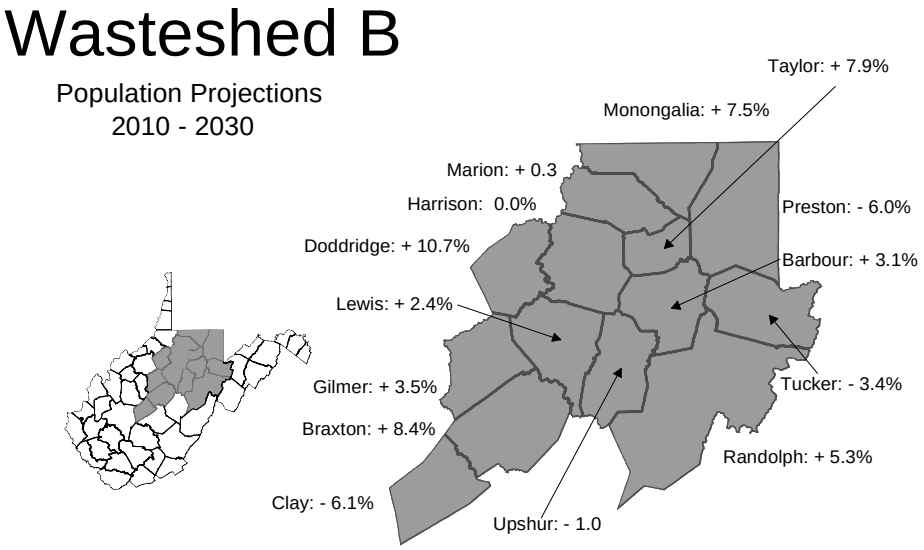


Table 2-2 Projected Monthly Municipal Solid Waste Tonnage for Wasteshed B

	2010	2015	2020	2025	2030
Barbour	936	939	947	956	966
Braxton	942	967	991	1,012	1,029
Clay	595	583	574	567	561
Doddridge	480	496	511	525	538
Gilmer	422	424	427	433	441
Harrison	4,015	3,988	3,986	3,996	4,015
Lewis	1,005	1,006	1,012	1,020	1,030
Marion	3,304	3,280	3,276	3,290	3,313
Monongalia	5,106	5,192	5,265	5,377	5,518
Preston	1,689	1,658	1,635	1,615	1,594
Randolph	1,734	1,755	1,780	1,806	1,831
Taylor	1,013	1,032	1,055	1,078	1,100
Tucker	418	410	406	404	404
Upshur	1,367	1,358	1,357	1,363	1,373
Totals	**23,026**	**23,088**	**23,222**	**23,442**	**23,713**

Notes

Wasteshed C

Wasteshed C is located on the northwestern West Virginia/Ohio border and consists of five counties including Jackson, Pleasants, Ritchie, Wirt and Wood. Wasteshed C has one approved solid waste facility, the Northwestern Landfill, located near Parkersburg in Wood County.

Population for Wasteshed C is expected to experience modest growth through 2030. Wood and Pleasants counties are expected to lose 1.3% and 2.5% of their populations respectively. Wirt and Ritchie counties are expected to experience slight increases in population and Jackson will increase by 6.7%. Overall, Wasteshed C will grow by about 0.6%.

FY 2005 Wastestream Composition for Wasteshed C

Municipal Solid Waste (MSW)		Non Municipal Solid Waste (NMSW)	
Residential Waste	40.2%	Asbestos	0.0%
Commercial Waste	22.8%	Construction/demolition	9.4%
Sewage Sludge**	1.0%	Industrial Sludge	7.4%
Total MSW	**64.0%**	Industrial Waste	14.9%
		*Other Waste	1.0 %
		Petroleum Contaminated Soil	3.3%
		Tires	0.0%
		Total NMSW	**36.0%**

*Other waste consists of various components that on an individual basis make up less than 2% of the wastestream.

**As defined by 33CSR1, Solid Waste Management Rule, "Municipal Solid Waste means any household or commercial solid waste as defined in this rule and any sludge from a waste treatment plant or a water treatment plant."

Figure 2.3 Population Projections 2010 through 2030 for Wasteshed C

Notes

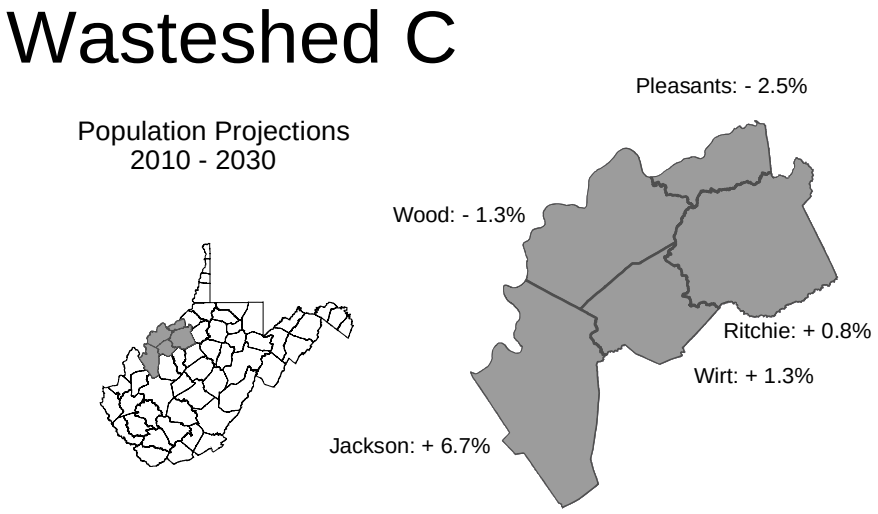


Table 2-3 Projected Monthly Municipal Solid Waste Tonnage for Wasteshed C

	2010	2015	2020	2025	2030
Jackson	1,753	1,777	1,804	1,835	1,871
Pleasants	441	434	432	430	430
Ritchie	615	614	615	617	620
Wirt	352	352	353	356	358
Wood	5,121	5,063	5,039	5,038	5,055
Totals	**8,282**	**8,240**	**8,243**	**8,276**	**8,334**

Notes

Wasteshed E

Wasteshed E is in the eastern panhandle and includes the counties of Grant, Hampshire, Hardy, Mineral, Pendleton, Berkeley, Jefferson and Morgan. Wasteshed E currently has one approved solid waste facility, LCS Landfill near Martinsburg in Berkeley County. The area has access to at least three out-of-state landfills that will accept West Virginia waste; Mt. View Landfill in Maryland, and Mt. View Landfill and Grand Central Landfill in Pennsylvania.

Wasteshed E currently has the most robust economy in the state. Most counties are expected to demonstrate significant growth rates from 2010 through 2030, with the exceptions of Mineral and Pendleton counties who are expected to grow by 1.1% and 5.4% respectively. Overall, Wasteshed E is expected to grow by 12.0%.

FY 2005 Wastestream Composition for Wasteshed E

Municipal Solid Waste (MSW)		Non Municipal Solid Waste (NMSW)	
Residential Waste	37.2%	Asbestos	0.0%
Commercial Waste	36.5%	Construction/demolition	21.8%
Sewage Sludge**	1.5%	Industrial Sludge	0.0%
Total MSW	**75.2%**	Industrial Waste	2 .5%
		*Other Waste	0.5%
		Petroleum Contaminated Soil	0.0%
		Tires	0.0%
		Total NMSW	**24.8%**

*Other waste consists of various components that on an individual basis make up less than 2% of the wastestream.

**As defined by 33CSR1, Solid Waste Management Rule, “Municipal Solid Waste means any household or commercial solid waste as defined in this rule and any sludge from a waste treatment plant or a water treatment plant.”

Figure 2-4 Population Projections 2010 through 2030 for Wasteshed E

Notes

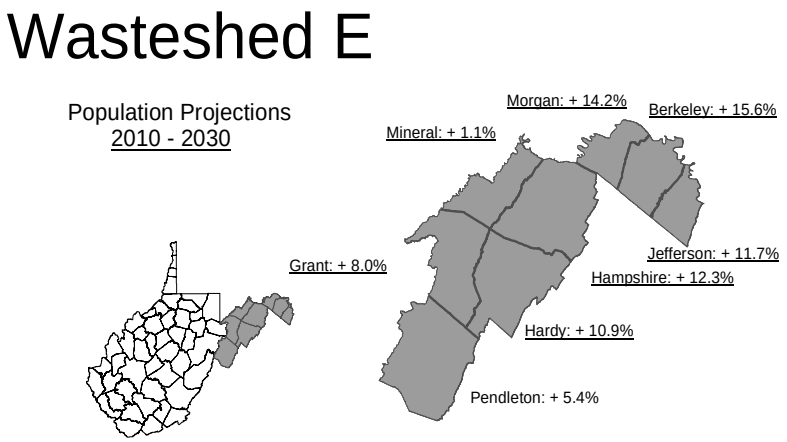


Table 2-4 Projected Monthly Municipal Solid Waste Tonnage for Wasteshed E

	2010	2015	2020	2025	2030
Berkeley	5,262	5,547	5,807	6,035	6,237
Grant	719	736	752	767	781
Hampshire	1,340	1,392	1,443	1,489	1,527
Hardy	831	860	888	913	933
Jefferson	2,788	2,890	2,985	3,075	3,160
Mineral	1,617	1,609	1,611	1,622	1,635
Morgan	1,009	1,057	1,101	1,142	1,176
Pendleton	500	505	513	521	529
Totals	**14,066**	**14,596**	**15,100**	**15,564**	**15,978**

Notes

Wasteshed F

Wasteshed F is located in the southeastern section of West Virginia and is primarily rural with no large population centers. Wasteshed F has three approved solid waste facilities. They include the Greenbrier County Landfill near Lewisburg, the Pocahontas County Landfill near Marlinton and the Nicholas County Landfill near Summersville. The Webster County Landfill near Webster Springs is currently non-operational. Wasteshed F also has a waste tire monofill, WV Tire Disposal near Summersville.

Population growth between the years 2010 and 2030 is expected to decline in Nicholas and Webster by 1.1% and 11.3%. Pocahontas will grow by 4.6% and Greenbrier by 1.6%. Overall, Wasteshed F is expected to decline by 0.2%.

FY 2005 Wastestream Composition for Wasteshed F

Municipal Solid Waste (MSW)		Non Municipal Solid Waste (NMSW)	
Residential Waste	8.8%	Asbestos	0.0%
Commercial Waste	78.4%	Construction/demolition	5.1%
Sewage Sludge**	0.9%	Industrial Sludge	0.0%
Total MSW	**88.1%**	Industrial Waste	0.0%
		*Other Waste	5.2%
		Petroleum Contaminated Soil	1.6%
		Tires	0.0%
		Total NMSW	**11.9%**

*Other waste consists of various components that on an individual basis make up less than 2% of the wastestream.

**As defined by 33CSR1, Solid Waste Management Rule, "Municipal Solid Waste means any household or commercial solid waste as defined in this rule and any sludge from a waste treatment plant or a water treatment plant."

Figure 2-5 Population Projections 2010 through 2030 for Wasteshed F

Notes

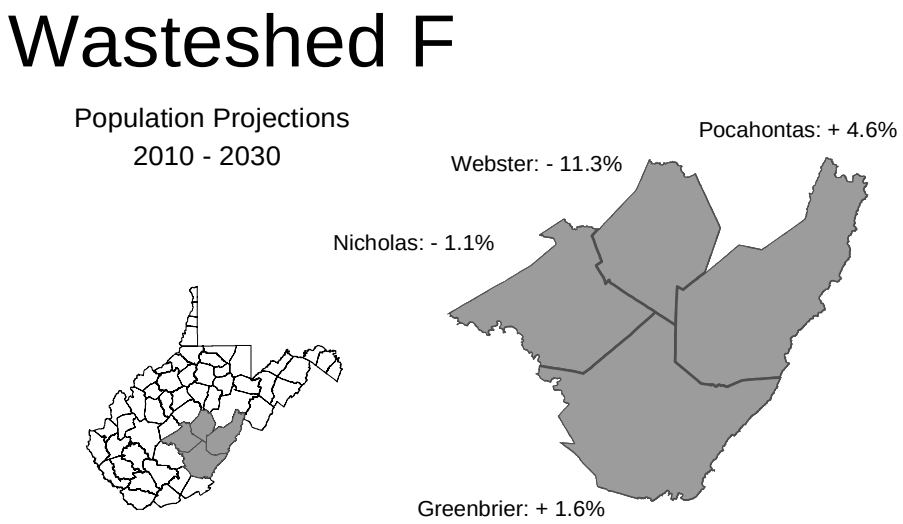


Table 2-5 Projected Monthly Municipal Solid Waste for Wasteshed F

	2010	2015	2020	2025	2030
Greenbrier	2,049	2,046	2,054	2,067	2,083
Nicholas	1,559	1,547	1,544	1,543	1,543
Pocahontas	555	562	570	576	582
Webster	537	519	505	493	483
Wasteshed Totals	**4,700**	**4,674**	**4,673**	**4,679**	**4,691**

Notes

Wasteshed G

Wasteshed G includes the counties of Fayette, McDowell, Mercer, Mingo, Monroe, Raleigh, Summers and Wyoming. The area has four approved solid waste facilities; the Raleigh County Landfill near Beckley, the Ham Landfill near Peterstown, Copper Ridge Landfill in McDowell County and the Mercer County Landfill near Princeton.

The coalfield counties of Mingo, McDowell and Wyoming in Wasteshed G are expected to continue to experience job loss and population decline over the next 20 years. Only Monroe will experience a significant population increase. Fayette, Mercer and Raleigh counties are expected to experience modest growth. All others will decline with McDowell loosing 37.1%, Mingo 16.6% and Wyoming 18.4%. Overall, Wasteshed G will experience a population decline of 1.9%.

FY 2005 Wastestream Composition for Wasteshed G

Municipal Solid Waste (MSW)		Non Municipal Solid Waste (NMSW)	
Residential Waste	34.6%	Asbestos	3.5%
Commercial Waste	50.1%	Construction/demolition	4.3%
Sewage Sludge**	2.7%	Industrial Sludge	0.3%
Total MSW	**87.4%**	Industrial Waste	0.2%
		*Other Waste	3.0%
		Petroleum Contaminated Soil	1.3%
		Tires	0.0%
		Total NMSW	**12.6%**

*Other waste consists of various components that on an individual basis make up less than 2% of the wastestream.

**As defined by 33CSR1, Solid Waste Management Rule, “Municipal Solid Waste means any household or commercial solid waste as defined in this rule and any sludge from a waste treatment plant or a water treatment plant.”

Figure 2-6 Population Projections 2010 through 2030 for Wasteshed G

Notes

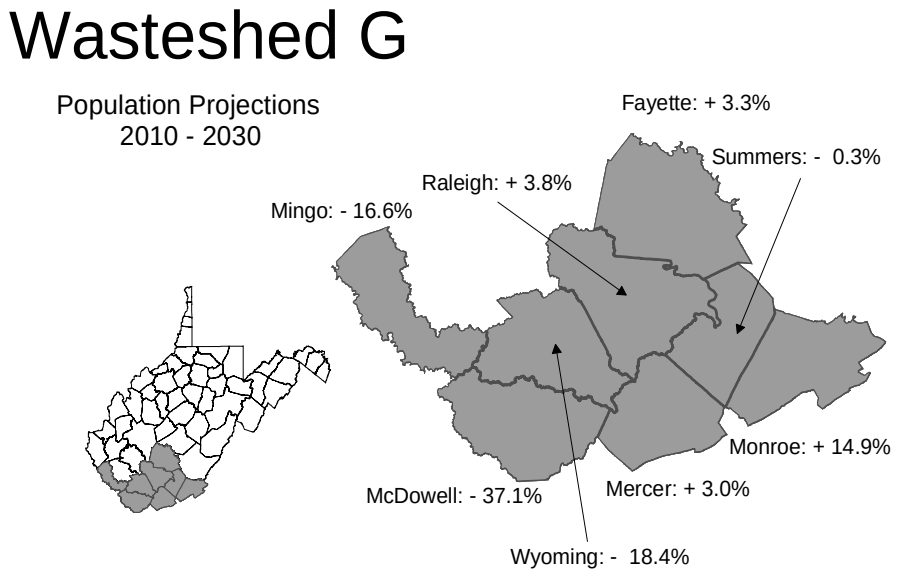


Table 2-6 Projected Monthly Municipal Solid Waste Tonnage for Wasteshed G

	2010	2015	2020	2025	2030
Fayette	2,848	2,864	2,888	2,916	2,946
McDowell	1,314	1,192	1,096	1,018	958
Mercer	3,695	3,676	3,674	3,686	3,705
Mingo	1,505	1,431	1,373	1,326	1,290
Monroe	986	1,033	1,078	1,120	1,159
Raleigh	4,784	4,816	4,865	4,920	4,975
Summers	750	744	743	745	748
Wyoming	1,388	1,320	1,263	1,214	1,173
Totals	**17,270**	**17,076**	**16,980**	**16,945**	**16,954**

Notes

Wasteshed H

Wasteshed H includes Boone, Cabell, Calhoun, Kanawha, Lincoln, Logan, Mason, Putnam, Roane and Wayne counties. Wasteshed H currently has three approved solid waste facilities, the Charleston Landfill in Kanawha County, Disposal Services Landfill and Sycamore Landfill both in Putnam County.

Overall, Wasteshed H is expected to have a population increase of 0.4% from 2010 through 2030. Only Putnam County is expected to have a significant growth rate of 11.9%. Boone, Kanawha, Cabell and Logan will decline. All others will grow at a modest pace.

FY 2005 Wastestream Composition for Wasteshed H

Municipal Solid Waste (MSW)		Non Municipal Solid Waste (NMSW)	
Residential Waste	35.9%	Asbestos	0.0%
Commercial Waste	51.2%	Construction/demolition	2.9%
Sewage Sludge	3.0%	Industrial Sludge	1.4%
Total MSW	**90.1%**	Industrial Waste	1.9%
		*Other Waste	2.3%
		Petroleum Contaminated Soil	1.4%
		Tires	0.0%
		Total NMSW	**9.9%**

*Other waste consists of various components that on an individual basis make up less than 2% of the wastestream.

**As defined by 33CSR1, Solid Waste Management Rule, “Municipal Solid Waste means any household or commercial solid waste as defined in this rule and any sludge from a waste treatment plant or a water treatment plant.”

Figure 2-7 Population Projections 2010 through 2030 for Wasteshed H

Notes

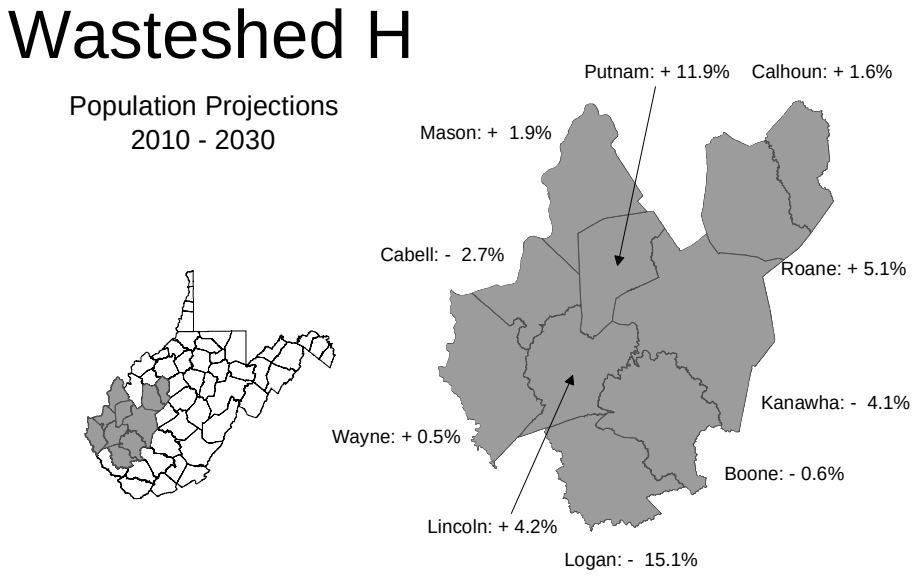


Table 2-7 Projected Monthly Municipal Solid Waste Tonnage for Wasteshed H

	2010	2015	2020	2025	2030
Boone	1,522	1,514	1,511	1,510	1,513
Cabell	5,698	5,693	5,715	5,772	5,859
Calhoun	448	448	449	452	455
Kanawha	11,382	11,173	11,043	10,964	10,934
Lincoln	1,374	1,390	1,406	1,420	1,433
Logan	2,039	1,948	1,876	1,817	1,771
Mason	1,577	1,581	1,588	1,597	1,608
Putnam	3,400	3,524	3,644	3,756	3,858
Roane	946	958	970	983	997
Wayne	2,607	2,621	2,644	2,673	2,704
Totals	**30,993**	**30,850**	**30,846**	**30,944**	**31,132**

Notes

2.3 MSW Waste Characterization Study Methodology[3]

The Solid Waste Management Board funded a study to obtain the waste characterization data for the State of West Virginia's wastestream. The data is designed to be utilized by municipalities, county governments and communities to develop and implement mandatory voluntary source reduction and material recovery programs.

The methodology for conducting this waste characterization study was a source-specific approach in which the individual components of the wastestream were sampled, sorted and weighed. The approach for this study was to review existing wastestream data, collect data and develop fundamental results on the quantity and classification of the components in the solid wastestream in rural and urban areas of West Virginia.

The intent of this characterization study was to determine wastestream components in rural and urban areas of West Virginia, to identify potential recoverable materials, to evaluate the effect of seasonal variation on the wastestream and estimate per capita generation of municipal solid waste (MSW). The study was conducted by GAI Consultants of Charleston, WV and completed in March 1997.

2.4 Conclusions of MSW Characterization Study

Based on data collected and analyzed during this MSW characterization study the following conclusions were drawn:

- The effect of seasonal variation on the wastestream was minimal based on data collected during the study. However, the effect of seasonal variation on the wastestream is difficult to determine based on the limited sampling program.
- The per capita generation in Wasteshed H is greater than the generation rate in Wasteshed F.
- The per capita generation rate in Wasteshed F is approximately 3.7 pounds per person per day.
- The per capita generation rate in Wasteshed H is approximately 4.0 pounds per person per day.
- The average weight of a full plastic garbage bag of MSW sampled in Wasteshed F and H is approximately 9.9 pounds.
- Paper, plastic, metals and glass are considered the wastestream components most feasible to be recycled.
- Paper comprises the largest percentage of the wastestream in Wastesheds F and H.
- Based on data from this study, the residential and commercial wastestream in Wasteshed F* was composed of the following percentages of each component sampled:

Paper	34.6%	Rubber	1.3%
Organics	16.1%	Construction Rubble	0.5%
Plastics	16.5%	Wood Products	1.0%
Textiles	6.8%	Miscellaneous and Fines	7.3%
Glass	6.2%	Oversized Items	0.3%
Metals	9.3%		

- Based on data from this study, the wastestream in Wasteshed H* is composed of the following percentages of each component:

Paper	45.4%	Rubber	0.0%
Organics	16.9%	Construction Rubble	0.0%
Plastics	15.4%	Wood Products	0.1%
Textiles	2.8%	Miscellaneous and Fines	5.4%
Glass	7.8%	Oversized Items	0.1%
Metals	5.3%		

*Percentages for Wasteshed F and H may not add up to 100% due to sample loss and/or absorption of moisture during sampling.

- The percentages are based on the total weight of each component sorted and the total weight of MSW sorted in the wasteshed during winter and summer sampling.
- Recovery of the organic portion of the residential and commercial wastestream is minimal. Recovery of the organic portion is considered most feasible in areas with higher organic generation rates (industrial or institutional related activities) and source separation prior to disposal.

Notes

END NOTES FOR SECTION 2

1. West Virginia Population Projections by County, Age and Sex 2010 – 2030, Regional Research Institute, West Virginia, March 2006.

2. Monthly landfill tonnage reports submitted to the WV Department of Environmental Protection, West Virginia Solid Waste Management Board, West Virginia Public Service Commission and applicable county or regional solid waste authorities by the states public and private landfill operators as required by 33CSR1- 4.12.b. for the year 2005.

3. GAI Consultants, *Solid Waste Characterization Study for Wasteshed F and Wasteshed H in West Virginia.* March 1997

Chapter 3

Status of Solid Waste Facilities

3. STATUS OF SOLID WASTE FACILITIES

Notes

The following section details the status of municipal solid waste (MSW) facilities in West Virginia. Transfer stations, material recovery facilities (MRFs) and other solid waste facilities are discussed in Sections 3.6 through 3.9 of this report. The information listed in the following pages was obtained in consultation with the Department of Environmental Protection (DEP) and the Public Service Commission (PSC). The cooperation of these two agencies is acknowledged and greatly appreciated.

The Legislature drastically changed the management of solid waste with the passage of H.B. 3146 which became effective in June 1988. In November 1988, the then Department of Natural Resources (DNR), now Division of Natural Resources, promulgated emergency Solid Waste Management Rules (SWM Rules) for the management of solid waste disposal. These rules, as well as H.B. 3146, were enacted as a response to Subtitle D of the federal Resource Conservation and Recovery Act (RCRA). The new SWM Rules, Title 33 CSR 1, formerly Title 47 CSR 38, changed the development and operation of MSW landfills, requiring MSW landfills to have composite liners, leachate collection and treatment systems, groundwater monitoring and analysis, and a post-closure care and monitoring period, among other things. In accordance with the emergency SWM Rules, existing landfills with only a single liner or no liner at all were to close by November 1990.

The most significant requirement in the new SWM Rules was the composite liner. A composite liner, as defined by section 4.5.d.1.c of the SWM Rules, consists of a compacted clay component, a synthetic component (plastic), leachate collection and detection layer. The clay component must be at least two (2) feet thick, while the synthetic portion must be at least sixty (60) mils thick (a mil is one-thousandth of an inch).

In addition to minimum thickness requirements, the components must also meet very stringent material specifications. These requirements, in addition to others, make the design and construction of new MSW landfills much more difficult, expensive and time consuming. In May 1990, the permanent DNR SWM Rules, now Department of Environmental Protection (DEP) SWM Rules, became effective. Many landfills required to comply with the emergency SWM Rules by 1990 were confronted with time and financial constraints. As a result, the permanent SWM Rules delayed compliance until November 30, 1991 for unlined landfills, and November 30, 1992 for landfills with only a single liner. The landfills that were required to close on March 31, 1993, were given automatic extensions to June 30, 1993. The remaining landfills were given until September 30, 1994, to construct composite liners or close. Senate Bill 289 extended the deadlines once again. On March 18, 1994, the legislature passed S.B. 1021 which extended the closure of certain landfills until December 31, 1994, if certain conditions were met. During the 1995

Notes

legislative session, S.B. 313 granted a closure extension until January 1, 1996, to certain landfills ordered to close by December 31, 1994, (but closed after September 30, 1994) if they had a Certificate of Need.

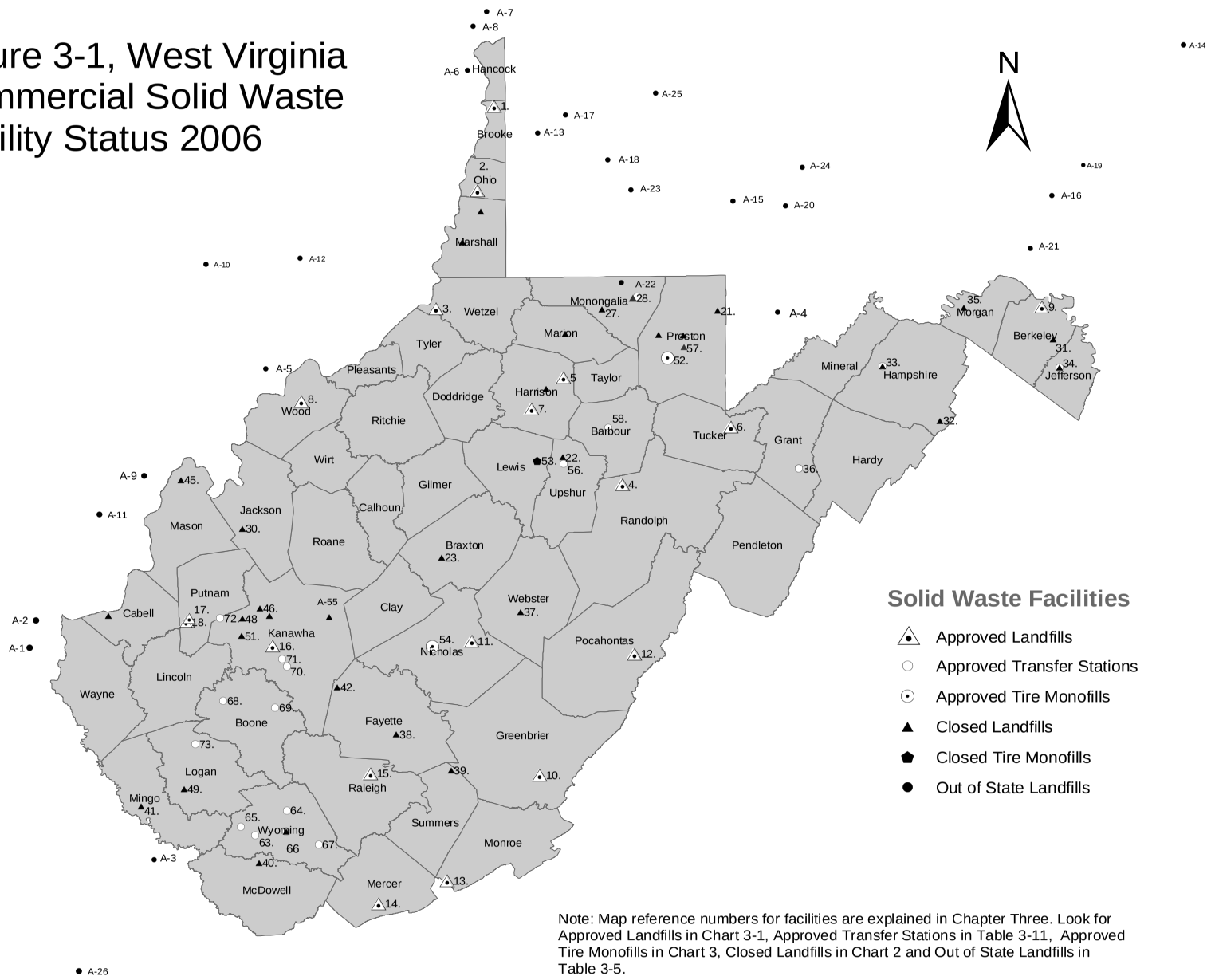
As of September 1, 2006, there were 18 MSW landfills (see Figure 3-1). This does not include Copper Ridge Landfill in McDowell which is currently under construction and will begin taking waste in the near future. Table 3-1 identifies the MSW landfills open on September 1, 2006. Of the 18 MSW landfills, eight are publicly owned and ten are privately owned. Two other facilities, W.V. Tire Disposal, in Nicholas County, and Charles Pase Tire Monofill, in Preston County, are waste tire monofills.

3.1 Public versus Privately Owned Landfills

Publicly and privately owned landfills are inherently very different. This section describes some of the most important differences between the two kinds of landfills. Benefits, as well as shortcomings, of both are discussed. Table 3-2 lists the waste sources for all the publicly owned landfills in operation on September 1, 2006. Table 3-3 lists the waste sources for all privately owned landfills in operation on September 1, 2006. The tonnage figures (in-shed and out-of-shed) for these two tables were supplied by the DEP and are from fiscal year 2006.

Public landfills are usually operated by local governmental entities. The primary purpose of a public landfill is to provide the cheapest long-term waste disposal service to the community it serves. Because of the importance of the long-term needs, public landfills tend to accept waste mainly from their community, which on average amounts to approximately 50% of their permitted capacity, thereby maximizing the landfill life. Limiting the amount of waste, however, limits the available revenue for the landfill and is one reason why the tipping fee at a public landfill is usually higher than at a private landfill. Private landfills, on the other hand, are in the business to make a profit. Table 3-3 indicates that in 2006 private landfills used approximately 56.4% of their permitted capacity. This table also indicates that 13.2% of the waste used to fill private landfills is generated out-of-state. The fact that private landfills accept such a large amount of out-of-state waste becomes extremely important, from a planning standpoint, in determining disposal needs.

Figure 3-1, West Virginia Commercial Solid Waste Facility Status 2006



Note: Map reference numbers for facilities are explained in Chapter Three. Look for Approved Landfills in Chart 3-1, Approved Transfer Stations in Table 3-11, Approved Tire Monofills in Chart 3, Closed Landfills in Chart 2 and Out of State Landfills in Table 3-5.

Table 3 - 1

(Charts 1 – 4)

CHART 1 - COMMERCIAL SOLID WASTE LANDFILLS OPERATING AS OF SEPTEMBER 2006

WS	No.	Class	Name*	Status	Permit Limit Tons/Mo.
A	1	A	BROOKE/VALERO	PERMITTED AND OPERATIONAL	20,000
	2	A	SHORT CREEK	PERMITTED AND OPERATIONAL	26,620
	3	B	WETZEL	PERMITTED AND OPERATIONAL	9,999
B	4	B	ELKINS/RANDOLPH	PERMITTED AND OPERATIONAL	9,999
	5	A	MEADOWFILL	PERMITTED AND OPERATIONAL	29,280
	6	B	TUCKER	PERMITTED AND OPERATIONAL	9,999
	7	B	S&S	PERMITTED AND OPERATIONAL	9,999
C	8	A	NORTHWESTERN	PERMITTED AND OPERATIONAL	30,000
E	9	B	LCS	PERMITTED AND OPERATIONAL	9,999
F	10	B	GREENBRIER	PERMITTED AND OPERATIONAL	5,500
	11	B	NICHOLAS	PERMITTED AND OPERATIONAL	9,999
	12	B	POCAHONTAS	PERMITTED AND OPERATIONAL	1,400
G	13	B	HAM	PERMITTED AND OPERATIONAL	9,999
	14	B	MERCER	PERMITTED AND OPERATIONAL	9,999
	15	A	RALEIGH	PERMITTED AND OPERATIONAL	13,750
H	16	A	CHARLESTON	PERMITTED AND OPERATIONAL	19,965
	17	A	DISPOSAL SERVICES	PERMITTED AND OPERATIONAL	20,000
	18	A	SYCAMORE	PERMITTED AND OPERATIONAL	20,000
Total Monthly Permitted Capacity					**266,507**

* The Copper Ridge Landfill in McDowell County is currently under construction and was not operational at the time of publication.

CHART 2 - COMMERCIAL SOLID WASTE LANDFILLS CLOSED AS OF SEPTEMBER 2006

WS	No.	Name	Status
A	19	MOUNDSVILLE	CLOSED - LCAP
	20	WHEELING	CLOSED - LCAP
B	21	BIG BEAR	CLOSED - LCAP
	22	BUCKHANNON	CLOSED - LCAP
	23	CENTRAL WV REFUSE	CLOSED - LCAP
	24	CLARKSBURG	CLOSED - LCAP
	25	KINGWOOD	CLOSED - LCAP
	26	MARION	CLOSED - LCAP
	27	MONONGALIA	CLOSED -LCAP
	28	MORGANTOWN	CLOSED - LCAP
	29	PRESTON	CLOSED - LCAP
C	30	JACKSON	CLOSED - LCAP
E	31	BERKELEY	CLOSED - LCAP
	32	CAPON SPRINGS	CLOSED - LCAP
	33	HAMPSHIRE	CLOSED - LCAP
	34	JEFFERSON	CLOSED - LCAP
	35	MORGAN	CLOSED - LCAP
	36	PETERSBURG	CLOSED - LCAP
F	37	WEBSTER	CLOSED - PERMIT REVOKED
G	38	FAYETTE	CLOSED - LCAP
	39	MIDWEST DISPOSAL	CLOSED - PERMIT REVOKED
	40	MCDOWELL (OLD)	CLOSED - LCAP
	41	MINGO	CLOSED - LCAP
	42	MONTGOMERY	CLOSED - LCAP
	43	WYOMING	CLOSED - LCAP
H	44	DON'S DISPOSAL	CLOSED - LCAP
	45	ERO	CLOSED - LCAP
	46	FLEMING	CLOSED - LCAP
	47	HUNTINGTON	CLOSED
	48	KANAWHA WESTERN	CLOSED - LCAP
	49	PINE CREEK/OMAR	CLOSED - LCAP
	50	PRICHARD	CLOSED
	51	SOUTH CHARLESTON	CLOSED - LCAP

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CHART 3 - COMMERCIAL SOLID WASTE TIRE FACILITIES AS OF SEPTEMBER 2006

WS	No.	Name	Status
B	52	CHARLES PASE	PERMITTED AND OPERATIONAL
	53	PKC C/D AND TIRE MONOFILL	CLOSED AND PERMIT REVOKED
F	54	WV TIRE DISPOSAL	PERMITTED AND OPERATIONAL

CHART 4 - COMMERCIAL SOLID WASTE CLASS D FACILITIES AS OF SEPTEMBER 2006

WS	No.	Name	Status
H	55	RICK'S AUTO	CLOSED AND PERMIT REVOKED

SWMB TABLE 3-2

2006 WASTE SOURCES FOR PUBLIC LANDFILLS OPERATING ON SEPTEMBER 1, 2006

		FACILITY		--- Tons/Month ---		
WS	**COUNTY**	**PUBLIC LANDFILL**	**PERMITTED TONNAGE**	**OUT-OF-STATE WASTE**	**IN-STATE WASTE**	**TOTAL WASTE**
H	Kanawha	Charleston	19,965	0	16,784	16,786
B	Randolph	Elkins/Randolph	9,999	0	924	924
F	Greenbrier	Greenbrier	5,500	0	3,709	3,705
G	Mercer	Mercer	9,999	52	3,888	3,940
F	Nicholas	Nicholas	9,999	0	2,100	2,100
F	Pocahontas	Pocahontas	1,400	0	770	770
G	Raleigh	Raleigh	13,750	0	10,707	10,707
B	Tucker	Tucker	9,999	9	6,329	6,338
TOTALS			**80,611**	**61**	**45,211**	**45,270**
PERCENTAGES				**0.001%**	**99.987%**	**100%**

Percentage of Permitted Capacity Used: 56%

SOURCE: DEP September 2006

SWMB TABLE 3-3

2006 WASTE SOURCES FOR PRIVATE LANDFILLS OPERATING ON SEPTEMBER 1, 2006

				--- Tons/Month ---		
WS	**COUNTY**	**PRIVATE LANDFILL**	**PERMITTED TONNAGE**	**OUT-OF-STATE WASTE**	**IN-STATE WASTE**	**TOTAL ACTUAL**
H	Putnam	Disposal Services	20,000	0	9,071	9,071
G	Monroe	HAM	9,999	580	2,496	3,076
E	Berkeley	L.C.S	9,999	3	10,856	10,859
B	Harrison	Meadowfill	29,280	1,250	21,212	22,462
A	Ohio	Short Creek	26,620	4,933	13,112	18,045
C	Wood	Northwestern	30,000	4,030	15,031	19,061
B	Harrison	S & S Grading	9,999	0	5,895	5,895
H	Putnam	Sycamore	20,000	18	7,597	7,615
A	Brooke	Valero/Brooke	20,000	2,482	2,268	4,750
A	Wetzel	Wetzel	9,999	550	3,559	4,109
		TOTALS	**185,896**	**13,846**	**91,097**	**104,943**
				13.2%	**86.8%**	**100%**

PERCENTAGE OF PERMITTED CAPACITY USED: 56.4%

SOURCE: DEP September 2006

3.2 Landfill Status - Estimated Lifespan and Potential Impact on Solid Waste Management

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On June 8, 1993, West Virginia had a total of 38 permitted MSW landfills in operation. As of January 1, 1995, there were 21 landfills in operation. This number was further reduced to 19 with the closure of the Marion County Landfill and Prichard Landfill in Wayne County. Most recently, this number has changed to 18 because of the 2001 closure of Midwest Disposal in Summers County. HAM Sanitary Landfill is now permitted to accept solid waste and Webster County Landfill is closed and has had their permit revoked. The Copper Ridge landfill in McDowell is currently under construction and will be operational in the near future bringing the total operational landfills to 19. This section will examine the reasons for these closures and whether these factors could impact other facilities. It will also examine the likelihood of the remaining19 continuing to operate through the end of the planning period and examine the impact of closures and potential closures on the management of solid waste.

Prichard Landfill closed in 1996 with little notice. Prichard had been losing tonnage to landfills in Kentucky that were offering contract prices to cities such as Huntington and Kenova. The contract prices were significantly below Prichard's tariff of $30.40 per ton. Three landfills in Kentucky adversely impacted Prichard Landfill. Cooksey Bros. Landfill near Cannonsburg, Kentucky, located six miles from West Virginia, was able to offer a contract price of $19.50/ton to Huntington and Kenova. Additionally, Green Valley Landfill, located ten miles from West Virginia near Ashland, Kentucky, accepts waste from BFI that is collected from commercial accounts in Huntington. The Pike County Kentucky Landfill, located approximately 17 miles from Williamson, West Virginia, is more strategically located to accept waste from Mingo County.

The Marion County Landfill closed on December 31, 1995, because it was unable to secure the necessary financing to construct a composite lined landfill and it was unable to guarantee sufficient tonnage and thus revenue to repay the loan. Smaller landfills, such as the Marion County Landfill, do not have the economies of scale that larger landfills have. A smaller landfill, however, cannot charge more than nearby landfills without risking a loss of customers. Therefore, securing loans for such facilities is nearly impossible.

The Midwest Landfill stopped operating in early 2001.The landfill is currently in bankruptcy proceedings and has had their permit revoked.

In July of 2001, southern West Virginia experienced devastating floods. Because of these floods, there was a massive increase in waste that had to be disposed. Many landfills in the area accepted the flood debris. To help in the efforts, the DEP reopened the Wyoming County Landfill. The landfill was to accept flood debris only. In reviewing the status of the

Notes

remaining open landfills in the future, the acceptance of flood debris will have to be evaluated, in relation to shortening the life expectancy of the open landfills accepting this waste.

It becomes necessary then to review the status of the remaining 18 landfills to determine if factors similar to those that affected Prichard, Marion County, Midwest Disposal and Webster County Landfills will impact the continued operation of other landfills through the planning period. A survey was distributed to the remaining 18 landfills in an attempt to ascertain the likelihood of their continued operation through the planning period.

The survey asked about the remaining anticipated life and size of the current cell, when construction would begin on the next cell, its size, air space and anticipated lifespan, any operating and/or financial problems, how the construction of the new cell and the closing of the old cell would be financed, equipment leased or purchased, number of employees and the amount of out of state waste received monthly. The survey results are depicted on Table 3-4.

The following landfills have concerns in operating their facilities.

Elkins/Randolph County landfill has experienced an approximate 50% decrease in tonnage received over the last ten years. This forced the landfill to seek a rate increase from the Public Service Commission to cover fixed costs; at $70.25 per ton, they currently have the highest landfill tipping fee in the state.

During 1997, the Elkins/Randolph Landfill received a low interest (1%) loan in the amount of $1 million dollars for a period of 12 years and a $100,000 grant from the Solid Waste Management Board; the loan and grant were included in the FY 98 Legislative Budget Digest. After making payments on this loan for several years and rebuilding the amount in that account, the City of Elkins borrowed $300,000 in September 2003. This second loan was partially to finance their new 4-acre cell which should last approximately 13 years given the current annual tonnage trends.

SWMB TABLE 3-4
SUMMARY OF LANDFILL OPERATOR SURVEY

Landfill	Anticipated Life Current Cell	Construction Next Cell	Approximate Size of Next Cell	Anticipated Life of Next Cell	Remaining Life of Landfill	Out-of-State Waste Monthly
Brooke/Valero	6 months	April 2002	2.7 acres	5 years	50 years	
Charleston	20 months	Feb. 2007	5 acres	5 years	17 - 19 years	None
Disposal Services	34 months	2007	3.6 acres	49 months	40 years	None
Elkins/Randolph	64 months	June 2010	4 acres	7.6 years	50 years	None
Greenbrier County	24 months	Spring 2007	3-4 acres	4 years	35 years	None
HAM	2.63 years	2006	3.19 acres	4.38 years	40 years	650 tons a month
LCS	54 months	Late 2007	4 acres	2.5 years	44.3 years	None
Meadowfill	8 – 12 months	Currently	6 acres	2.5 years	153 months	1,383 tons a month
Mercer County	18.6 months	July 2006	4.5 acres	4 years	40+ years	78 T. (Bland, Wythe, VA)
Nicholas County	1.22 years	2006	Unknown	Unknown	30 +/- years	None
Short Creek	during 2006	Currently	6 acres	2 years	March 2039	2,172 T. Average (OH & PA)
Northwestern	18 months	Spring 2007	5 acres	12 – 18 months	40 years	8,691 T. (S.E. Ohio/Washington Co.)
Pocahontas County	28 months	2008	2.1 acres	10 years	12 years	None
Raleigh County	24 months	2008	7 acres	42 months	100+ years	None
S & S	10 months	Currently	5 4 acres	2.5 years	31 years	7.45 tons carwash residue from Oakland, MD
Sycamore	35 months	4th qtr. 2007	2.7 acres	6.7 years	70 years	15 tons, Ohio
Tucker County	7 months	May 2006	6.4 acres	63 months	80 months	None
Wetzel County	100,000 cubic yards	2006	2.5 acres	2 Years	200 + years	700 tons month from Monroe Co. OH

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Management at the Mercer County Sanitary Landfill feels that the main problem they encounter is the loss of solid waste to out-of-state landfills. Out-of-state landfills, which are not required to charge the $8.25 WV solid waste assessment fee, offer lower prices, so it is cheaper for many haulers to haul waste there. Most waste in the general area that goes to out-of-state facilities goes to the Bristol, VA landfill. In 2003, the facility charged a tipping fee of $18.00 per ton and accepted 45,725 tons of WV waste. For 2005, they increased the fee to $26.50 per ton with WV tonnage decreasing to 34,553, a reduction for the period of 24.5%. The increased cost of fuel may also be a factor in the reduction of waste going to the Bristol facility. Many border counties have this problem. During the summer of 2001, Mercer had a substantial increase in tonnage due to receiving debris from severe flooding in the southern coalfields. This increase in tonnage, and thus revenue put the landfill in a more desirable financial position.

The Nicholas County Solid Waste Authority amortized a $1.5 million construction loan until 2000 which was used to construct its first disposal cell. The disposal cell was expected to last until 2002. Fortunately, the life of this cell was increased by rerouting power lines that extended over the cell. The 1.5 million dollar loan was paid back. The tipping fees at the landfill will remain the same and part of the monies are being saved for landfill closure funds. In addition, the authority allocates a portion of the tipping fee to a construction escrow account. This account has facilitated cell construction and allowed their current disposal cell to be built using only a line of credit from their local bank; this line of credit, as of May 2006, has a zero balance. They purchased 80 acres of adjacent land in FY 2002 for landfill expansion. The landfill received an average of 2,100 tons of solid waste per month in FY 2006. Tonnage has increased almost 40% since the landfill began receiving waste from the Webster County wastestream. This increase in revenue has allowed Nicholas to improve access to and appearance of the landfill, reroute all storm drainage around the active landfill and two old cells, facilitate bagged trash collection and build two ballfields.

The Pocahontas County Solid Waste Authority operates a small municipal solid waste landfill that accepted an average of 924 tons per month in FY 2006. The authority operates a green-box system which has been, on occasion, challenged before the Public Service Commission; the system has always been upheld. The current 1.2 acre cell is expected to last until spring 2008. Construction of their next 2.1 acre cell is anticipated to begin in spring of 2007; this cell may last as long as ten years. Financing for this cell will be provided in-house. Although the landfill has been affected in recent years with closure of businesses in the county, it has no outstanding debt.

During 1997, the Tucker County Solid Waste Authority utilized the $1 million low interest loan obtained from the DEP and a $100,000 grant

from the SWMB to construct a disposal cell and purchase equipment at the Tucker County Landfill. In the summer of 2003, difficulty was experienced with construction of their next 5-acre disposal cell. Consequently, in the spring of 2004, the cell in use almost reached capacity and for approximately three months, 82% of the landfill's wastestream was diverted to other landfills. This diversion impacted not only the Tucker County revenue stream but also that of customers utilizing the landfill. The cell is now complete and receiving waste. During the 2005 legislative session, House Bill 201 allocated three million dollars to the Solid Waste Management Board for the purpose of administering loans to solid waste authorities on a revolving basis. The Tucker County SWA applied for and was awarded a loan for up to three million dollars to refinance the high interest debt associated with construction of their current disposal cell and to finance their next cell which was approximately 6.4 acres, construction began in May 2006 and is expected to be completed later in the year.

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The Webster County Landfill, owned by the Webster County Solid Waste Authority (WCSWA) is no longer operational. In September 2002 the DEP issued an order for the authority to cease and desist accepting and disposing of solid waste at the facility. Their DEP Solid Waste Facility Permit was revoked in July 2004. According to the Public Service Commission's final recommended decision of March 28, 2005, the authority's application for a certificate of need to increase rates at the WCSWA and expand the facility was denied on the basis that the proposed facility was not cost effective in light of alternative disposal sites; the proposal as a whole is inconsistent with the public convenience and necessity. The authority has violated the Commission's Order to fund an escrow account to pay closure and post-closure cost of its existing landfill; and as a result the authority is in violation of DEP rules. The majority of Webster's waste stream now goes to the Nicholas County Solid Waste Authorities landfill.

Consolidation in West Virginia Solid Waste Industry

There has been considerable consolidation in the West Virginia solid waste industry in the past several years. USA Waste Services, Inc. purchased Mid American Waste Systems as part of a bankruptcy case in Delaware, and thus acquired Meadowfill and Northwestern landfills in West Virginia. Additionally, USA Waste acquired Disposal Service Landfill in Putnam County, and Chambers Development Corporation, owner of LCS Landfill in Berkeley County. USA Waste also operates the City of Charleston Landfill. USA Waste Services, Inc., has merged with Waste Management, Inc. (WMI). Additionally, WMI has merged with Eastern Environmental Services, Inc., owners of S&S Landfill in Harrison County. In 2001, Waste Management of West Virginia, Inc. petitioned the PSC for approval for merger of 59 MC (motor carrier certificate of need) into

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one entity named Waste Management of West Virginia, Inc. As of September 2002 the consolidation was complete.

Waste Manaagement of West Virginia owns the stock of, and/or controls the following sixteen corporations that are authorized to provide solid waste services in West Virginia: (1) B&E Cartage, Inc., (2) Big Valley Transport, Inc., (3) Booths Creek Sanitation, (4) Chambers, (5) Guyan Transfer and Sanitation Service, Inc., (6) M-L Commercial Garbage Service Inc., (7) Mingo Transfer Station, Inc., (8) Refuse Disposal, Inc., (9) Braddon Enterprises, Inc., (10) Eastern Waste of WV, Inc., (11) Middle Island Enterprises, Inc., (12) Super Kwik, Inc., (13) Don's Disposal Service, Inc., (14) Mountaineer Waste Systems, LLC and (15) Commercial Disposal Services. Waste Management of West Virginia, Inc. also has an agreement to operate the new Jefferson County Transfer Station.

B&E Cartage, Inc., operates as a common carrier by motor vehicle in the transportation of solid waste from portions of Logan and Mingo Counties. Big Valley Transport, Inc., operates as a common carrier by motor vehicle in the transportation of solid waste and infectious medical waste from portions of Logan County and certain types of discarded material from a number of West Virginia counties. Booths Creek Sanitation, Inc., operates as a common carrier by motor vehicle in the transportation of solid waste from portions of Barbour, Marion, Harrison and Taylor Counties. Chambers operates as a common and/or contract carrier by motor vehicle of solid waste from all or portions of the following counties: Barbour, Boone, Calhoun, Fayette, Gilmer, Harrison, Jackson, Kanawha, Logan, Mason, Pleasants, Putnam, Ritchie, Roane, Wirt and Wood counties. Guyan Transfer and Sanitation, Inc., operates as a common carrier by motor vehicle in the transportation of solid waste and infectious medical waste from portions of Logan and Wyoming Counties. M-L Commercial Garbage Service, Inc., operates as a common carrier by motor vehicle in the transportation of solid waste from certain portions of Logan and Mingo Counties. Mingo Transfer Station, Inc., has authority from the PSC to operate a transfer station in Mingo County. Refuse Disposal, Inc., owns and operates a transfer station in Logan County. Waste Management of West Virginia, Inc., doing business as Waste Management of Shenandoah Valley, operates as a common carrier by motor vehicle in the transportation of solid waste and infectious medical waste from Berkeley and Jefferson Counties. Braddon Enterprises, Inc., operates as a common carrier by motor vehicle in the transportation of solid waste in Hancock County. Eastern Waste of WV, Inc. operates as a common carrier by motor vehicle in the transportation of solid waste in Braxton, Clay and Gilmer Counties. Middle Island Enterprises, Inc., operates as a common carrier by motor vehicle in the transportation of solid waste in Doddridge, Harrison and Tyler Counties. Super Kwik, Inc., operates as a common carrier by motor vehicle in the transportation of solid waste in

Marion County. USA Waste has acquired Don's Disposal Service, Inc. and Mountaineer Waste Systems, LLC. These two carriers operate in Boone, Calhoun, Fayette, Logan, Mason, Putnam and Ritchie Counties. Waste Management of West Virginia operates as a common carrier by motor vehicle in the transportation of solid waste in Berkeley and Jefferson Counties. Commercial Disposal Services operates as a common carrier by motor vehicle in the transportation of solid waste in Kanawha County.

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With Waste Management of West Virginia, Inc.'s petition to the PSC complete, all of the solid waste carriers and landfills owned by USA Waste and Waste Management Inc. are know as Waste Management of West Virginia, Inc. Browning-Ferris Industries (BFI) has also purchased a number of solid waste hauling companies and now collects solid waste in Cabell, Harrison, Lewis, Marion, Monongalia, Taylor, Upshur and Wayne Counties.

The trend to large corporate ownership of solid waste facilities also includes the following West Virginia landfills: (1) Short Creek, in Ohio County was purchased by American Disposal of West Virginia, Inc., which in turn was purchased by Allied Waste Industries Inc., but they still operate under the American Disposal of West Virginia name; (2) S&S, in Harrison County, owned by Eastern Environmental Services. Eastern Environmental has merged with WMI, and is known as Waste Management of West Virginia, Inc. and; (3) Sycamore, in Putnam County which was also purchased by Allied Waste Industries. Although Allied Waste Industries owns BFI, the two companies operate separately.

Midwest Disposal purchased the EPA Services Landfill in Summers County. The landfill is non-operational and has had their permit revoked. A final closure cap has been placed on Midwest with funds resulting from the bankruptcy, permit and bond revocation. The LCAP program is managing post closure operations including ground water monitoring and leachate management.

In 2005 and 2006, the trend toward corporate ownership of solid waste facilities and service providers was not as pronounced. Apple Valley Waste, formerly Waste Management, Inc., now serves all residential customers in Jefferson and Berkeley counties. Allied Waste Services of North America, LLC consolidated all of its holdings to their trade name including both haulers and landfills. Wrights Sanitation was purchased by Solid Waste Services, Inc., Halls Sanitation was purchased by Oak Hill Garbage Disposal, Inc., Joy Sanitation was purchased by Wall's Sanitation, Hamilton Sanitation was purchased by Smallwood Sanitation and Waste Management gave Morgan Sanitation & Recycling 200 residential customers. Waste Management also signed a contract to operate the new Jefferson County Transfer Station.

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The McDowell County SWA is in the process of constructing and opening a new Class A Landfill. The facility was first proposed in the early 1990s and had requested a permit to accept up to 50,000 tons of solid waste per month. The 50,000-ton cap was approved by McDowell County voters by referendum in 1992. In 1998, the DEP approved a permit for the county to operate a regional landfill that could take in up to the 50,000-ton limit. They are presently applying for a major modification to the permit that would enlarge the limits of the landfill waste disposal area from 35 to approximately 106 acres and give the facility a life expectancy of 25 years. The site is on approximately 185 acres of land within a 1,600 acre tract which includes other ancillary facilities. The authority has contracted with Capel's Landfill, LLC, a subsidiary of EnviroSolutions Holding of Chantilly, VA for the construction and operation of the facility. The first cell is under construction (September 2006) and is expected to be completed later this year. Currently approved tipping fees at the landfill for residential and commercial waste are $42.50 per ton. At the time of publication, negotiations were underway that will allow for the construction of a railroad spur line to the landfill to facilitate the acceptance of large volumes of out-of-state waste. It is not known at this time when the facility will be able to accept waste.

In April 2006, Judge Mary E. Stanley of the US District Court for the Southern District of West Virginia issued a ruling that may have an impact on industry valuation, and consequently, on consolidation. According to Judge Stanley, "West Virginia Code §24A-2-5 is invalid insofar as it requires solid waste haulers engaged in the interstate transportation of solid waste to obtain a certificate of convenience and necessity from the PSC." The ruling was the result of a dispute between Southern Ohio Disposal and waste haulers serving the Mason County area. The PSC had refused to allow the company to pick up garbage in WV without first obtaining a Certificate of Convenience and Necessity (CON.) All West Virginia haulers are required to have a valid CON before conducting operations in the state.

It is not known at this time how the ruling will impact WV waste haulers and landfills. There are continuing questions concerning the availability of service to low population density areas, unfair advantages for out-of-state haulers and industry valuation.

3.3 Imports and Exports of Solid Waste

Prichard Landfill, as previously discussed, closed because it could not compete with contract prices of $19.50/ton offered by Cooksey Brothers Landfill and Green Valley Landfill, both in close proximity in Kentucky. Review of Table 3-5 reveals that this combination of close proximity and competitive pricing which is not duplicated elsewhere. Either the remaining out-of-state landfills charge prices close to their West Virginia counterparts or the out-of-state landfills are too far away. This assessment,

however, could change if these out-of-state landfills offer contract prices that significantly undercut prices charged by West Virginia landfills. In-state landfills are regulated by the PSC and until May 21, 1998, could not offer capacity contract prices to a West Virginian landfill or a West Virginia municipality.

Notes

Capacity contracts are any contracts whereby a solid waste facility agrees to take in a minimum or specific amount or percentage of tons of solid waste from any hauler of solid waste during a specific period of time. The PSC did not take any action to invalidate existing capacity contracts between solid waste facilities and solid waste haulers. The PSC determined that the public interest would be best served through PSC review and approval of future capacity contracts on a case-by-case basis. All parties to such contracts will have the burden of showing that a “put or pay” provision in a particular contract is justified. In the absence of such a showing, the PSC will presume that contracts containing “put or pay” provisions are not existing capacity contracts between solid waste facilities and solid waste haulers.

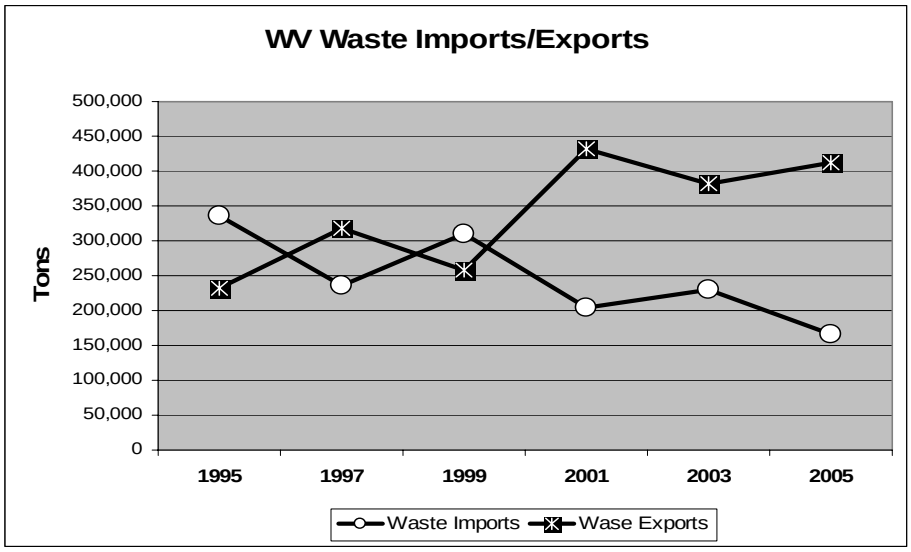
Due to the potential for public inconvenience and harm, the PSC did not give blanket approval to all capacity contracts. The PSC presumes that contracts containing “put or pay” provisions are not in the public interest because they require haulers to pay a fixed sum regardless of actual tons delivered, and if a hauler does not meet its minimum ton requirement, the hauler would be in effect paying a per ton rate that is higher than the solid waste facility’s authorized tipping fee.

As reported in the 2005 West Virginia Solid Waste Management Plan, in 2003 the state exported 382,975 tons of waste while importing 229,386 tons creating an export surplus of 153,589 tons. Exporting waste has its pros and cons. While exporting waste transfers the responsibility and cost to other states, it also, based on current average WV tipping fees, cost WV landfills approximately $6,000,000 in landfill revenues and the state over $1,500,000 in landfill assessment fees.

In 2005 the state exported 413,688 tons of waste and imported 166,592, exporting 247,096 more tons than it imported.

Notes

FIGURE 3-2, Waste Imports/Exports: 1995 through 2005



SWMB TABLE 3-5

MSW LANDFILLS WITHIN 75 MILES OF WEST VIRGINIA THAT ACCEPT OUT-OF-STATE WASTE

FACILITY NAME	LOCATION	DISPOSAL COST/TON MSW	FY 2005 WV TONNAGE	Figure 3-1 ID#
Green Valley	Greenup County, KY	$34.00	93,182	A-2
Pike County (Ford Branch)	Pikeville, KY	$33.50	3,952	A-3
Mountainview	Frostburg, MD	$43.00	8,844	A-4
Athens-Hocking	Nelsonville, OH	$26.50	86,360	A-5
AWS American	Waynesburg, OH	$35.00	5,893	A-6
AWS Mahoning	New Springfield, OH	$25.00	Unknown	A-7
BFI Carbon Limestone	Louellville, OH	Variable Rate	156	A-8
Galia County (US Waste Service)	Bidwell, OH	$32.00	Unknown	A-9
Pine Grove Regional Facility	Amanda, OH	$28.00	653	A-10
RWS Beech Hollow	Wellston, OH	$25.25	23,397	A-11
WMI Suburban (South)	Glenford, OH	$38.00	Unknown	A-12
Arden	Washington, PA	$50.00	2,111	A-13
Grand Central	Northampton, PA	Unknown	Unknown	A-14
IESI Greenridge	Scottdale, PA	$54.00	1,089	A-15
IESI, Blueridge	Scotland, PA	$56.88	2,821	A-16
Short Creek	Imperial, PA	$24.20	121,548	A-17
Kelly Run Sanitation	Elizabeth, PA	$27.50	0	A-18
Modern Landfill	York, PA	Variable Rates	0	A-19
Mostoller Landfill	Somerset, PA	$40.60	Unknown	A-20
Mountain View	Greencastle, PA	Variable Rates	30,681	A -21
ONYX Greentree	Kersey, PA	$20 – $45	0	A-22
Sanitary Landfill	Belle Vernon, PA	$42.00	289	A-23
Southern Allegheny	Davidsville, PA	$50.29	0	A-24
Valley Landfill	Irwin, PA	$63.00	Unknown	A-25
City of Bristol	Bristol, VA	$26.50	34,533	A-26
TOTAL TONNAGE			**415,509**	

Source: SWMB Survey, September 2006

Notes

In assessing disposal needs and projected revenue to support solid waste management programs, it is imperative to identify the movement of solid waste into or out of the state. Agencies and landfills in adjacent states were contacted to determine the quantity of solid waste received from West Virginia (Table 3-6). Additionally, West Virginia tonnage reports were reviewed to determine the quantity of out-of-shed waste that was out-of-state (Table 3-7). Industrial waste/other waste from West Virginia that was deposited in out-of-state solid waste landfills was included in the totals since it could have been deposited in West Virginia commercial solid waste landfills.

SWMB TABLE 3-6

WEST VIRGINIA SOLID WASTE EXPORTED TO OUT-OF-STATE MSW LANDFILLS FY 2005

	TOTAL SOLID WASTE (tons)		
STATE	**2001**	**2003**	**2005**
KENTUCKY	139,992	154,684	97,134
MARYLAND	19,691	5,651	8,844
OHIO	108,785	87,592	116,459
PENNSYLVANIA	125,489	89,323	158,539
VIRGINIA	37,999	45,724	35,533
TOTALS	**431,956**	**382,974**	**415,509**

SWMB TABLE 3-7

SOLID WASTE IMPORTED TO WEST VIRGINIA MSW LANDFILLS FROM OUT-OF-STATE SOURCES 2001 - 2005

Notes

	TOTAL SOLID WASTE (tons)		
Landfill	**2001**	**2003**	**2005**
Brooke/Valero	51,655	23,737	29,783
Disposal Service	24	437	0
Greenbrier County	20	0	0
Ham	0	0	6,598
LCS	10,692	10,692	36
Meadowfill	10,281	19,961	15,003
Mercer County	1,255	849	628
Short Creek	40,192	92,861	59,194
Sycamore	480	270	221
Tucker	457	74	107
Northwestern	54,129	69,427	48,363
Wetzel County	34,685	18,956	6,659
TOTALS	**203,870**	**237,264**	**166,592**

Notes

3.4 The Stamp Decision

On September 28, 1995, U.S. District Court Judge Frederick P. Stamp issued a Memorandum Opinion and Order in the case Valero Terrestrial Corp., et. al. v. Laidley Eli McCoy, et. al. The Order granted plaintiffs' motion for a preliminary injunction enjoining the state from, among other things, enforcing the tonnage caps on the amount of solid waste that can be handled at a solid waste facility per month.

On September 17, 1997, a final motion for declaratory judgement and permanent injunction was granted. West Virginia solid waste statutes were declared unconstitutional under the Dormant Commerce Clause and the defendants were enjoined from enforcing them.

During the 1998 legislative session, the Legislature passed and the Governor signed into law S. B. 178 which corrected language in West Virginia solid waste laws that had earlier been declared unconstitutional because they unjustifiably discriminated against the importation and disposal of waste from other states. Major provisions of the Solid Waste Management Act as amended by S.B. 178 would keep the tonnage caps in place and allows the Secretary of DEP to determine the tonnage limit for each solid waste facility based on certain criteria.

The Secretary must also develop emergency rules to determine the amount of sludge which may be safely treated, stored, processed, composted, dumped or placed in a solid waste facility. The Bill limits the landfilling of sewage sludge to 12,500 tons per month for Class A facilities and 5,000 tons per month for Class B facilities. The stockpiling of sewage sludge is limited to 125,000 cubic yards annually for Class A facilities and 50,000 cubic yards for Class B facilities. Commercial and non-commercial composting facilities may receive up to 2,000 tons of sewage sludge per month and shall not stockpile more than 20,000 cubic yards of sludge or processed product derived from sludge.

The law governing the conversion of a Class B facility to a Class A facility was changed by S.B. 178 to require the county commission, rather than the local solid waste authority, to place a Class II Legal Advertisement in a qualified newspaper informing the public of their right to petition for a referendum.

3.5 Summary of Statewide Closure Plan

W.Va. Code § 22-16 was the result of Senate Bill 18, passed by the WV Legislature on October 18, 1991. S.B. 18 established the solid waste Landfill Closure Assistance Program to assist permitees in the closure of certain facilities that could not operate in an environmentally sound manner after September 30, 1993. These facilities were either unlined and closed by March 31, 1993, or had single liners and closed by September 30, 1994. These extension dates were a result of S.B. 289 which was enacted March 31, 1993.

Notes

Proper closure of these facilities will prevent leachate from contaminating ground and surface waters, minimize the migration of decomposition gases, limit soil erosion and ensure the long term integrity of closed landfills. The DEP Office of Environmental Remediation (DEP-OER) on December 31, 1992, submitted the *Statewide Closure Plan* to the Governor and Legislature for approval by concurrent resolution. The plan was updated in 2000 and 2006. Senate Concurrent Resolution 14 was adopted during the 1993 legislative session by both houses. The primary points and conclusions from this DEP plan are excerpted and summarized in this section.

Rather than have so many landfills left in an unreclaimed state for an indefinite period of time the Legislature decided it would be in the best interest of the citizens of the state to provide a mechanism for the timely and orderly closure and reclamation of these facilities. The rules governing proper closure of landfills became effective on November 4, 1988, and the legislation creating the Landfill Closure Assistance Program (LCAP) was enacted as a part of a larger solid waste reform bill in the second extraordinary session of the Legislature in October 1991 as S.B. 18. The DEP-OER received thirty-four (34) applications for closure assistance funding and determined that twenty-nine (29) were eligible.

W. Va. Code § 22-16-10 requires the landfill permittee to demonstrate to the Secretary's satisfaction that it does not have the financial resources on hand or the ability to generate the amounts needed to comply, in a timely manner, with closure requirements. With assistance from the SWMB, financial information requirements were developed and incorporated into the Commercial Solid Waste Landfill Closure Assistance Program Rules.

Those eligible landfills that applied are shown in Table 3-8. Some landfills, however, have indicated an intention to apply for a permit to operate a new facility, and thus pay their own closure costs. Two facilities that did not apply for closure assistance, Inwood Tire Facility and Shorty's Tire Pile, were assisted by the State of West Virginia in closure procedures. The elements of the Closure Assistance Program include:

1) Engineering and consulting services for closure design, geo technical works, drilling, water monitoring and/or testing;
2) Construction of closure related structures including capping, installation of ponds, ditches and re-vegetation activities;
3) Groundwater, surface water and leachate monitoring; and
4) Remediation of any contamination that may occur.

In addition to the immediate threat of unmanaged leachate, the DEP is concerned about the interim or "pre-closure" period between the time each facility ceases accepting waste and the time when reclamation is

Notes

implemented. Because of the limited amount of money, facilities will experience a delay before capping and full reclamation of their site. This time period will range from months to years, depending on the priority group to which each facility is assigned.

Because the intent of the program is to minimize the environmental damage being caused by these facilities, it may be necessary to conduct some maintenance of each unreclaimed site during the interim period. This will consist of maintaining erosion control structures, ditch and pond maintenance, road maintenance and leachate management system maintenance.

Table 3-9 offers a priority listing of the sites expected to be reclaimed under the Landfill Closure Assistance Program. This listing was developed from the score each facility received on the priority evaluation matrix. The matrices were completed by the DEP through individual site assessments and by using known historical data. The matrix prioritization method is mandated by the rules.

The facilities have been grouped into priority clusters because it is difficult to differentiate between similar environmental problems. Within groups, the facilities are listed alphabetically.

One landfill, the Monongalia County Sanitary Landfill (MCSL), is owned and operated by the SWMB. The Board has applied and been accepted for closure assistance and is capped and in post-closure at the time of this writing. The landfill ceased operation on September 30, 1993.

Prior to the adoption of H.B. 2445 in 1993, which reduced the Closure Assessment Fee from $4/ton to $3.50/ton, the projected annual revenue from the Solid Waste Landfill Closure Assessment Fee was $10 million. Actual proceeds from the assessment fee for 2005 were $6,082,948.52. During this time, the amount of solid waste disposed of in WV had dropped from approximately 2.4 million tons per year to 1.73 million tons per year. Obviously, this is subject to change since it is based on actual tonnage deposited at permitted landfills. If existing waste deposits move to facilities outside West Virginia, or if material recovery and recycling facilities begin to replace disposal facilities, this projected income figure will decrease proportionately. Further information regarding assessment fees can be found in Section 7.2 of this document.

During the regular session of the 1998 Legislature, two bills were enacted pertaining to the Landfill Closure Assistance Program. S.B. 602 reallocates proceeds collected from solid waste assessment fees and allows the Secretary of the DEP to transfer if required, up to fifty cents per ton of solid waste disposed in the state from the Landfill Closure Assistance Fund to the Solid Waste Enforcement Fund. During the 2000 Legislative Session, the Marion County Landfill was added to the Closure Assistance Program, as a result of H.B. 4801.

Based on this revenue estimate, DEP-OER anticipated that closure of all landfills in the program will be achieved by 2015. The possible reduction of the annual revenue of the Solid Waste Landfill Closure Assessment Fee may extend that date further into the future.

Notes

Notes

SWMB TABLE 3-8

ELIGIBLE LANDFILLS THAT HAVE APPLIED AND BEEN ACCEPTED IN THE LCAP PROGRAM

Facility Name	County	Status
Berkeley County	Berkeley	Capped
Big Bear	Preston	Pre-Closure
City of Buckhannon	Upshur	Capped
Capon Springs & Farms	Hampshire	Pre-Closure
Central WV Refuse	Braxton	Capped
City of Clarksburg Landfill	Harrison	Pre-Closure
Craigs Branch (Don's Disposal)	Kanawha	Closure
ERO	Mason	Capped
Fayette County	Fayette	Capped
Fleming	Kanawha	Capped
Hampshire County	Hampshire	Capped
Jackson County	Jackson	Closure
Jefferson County	Jefferson	Capped
Kanawha Western	Kanawha	Capped
City of Kingwood	Preston	Pre-Closure
McDowell County	McDowell	Capped
Marion County	Marion	Pre-Closure
Mingo County	Mingo	Capped
Monongalia County	Monongalia	Capped
Morgan County	Morgan	Pre-Closure
Montgomery Sanitary	Fayette	Capped
Morgantown	Monongalia	Capped
City of Moundsville	Marshall	Closure
Petersburg	Grant	Capped
Pine Creek Omar	Logan	Closure
Preston County - REHE	Preston	Capped
South Charleston	Kanawha	Pre-Closure
North Park, Wheeling	Ohio	Pre-Closure
Wyoming County	Wyoming	Capped

Source: WV DEP, Landfill Closure Assistance Program Update, June 2006.

SWMB TABLE 3-9

PRIORITIZATION OF LANDFILLS
FOR THE CLOSURE ASSISTANCE PROGRAM
(Group 1 = Highest Priority)

GROUP 1	GROUP 2	GROUP 3	GROUP 4[1]	GROUP 5[2]
Don's Disposal[3]	Jackson County [3]	Big Bear Lake	ERO	Berkeley County[4]
Marion County[5]	Morgan County	Capon Springs & Farm	Fayette County	Buckhannon[4]
Moundsville	Pine Creek Omar	Clarksburg [4]	Kanawha Western[4]	Central WV Refuse
		Kingwood	Montgomery[4]	Fleming
		South Charleston [4]	Morgantown[4]	Hampshire County[4]
		Wheeling/North Park[4]	Wyoming County[4]	Jefferson County
				McDowell County
				Mingo County
				Monongalia County
				Petersburg[4]
				Preston (Rehe)

[1] Federal Subtitle D Soil Cap

[2] State Regulated Cap

[3] Contract issued for a facility to be capped 2006

[4] Facility connected to sanitary sewer

[5] Marion County Landfill will be downgraded to a priority Group 3 once a sewer line for leachate control and treatment is constructed.

Shaded facilities have been capped and are in post-closure as of December 31, 2005.

Summary of LCAP Activities

Construction has been completed on the closure of eighteen (18) landfills. These include: Berkeley County; Buckhannon - Upshur County; Central WV Refuse - Braxton County; ERO - Mason County; Fleming - Kanawha County; Hampshire County; Jefferson County; Kanawha Western - Kanawha County; Monongalia County; Montgomery - Fayette County; Morgantown - Monongalia County; Fayette County; Wyoming County; McDowell County; Mingo - Mingo County; Petersburg - Grant County; Rehe - Preston County and Wyoming County. The status of these landfills is considered post-closure.

West Virginia currently has twelve (12) landfills that have not entered post-closure. It should be noted that facilities listed under the title, "Sub-Title "D" Capped", have been prepared for final closure by the placement of an earthen cap installed by LCAP. These caps help assure the environmental integrity of the facility until the final cap is installed.

Three facilities, Don's Disposal, Marion County and Moundsville landfills are classified as Group 1 or the highest priority facilities. Dons Disposal is under construction with an expected completion date of fall 2006. The Marion County facility, pending the completion of a sewer line for leachate control, should be down-graded later this year to a Group 3 classification with final closure taking place in 2013. The Moundsville facility is expected to undergo final capping sometime in 2007.

SWMB Table 3 – 10
Projected Closure Date & Cost

Facility Name	County	Priority	Acreage	Projected Closure Cost	Projected Closure Date
Uncapped Facilities					
Dons Disposal [1]	Kanawha	1	25	Under Const.	2006
Marion County	Marion	1	25	$5,764,550	2013
Moundsville	Marshall	1	16	$3,449,312	2007
Jackson County [1]	Jackson	2	21	Under Const.	2006
Morgan County	Morgan	2	10	$2,205,820	2008
Pine Creek/Omar	Logan	2	10.9	$3,058,344	2008
Big Bear	Preston	3	1	$230,582	2010
Capon Springs & Farms	Hampshire	3	2	$418,964	2009
City of Clarksburg	Harrison	3	20	$4,111,640	2009
City of Kingwood	Preston	3	12	$2,646,984	2010
City of South Charleston	Kanawha	3	8	$1,962,656	2011
City of Wheeling	Ohio	3	15	$3,083,730	2012
Sub-Title "D" Capped					
ERO	Mason	4	20.8	$2,014,346	2013
City of Montgomery	Fayette	4	10	$1,375,179	2014
City of Morgantown	Monongalia	4	28.7	$1,820,659	2015
Kanawha Western	Kanawha	4	18.8	$968,346	2015
Fayette County	Fayette	4	14.2	$2,779,410	2013
Wyoming County	Wyoming	4	10.2	$987,804	2016

[1] Dons Disposal and Jackson County are currently under construction.
Source: "Landfill Closure Assistance Program Update", June 2006, WV DEP.

There are three facilities in the Group 2 section; Jackson County, Morgan County and Pine Creek/ Omar. The Jackson County facility is under construction and should be completed in late 2006. The Morgan County and Pine Creek facilities are expected to be capped in 2008.

Group 3 facilities are Big Bear Lake, Capon Springs and Farm, Clarksburg, Kingwood, South Charleston and Wheeling/North Park. Capon Springs and Clarksburg are projected to close in 2009; Big Bear Lake and Kingwood are in 2010; the South Charleston facility in 2011 and Wheeling facility in 2012.

All other facilities classified as Group 4 and Group 5 are in Post-Closure. Post-Closure indicates that closure activities are complete and the facility is in the 30 year post closure monitoring period. Of the 29 LCAP facilities, ten are in pre-closure, two are in closure and seventeen are in post closure. Closure indicates that investigation, design and/or construction of closure activities are ongoing and Pre-Closure indicates that the facility is awaiting closure activities and may be receiving interim assistance.

In late 2005 the West Virginia Public Service Commission issued a final order releasing funds from the non operational Midwest Disposal facility in Summers County to the WV DEP LCAP program to facilitate the closure and post closure care of the facility.

Notes

3.6 Transfer Stations

There are three primary components in the overall disposal of solid waste; collection, transportation and ultimate disposal. The previous sections have mainly focused on the third component, ultimate disposal. While collection will not be greatly affected by the landfill closures discussed earlier, transportation will. As the number of MSW landfills decrease, the average driving distance to each landfill will increase. Many parts of the state, particularly rural areas like southern and central West Virginia have been affected. This increased distance will result in increased transportation costs.

When driving distances to a point of ultimate disposal are long, transfer stations are usually more economically feasible than direct haul. Direct haul refers to driving a collection vehicle, usually a packer truck for residential customers, directly to the landfill. Collection vehicles, in general, haul only small amounts of solid waste. In addition, collection vehicles cannot travel very quickly over long distances, primarily because they are made for stop-and-go driving encountered during collecting solid waste. As a result, their efficiency is greatly reduced when the distance they must travel is increased.

A transfer station is a combination of structures, machinery, or devices at a place, location or facility where solid waste is taken from collection vehicles, and placed in other transportation units (such as a “walking floor”, “dump trailer” or other method of transfer as determined by the director) for movement to another solid waste facility. Provided, when the initial generator of solid waste disposes of said waste into a container such as a roll-off, greenbox or bin which is temporarily positioned (not more than five days) at a specific location for transport by a transportation unit, such container shall not be considered a transfer station. Under any circumstances, leachate, litter and windblown materials must be properly managed.

This large vehicle can usually hold over four times more waste than a small collection vehicle and is made to travel great distances. That makes the large transfer vehicle more efficient to operate than a collection vehicle over long distances. In other words, the cost per ton per mile to drive a transfer vehicle to a landfill is less than the cost per ton per mile to drive a collection vehicle to the same landfill. However, the operation of the vehicle itself is not the only cost that must be considered. Capital, as well as operation and maintenance costs associated with construction of a transfer station, must also be considered.

Notes

A general statement regarding transfer stations is, "It is cheaper to haul a large volume of waste in large increments over a long distance than it is to haul a large volume of waste in small increments over a long distance."[1] While this statement is true, it is necessary to undertake a feasibility study on a case-by-case basis to determine the break-even distance (or cost) at which the use of a transfer station is equivalent to direct haul to a landfill.

Such a statewide feasibility study is beyond the scope of this document; however, the general concept of how to perform such a study is not. In general, detailed cost estimates for the construction of a transfer station, operational cost of a transfer vehicle and operational cost of a direct haul vehicle are calculated. The capital cost is converted to cost per ton, based on the known wastestream, and the transportation costs are converted to cost per ton per mile. The capital cost and transportation costs are then plotted on a graph. The point at which the two transportation curves cross is the break-even point for the operation of a transfer station. If the distance to a landfill is greater than the break-even point, a transfer station should be used. If the distance is less than the break-even point, direct haul should be used. As of September 1, 2006, there were 18 transfer stations operating in the state. Currently, there are no transfer stations in Wasteshed A, C or F.

Several transfer stations are being proposed in different areas. On August 10, 2005, Tygart Valley Sanitation, a waste hauler with operations in Randolph and Tucker counties was granted a DEP solid waste facility permit to operate a transfer station in Davis, WV. The facility was under construction at the time of publication. It is not known when they will begin processing waste. The Jefferson County Solid Waste Authority transfer station is currently being upgraded to assist in accommodating the waste stream in Berkeley, Jefferson and Morgan counties. Robust growth in the area has created a need for additional waste disposal capacity. Construction was expected to be completed in late September 2006. The facility will be authorized by the DEP to manage up to 9,999 tons of waste per month. The project will cost an estimated $1.4 million dollars. Also, the DEP is awaiting an application from Lusk Recycling in Mercer County. The18 operational transfer stations are listed in Table 3-11.

As stated earlier, several areas are currently great distances from ultimate disposal facilities (landfills). Several of these areas are currently served by transfer stations. While it is impossible to predict the increase in transportation and disposal costs, it is safe to say that as the distance from a disposal facility increases, so does the overall solid waste disposal cost, regardless of whether a transfer station is used or not. Transfer stations are a key part in controlling this increase, however, as well as providing appropriate solid waste disposal options for the state.

SWMB Table 3-11

TRANSFER STATION STATUS AS OF SEPTEMBER 2006

SHED	FACILITY	COUNTY	CITY	PERMIT No.	STATUS
A	None	N/A	N/A	N/A	N/A
B	Buckhannon	Upshur	Buckhannon	SWF-5025-94	Operational/Permitted
	Kingwood	Preston	Kingwood	SWF-5015-97	Operational/Permitted
	Philippi	Barbour	Philippi	SWF-5017-97	Operational/Permitted
	Suburban	Monongalia	Morgantown	SWF-5021	Operational/ Permitted
C	None	N/A	N/A	N/A	N/A
E	Jefferson	Jefferson	Ranson	SWF-1035-97	Operational/Permitted
	Petersburg	Grant	Petersburg	SWC-0203-97	Operational/Closure Permit
	Romney	Hampshire	Romney	SWC-5351-91	Operational/Closure Permit
F	None	N/A	N/A	N/A	N/A
G	Baileysville	Wyoming	Baileysville	SWF-5024	Operational/Permitted
	Glen Fork/Jesse	Wyoming	Jesse	SWF-5022	Operational/ Permitted
	Morgan Sanitation	Wyoming	Hanover	SWF-5030	Operational/ Permitted
	Pineville	Wyoming	Pineville	SWC-8217-92	Operational/Closure Permit
	Tralee	Wyoming	Itmann	SWF-5023	Operational/Permitted
	Boone Co. #1	Boone	Madison	SWF-5018-95	Operational/Permitted
	Boone Co. #2	Boone	Fosterville	SWF-5019-95	Operational/Permitted
H	Chesapeake	Kanawha	Chesapeake	SWF-5029-97	Operational/Permitted
	Marmet	Kanawha	Marmet	SWF-5016	Operational/ Permitted
	St. Albans	Putnam	St. Albans	SWF-5026	Operational/ Permitted
	Refuse Disposal	Logan	Peck's Mill	SWF-5027-97	Operational/Permitted

SOURCE : DEP, September 2006.

Notes

3.7 Material Recovery Facilities

Material Recovery Facilities (MRFs) are facilities at which wastes are separated, either mechanically or physically, and material is recovered for the purpose of recycling and reuse. According to the US EPA, there were 480 MRFs in the United States as of 1999. This represents a more than doubling in the number of operating units over the previous years. Because of this boom, it is very difficult to keep an accurate total of such facilities throughout the country. It is clear that they are becoming the processing alternative of choice.

MRFs can be classified into two categories; clean and dirty. Those that are classified as clean, accept only source-separated material for further processing. These source separated materials may be commingled, but are separated from the remainder of the wastestream. Dirty MRFs, or mixed waste processing facilities, on the other hand, accept commingled waste that is not separated from the entire wastestream.

At the present time, there are no permitted operational MRFs in West Virginia. Several commercial recycling facilities exist, however none of these are classified, or permitted, as MRFs. A few are currently being planned throughout the state; however, none are operational.

W.Va. Code § 22-15A-18(h) allows municipalities in the state with populations greater than 30,000 to use a MRF in lieu of curbside recycling. The four municipalities affected by this section of the Code are Charleston, Huntington, Parkersburg and Wheeling. The use of a MRF, in lieu of curbside recycling, for these four municipalities must be approved by both the SWMB and the PSC. The SWMB has taken the official position that in this instance, “dirty MRFs, as a matter of law, are not allowed."[2] This means that the four municipalities affected cannot use dirty MRFs in lieu of curbside recycling.

Under 40 CFR, § 256.30(b), no local government in the state may be prohibited under state or local law from entering into long-term contracts for the supply of solid waste to resource recovery facilities. Any existing state or local laws pertinent to contracting for resource recovery services or facilities must be reviewed and revised or amended if they are in violation of this requirement. The legislature may have to consider legislation to prohibit and/or remove from state or local law provisions in violation of this requirement.

3.8 Composting Facilities and Rules

Yardwaste, which traditionally includes grass clippings, leaves and brush, can be composted by the homeowner in the backyard or by municipalities in a centralized composting operation. A waste quantification and characterization study conducted for the SWMB indicates that yardwaste makes up about four (4) percent of the wastestream in West Virginia.[3]

This is due primarily to the State's rural character. USEPA estimates that approximately 12.2% of the wastestream in the US is yardwaste. If other organic wastes (paper, food waste, and other wood waste) are included, the volume of material which can be composted jumps to over 50% of the wastestream (Table 3-12). This indicates that composting has the potential to significantly reduce the volume of waste going into landfills. Effective January 1, 1997, it was unlawful to deposit yardwaste, including grass clippings and leaves, in a solid waste facility in West Virginia. Provided, that such prohibition does not apply to a facility designed specifically to compost such yardwaste.

W.Va. Code §22-15A-22(d) mandates that DEP promulgate rules for the handling of yardwaste.[4] Yardwaste composting rules were enacted by legislative adoption on March 16, 1994, as Title 33 CSR 3 (formerly Title 47 CSR 38E) of the Municipal Solid Waste Management Rules. Under these rules, the permitting of commercial yardwaste composting operations must be approved by the Director of DEP-DWWM. Residential backyard composting activities and non-residential composting activities would be exempted from the requirement to obtain a permit. But, a non-residential composting activity must obtain a registration number from the DEP. A non-residential composting activity includes a yardwaste composting operation conducted by landscape contractors, nurseries or greenhouses to produce a soil amendment or soil conditioner.

On March 16, 1994, the DEP promulgated yardwaste composting rules for composting and permitting requirements, closure requirements and operator training certification. These rules (Title 33 CSR 3, formerly Title 47 CSR 38E) were revised/updated and became effective May 5, 1997.

Table 3-13 identifies the commercial and non-residential composting facilities that have been issued permits or registration numbers.

Notes

Notes

SWMB TABLE 3-12

POTENTIAL COMPOSTABLE PORTIONS OF THE SOLID WASTESTREAM

MATERIAL	COMPONENT	PERCENT OF WASTESTREAM
PAPER	Newspaper	4.6%
	Corrugated	1.9%
	Other Paperboards	7.8%
	Office Paper	4.7%
	Magazines	3.0%
	Books	0.4%
	Other	23.0%
	Total Paper	**45.4%**
ORGANICS	Food	8.2%
	Disposable Diapers	2.0%
	Yard & Garden Waste	6.7%
	Total Organics	**16.9%**
WOOD	Pallets	0.0%
	Lumber	0.0%
	Other	0.1%
	Total Wood	**0.1%**
MISCELLANEOUS & FINES	Contaminated Soil	0.0%
	Fines & Super Mix	5.4%
	Total Miscellaneous & Fines	**5.4%**
	TOTAL COMPOSTABLE MATERIAL	**67.8%**

SOURCE: Average percentages taken from GAI Consultants, Inc., Solid Waste Characterization Study for Wasteshed F and Wasteshed H in West Virginia, Table 4, Waste Stream Characterization Sampling Form, Wasteshed H.

SWMB TABLE 3-13

YARDWASTE COMPOSTING FACILITIES

SHED	COMMERCIAL FACILITY	COUNTY	CITY	PERMIT	COMMENTS
B	City of Clarksburg	Harrison	Clarksburg	SWC-5176-97	Modification to Landfill Closure Permit
E	Jefferson SWA	Jefferson	Charles Town	YWR-19-001	
G	Mercer SWA	Mercer	Princeton	SWF-7190-97	Modification to Landfill Permit; Certificate of Need from PSC
G	Raleigh SWA	Raleigh	Lanark	SWF-8163-94	Modification to Landfill Permit
SHED	**ACTIVITY FACILITY**	**COUNTY**	**CITY**	**REGISTRATION #**	**COMMENTS**
A	City of New Martinsville	Wetzel	New Martinsville	YWR-52-001	
A	Short Creek	Ohio	Wheeling	SWF-2003-86-M1	Modification to Landfill Permit
A	Village Lawn Care	Ohio	Wheeling	YWR-35-001	
A	Waste Not Compost & Worm Farm	Brooke	Wheeling	YWR-05-001	
A	Wetzel Co. Landfill	Wetzel	New Martinsville	SWF-1021-92	Modification to Landfill Permit
B	City of Philippi	Barbour	Philippi		Modification to Public-Owned Treatment Works Permit
B	City of Westover	Monongalia	Westover	YWR-31-001-04	
B	Joseph Nurseries	Taylor	Bridgeport	YWR-46-001S	
B	Meadowfill	Harrison	Bridgeport		Modification to Landfill Permit
B	North Hills Nursery	Upshur	Rock Cave	YWR-49-001	
B	Taylor Co. Workshop	Taylor	Grafton	YWR-46-002	
C	Davis Nurseries	Pleasants	St. Marys	YWR-37-001	
C	Northwestern Landfill	Wood	Parkersburg	SWF-1025-96	Modification to Landfill Permit
C	Pleasants SWA	Pleasants	St. Marys	YWR-37-002	
C	Wood County Commission	Wood	Parkersburg	YWR-54-001	
E	City of Martinsburg	Berkeley	Martinsburg	YWR-02-001	
F	Greenbrier SWA	Greenbrier	Lewisburg	SWF-2068-94	Modification to Landfill Permit
H	City of Charleston	Kanawha	Charleston		Sewage Sludge Composting Facility
H	City of Huntington	Cabell	Huntington	SWC-5247-97	Modification to Landfill Closure Permit
H	City of Saint Albans	Kanawha	Saint Albans	YWR-20-002	City residents only.
H	City of South Charleston	Kanawha	South Charleston	YWR-20-001	City residents only.

Notes

3.9 Free Day

W.Va. Code § 22-15-7 provides free solid waste disposal for all persons "not in the business of hauling or disposing of solid waste" on one day per month. Specifically, persons are allowed to dispose of "up to one pick-up truckload or its equivalent" in all solid waste facilities within their wasteshed one day per month. All commercial and public solid waste facilities are required to have such a “Free Day”. In addition, all facilities must publish a yearly schedule of their monthly “Free Days”. During the 1998 legislative session, as part of S.B. 178, House and Senate conferees reached a compromise which allows in-state and out-of-state residents to deposit waste in landfills free of charge one day each month. Non-residents must prove their home state allows “free days” in their state’s in order to participate in WV.

Transfer stations were exempted from the free day provision in this compromise. As a result of S.B. 178, the Solid Waste Management Rules 33CSR1 were expanded in Section 4.14 to specifically address the requirements for “free day” at landfills in West Virginia. Additionally, during the 1998 legislative session, H.B. 2726 prohibits persons from dumping garbage or trash in dumpsters located on the property of another person and leased, owned or otherwise maintained by another person. Such unauthorized use would be considered a misdemeanor.

3.10 Discussion and Conclusions

As of September 1, 2006, West Virginia had 18 operational MSW landfills and 18 transfer stations. Of the 18 landfills, eight are publicly owned, and ten are privately owned. At the time of publication, all eight of the states public landfills were financially solvent.

The states landfills are permitted to receive up to 3,198,084 tons of waste a year. Actual waste tonnage for FY 2006 was 1,806,903, or 56.4% of total capacity. While in a general sense, the state is well served by available landfill capacity, problems due to rapid population growth, lack of adequate highways and lack of appropriate service providers can cause a deficiency in capacity on a local or regional basis.

In order to have the most efficient waste management system possible it is necessary to both import and export a certain amount of waste. The state is currently exporting more waste than is imported. This is probably due to lower landfill tipping fees at some out-of-state facilities and population pressures in the eastern panhandle. Over time tipping fee increases in the surrounding states and the cost of fuel may have an impact on this situation.

At the present time, the use of transfer stations is being discussed in areas of increasing population such as the eastern panhandle. In addi-

tion to landfills and transfer stations, it is anticipated that MRFs and composting facilities will play an increasing role in the effective management of solid waste. The official SWMB position is that mixed waste processing facilities (dirty MRFS), as a matter of law, are not allowed to be used in lieu of curbside recycling for the four municipalities over 30,000 in population.

Notes

END NOTES FOR SECTION 3

1. Tchobanoglous, G., Theisen, H., and Eliassen, *Solid Wastes Engineering Principles and Management Issues* ,. McGraw-Hill, 1977, pg. 161.

2. *Minutes of the December 16, 1992 Solid Waste Management Board Meeting*, December 16, 1992, pg. 4.

3. GAI Consultants, Inc., *Solid Waste Characterization Study for Wasteshed F and Wasteshed H in West Virginia,* March 1997.

4. W.Va. Code § 22-15A-22. as amended on March 11, 1995, by Senate Bill 349 extending the deadline from January 1, 1996, to January 1, 1997 and as amended April 2005.

Chapter 4

County and Regional Solid Waste Management

4. COUNTY AND REGIONAL SOLID WASTE MANAGEMENT

Notes

West Virginia law envisions solid waste management as a local responsibility. The state has 55 counties and 50 Solid Waste Authorities (SWA). Forty-eight of the counties have their own SWA, the other seven counties share one of two regional SWAs. The state Legislature mandated that the Solid Waste Management Board (SWMB) designate solid waste management sheds, or "wastesheds," to promote cooperative efforts among SWAs. In 1993, the SWMB designated seven wastesheds in West Virginia according to the geographical proximity of counties and their local solid waste management needs. A more detailed description of wasteshed designation is included in section 4.3 of this Plan. Figure 4-1 illustrates the seven wastesheds.

In addition to designating wastesheds, the SWMB also assists statewide efforts in solid waste management by funding SWA projects, assisting in the development and updating of SWA plans and updates of the state's comprehensive solid waste management plan in accordance with W. Va. Code § 22C-3. The Public Service Commission (PSC) regulates the solid waste collectors and haulers in accordance with W. Va. Code § 24A-2-3. The Department of Environmental Protection, Pollution Prevention and Open Dump program administers funds for waste tire remediation and enforces laws that govern waste tire dumps pursuant to W. Va. Code § 22-15-21. The Bureau of Public Health enforces public health laws as they apply to solid waste management according to W. Va. Code § 22-15-4. The DEP Division of Water & Waste Management has the authority, as defined in W. Va. Code § 22-15-5, to issue or deny permits for solid waste facilities according to guidelines established by Legislative Rule 33CSR1.

4.1 Geographic and Transportation Factors Influencing Solid Waste Management in West Virginia

West Virginia has a land and water area of 24,282.45 square miles, forty-first among the United States.[1] Its greatest distance from east to west is 260 miles and from north to south is 327 miles. Most of the state consists of hills and valleys with some narrow river plains. The highest point, Spruce Knob in Pendleton County (Wasteshed E), is 4,861 feet above sea level. The lowest point, Harpers Ferry in Jefferson County (Wasteshed E), is 247 feet above sea level.[2] The mean elevation is about 1,500 feet, the highest mean elevation of any state east of the Mississippi River.[3]

The geographic center is located in the Elk River Public Hunting Area in Braxton County. Located within 500 miles of this point[4] are New York City, most of western New York, all of Pennsylvania, New Jersey, Delaware, Washington D.C., Virginia, North Carolina, South Carolina, Ohio, Indiana and parts of Georgia (including Atlanta), Alabama, Tennessee, Kentucky, Wisconsin, Mississippi, Illinois (Chicago), and Michigan (De-

Notes

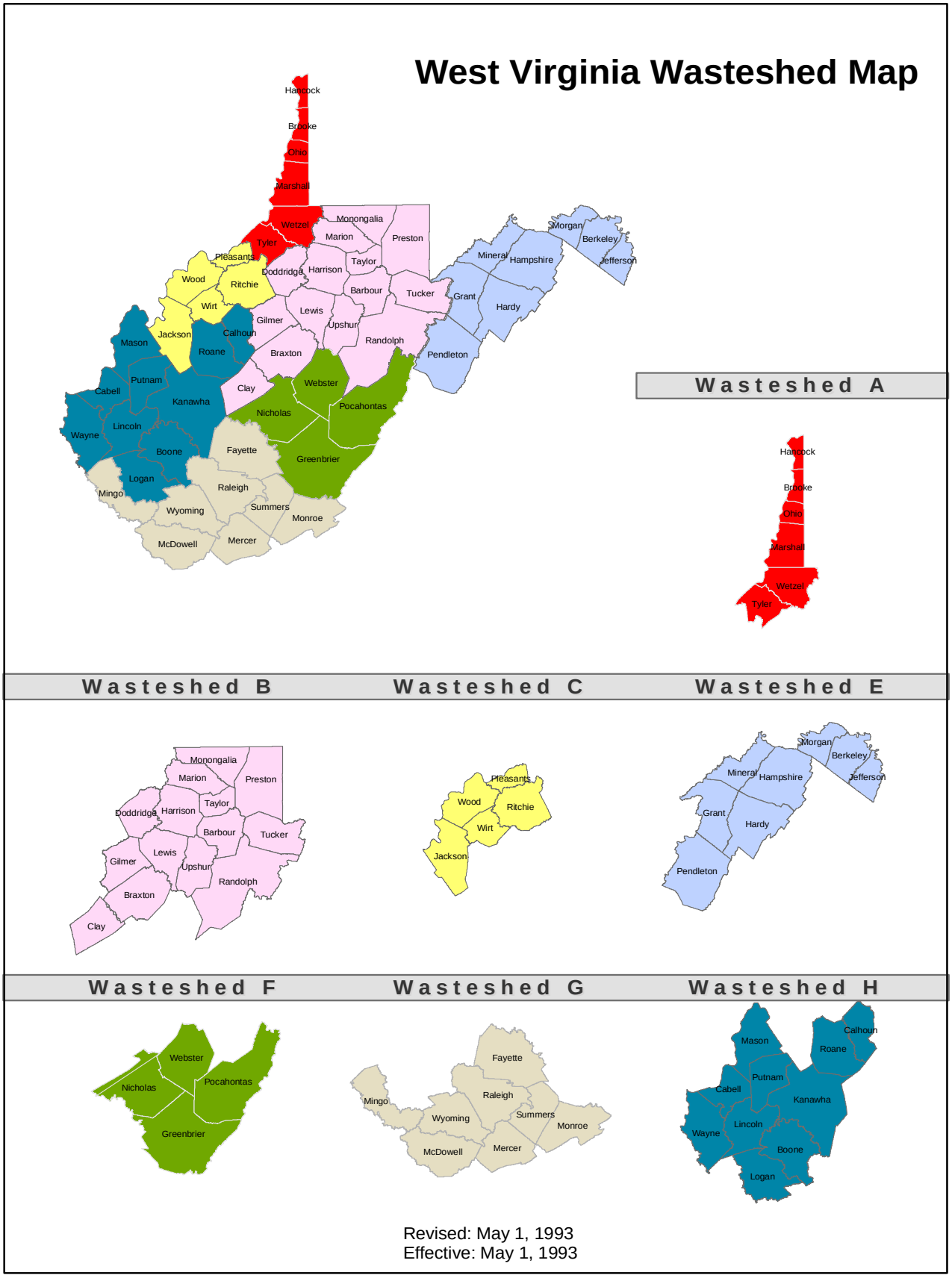
troit). The state's rural character and the fact that it is a central location to major population centers makes West Virginia a potential location for landfills in the eyes of developers (Figure 4-2), thus increasing the complexity of solid waste management in the state.

West Virginia's rivers form a large portion of the state's borders and are responsible for its distinctive, irregular shape. However, the navigable portions of these rivers flow out of the state in all directions (Figure 4-3). Therefore, they provide little transportation between regions in the state. To be considered navigable, a river must maintain a depth of greater than nine feet at normal pool.[5]

The Potomac River and its tributaries drain most of Wasteshed E. The Potomac flows into the Chesapeake Bay and the Atlantic Ocean. The Potomac is not a navigable river at any point where it borders West Virginia.[6]

On the western side of the Eastern Continental Divide, all of West Virginia waters drain into the Ohio River, which forms the state's northwestern border. The Ohio, with a system of locks and dams, is navigable along its entire length from Chester in Hancock County to the Kentucky border. The Big Sandy forms the southwestern border of the state and is navigable for a distance of 8.4 miles upstream to Cyrus. The Kanawha River is navigable from its mouth to Deepwater, a small town just east of Montgomery, a distance of 90.6 miles. Some tributaries of the Kanawha are navigable for short distances.

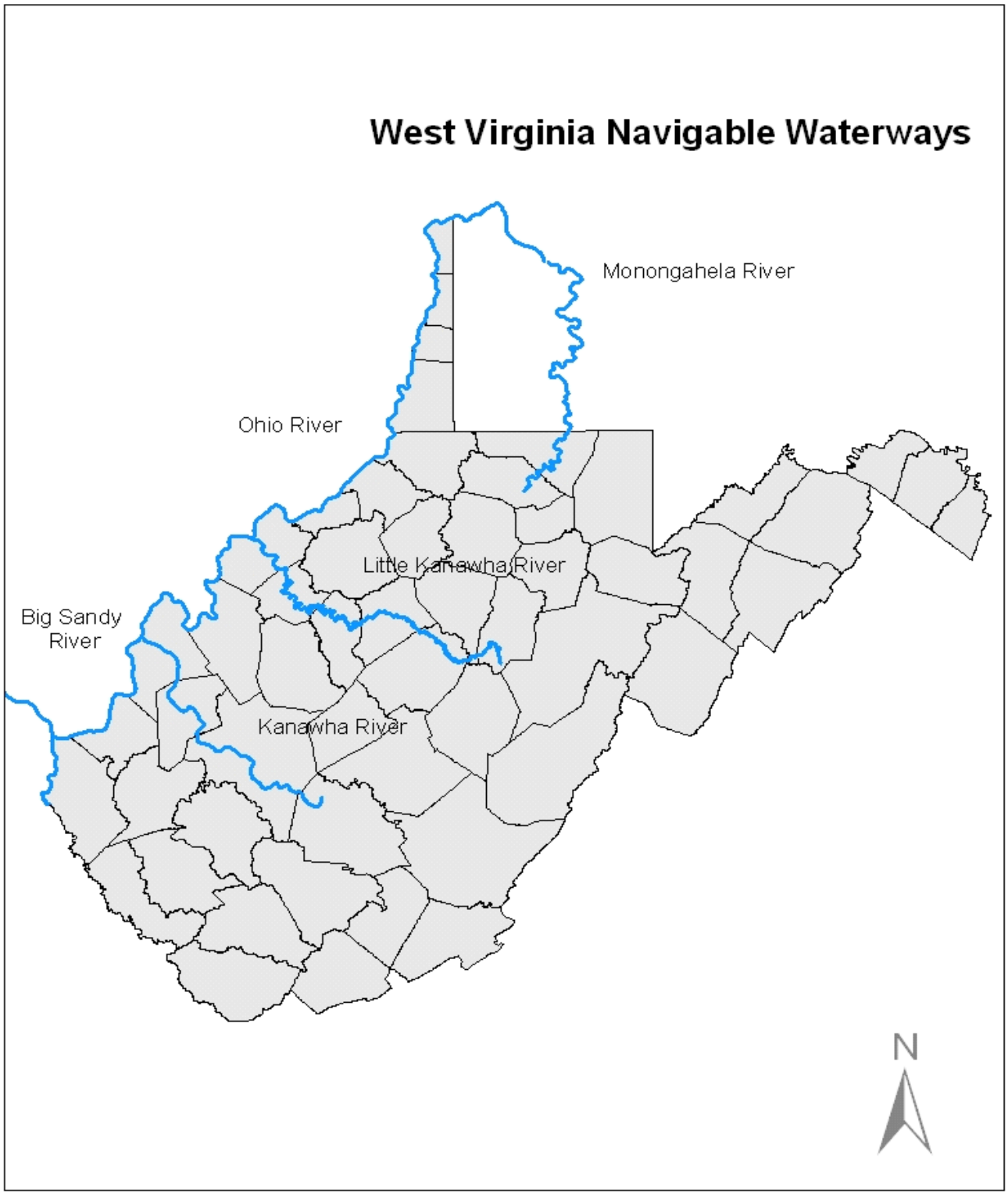
SWMB FIGURE 4-1
SOLID WASTE MANAGEMENT BOARD
WEST VIRGINIA WASTESHEDS



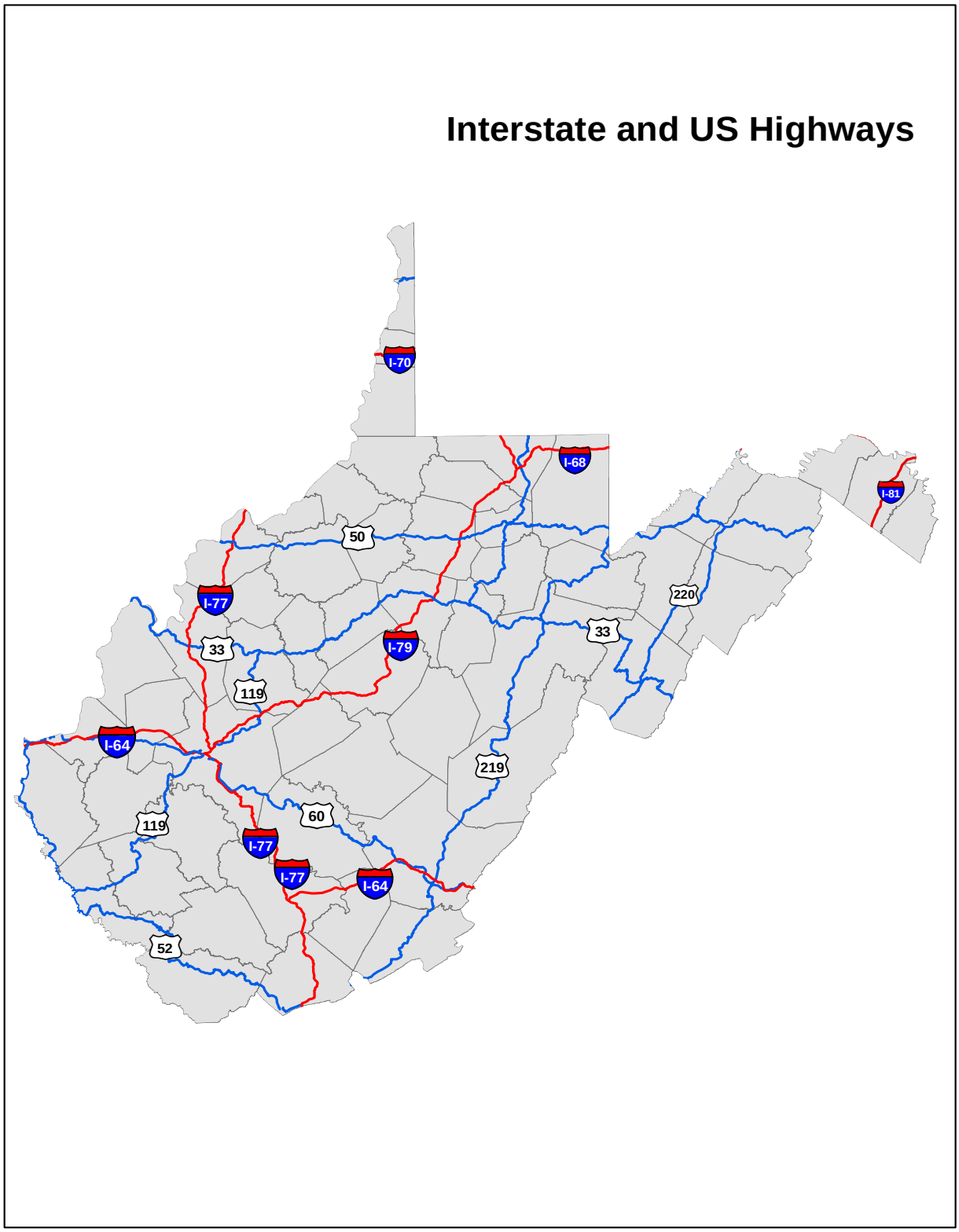
Revised: May 1, 1993
Effective: May 1, 1993

SWMB FIGURE 4-2
SOLID WASTE MANAGEMENT BOARD
GEOGRAPHIC LOCATION

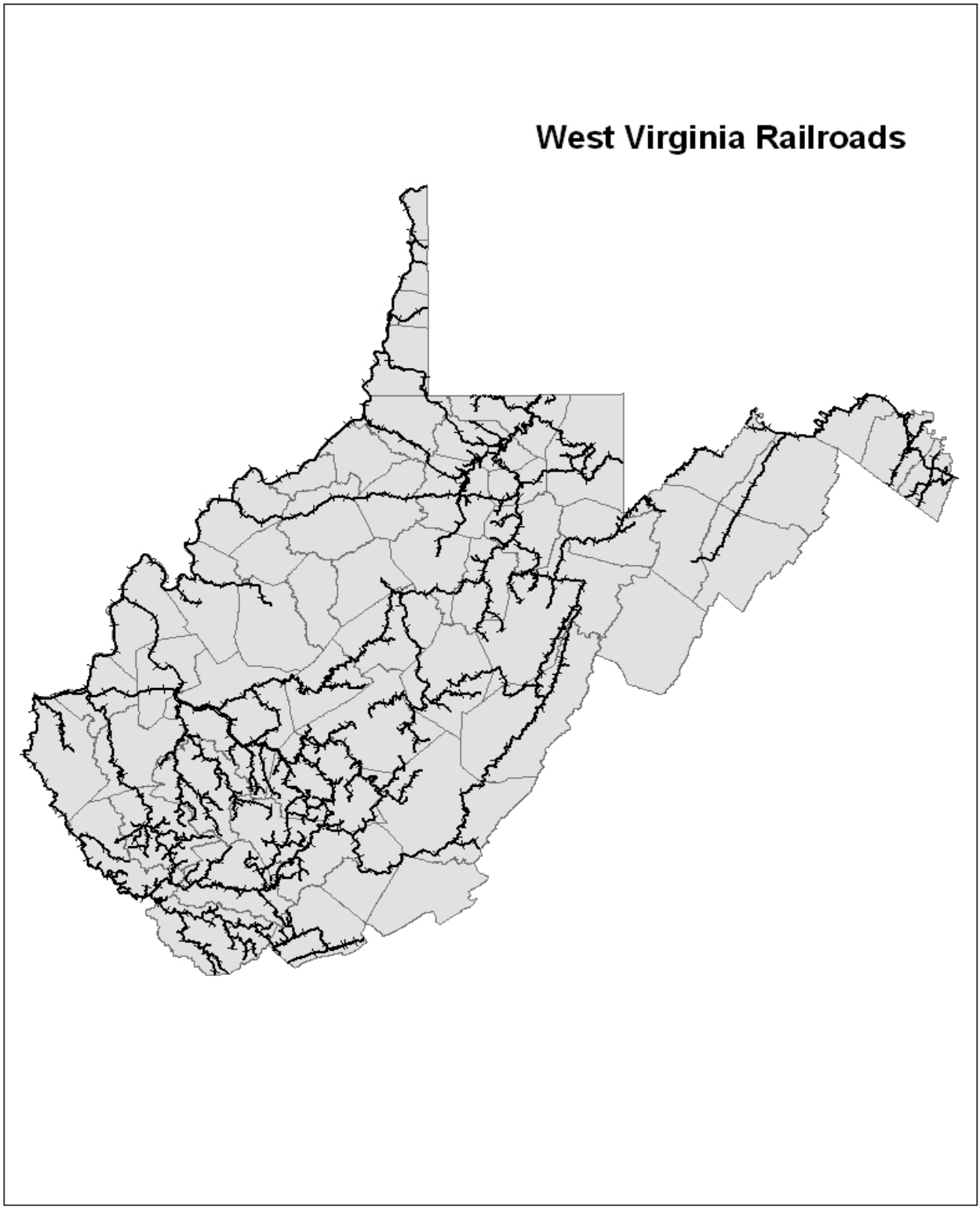
SWMB FIGURE 4-3
SOLID WASTE MANAGEMENT BOARD
NAVIGABLE WATERWAYS



SWMB FIGURE 4-4
SOLID WASTE MANAGEMENT BOARD
INTERSTATE AND US HIGHWAYS



SWMB FIGURE 4-5
SOLID WASTE MANAGEMENT BOARD
WEST VIRGINIA PRINCIPAL RAILROADS



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The Little Kanawha is navigable from its mouth at Parkersburg for 14.6 miles to Slate in Wood County. The Monongahela River is navigable its entire length from Pittsburgh where it helps form the Ohio, upstream to the vicinity of Fairmont in Marion County, a distance of 128.7 miles. The Tygart Valley River and the West Fork River, which form the Monongahela, are navigable for short distances.[7]

The state highway system has a total of 1,002 miles of expressways, 1,682 miles of trunkline roads and 3,393 miles of other feeder roads for a total of 6,077 miles (Figure 4-4). There are another 34,509 miles of state local service roads, state park roads and "Delta" roads which range from primitive to asphalt or concrete, paved or brick. National Forest and Park roads, city streets, U.S. Corps of Engineers roads and toll roads are not included in the state system but comprise another 3,053 miles of highways within West Virginia.[8]

West Virginia is served by 6 interstate highways. Interstate 81 cuts through Berkeley County in the Eastern Panhandle. Interstate 70 bisects Ohio County in the Northern Panhandle. Interstate 77 enters West Virginia at Bluefield and follows the West Virginia Turnpike north to Charleston, and then continues on to Parkersburg and into Ohio. Interstate 64 runs from Huntington east to Charleston where it follows the turnpike (and Interstate 77) south to Beckley. At Beckley, Interstate 64 leaves the turnpike (and Interstate 77) and runs east to White Sulphur Springs and into Virginia. Interstate 79 begins in Charleston and runs north-east to Morgantown and into Pennsylvania. Interstate 68 begins in Morgantown and extends east into Maryland.

All interstates have a Gross Weight Limit (GWL) of 80,000 pounds.[9] These interstates provide convenient access to the interior. Portions of US routes 50, 52, 119, 35, 60, 19, 33, 219, 522, have a GWL of 80,000 pounds. West Virginia routes with a similar GWL are portions of 34, 2, 39, 57, and 9. Other routes have a similar GWL for short distances. Portions of the above routes, and other highways, have a GWL of 73,500 pounds, others are limited to 65,000 pounds.[10] These gross weight limits apply to all state highways not identified as being part of the states coal resource transportation system.

In the 2003 legislative session, Senate Bill 583 amended W.Va. Code §17C to make higher weight limits on certain identified highways for the coal industry. They are as follows: Boone; Fayette; Lincoln; Logan; McDowell; Mercer; Mingo; Raleigh; Wayne and Wyoming counties; in Greenbrier County, routes west of Sam Black Church and southwest to the Summers County line; in Clay County, routes 4 and 16; in Nicholas County, routes 19, 20, 39, 41, and 55; in Webster County, routes 9, 20 and 82; and all state maintained roads and public highways found in Washington, Malden, Louden and Cabin Creek districts of Kanawha County are eligible to qualify as part of the coal resource transportation road system.

To date, the Corridor H Highway has been completed from Weston to Kerens in Randolph County on the western end and Baker to Moorefield

in the east. Sections from Moorefield to Forman and Baker to Wardensville are currently under construction. When the entire project is finished, Corridor H will extend 130 miles from Weston through Elkins to east of Wardenville into Virginia. The new route will replace sections of routes 33, 219, and 93.[11] Another project that may have an impact on waste management is the King Coal Highway which is part of the I-73/I-74 expansion of the national interstate highway system. The highway will connect Williamson in Mingo County with Bluefield in Mercer County and eventually intersect with I-64 in the Huntington area. Construction has begun on the eastern end of the project. According to the organizations website, while some construction has taken place in Mercer County, the project is largely in the planning stage.

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The mountainous terrain and narrow valleys cause most roads to be narrow, winding and difficult for large vehicles to travel. In fact, some of these roads are not suitable for a typical garbage packer truck.

West Virginia also has an infrastructure of railroads (Figure 4-5) with 2,427 operating miles of track. West Virginia currently is served by two major Class I railroads. CSX Transportation (CSXT) operates over 1,549 route miles in both northern and southern West Virginia. Norfolk Southern (NS) has 842 route miles in southern West Virginia, the Northern Panhandle and along the Kanawha River. Both CSXT and NS have numerous branch lines running into coal-producing areas.

Regionals and Short Lines - Included in this category are: Beech Mountain Railroad, Elk River Railroad, Little Kanawha River Rail, South Branch Valley Railroad, Vaughan Railroad, West Virginia Central Railroad, West Virginia Southern, Wheeling and Lake Erie Railway, Winchester and Western Railroad and Winifrede Railroad.

This discussion of transportation access into and throughout West Virginia serves to illustrate the state's potential susceptibility to the importation of increased quantities of solid waste. It is anticipated that this susceptibility could further exacerbate solid waste management problems.

4.2 County and Regional Solid Waste Authorities

With the enactment of W. Va. Code § § 22C-3 and 22C-4, the Legislature expressed its determination to protect the public health and welfare of the citizens with a comprehensive program of solid waste collection, processing, recycling and disposal. The program would be implemented by state and local government in cooperation with the private sector. The Legislature intended to accomplish this goal by establishing county and regional solid waste authorities (SWAs) throughout the state.

On January 1, 1989, W. Va. Code § 22C-4-3 created county SWAs and established them as public agencies in every county. The SWAs would be successors to each county SWA which may have been created previously by county commissions. Counties could elect to form regional SWAs. Any county commission which, on July 1, 1988, held a valid permit for a commercial solid waste transfer station could have elected to

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assume all duties and authorities vested in a county SWA. Boone County was the only county commission to do so. This remains so today.

SWAs are required to develop and implement Comprehensive Litter and Solid Waste Control Plans to help reduce the solid waste management problems in the state. W. Va. Code § 22C-4-1 establishes an integrated waste management hierarchy on which to base these comprehensive plans. In order of preference, the hierarchy is as follows:

1) Source reduction,
2) Recycling, reuse and materials recovery, and
3) Landfilling.

W. Va. Code § 22C-4-1 declared that a "proliferation" of solid waste facility proposals could have a "deleterious and debilitating impact upon the transportation network, property values, economic growth, environmental quality, other land uses and the public health and welfare in affected communities" and that the siting of such facilities was, "not being adequately addressed to protect these compelling interests of counties and local communities." Therefore, each SWA was also required to submit a Commercial Solid Waste Facility Siting Plan to identify zones where the siting of solid waste facilities is authorized, prohibited or tentatively prohibited.

Citizens and local governments often look to state environmental regulatory agencies to resolve local land use conflicts engendered by these proposed solid waste facilities. Often these local land use conflicts are most effectively resolved in a local governmental forum where citizens can most easily participate in the decision making process. Land use values of local communities are most effectively identified and incorporated into a comprehensive policy which reflects the values and goals of those communities. The county and/or regional SWAs were established to be such a forum.

SWA management is vested in the Board of Directors of the Authority. The members of the board receive no compensation for their service but are reimbursed for their actual expenses incurred in the discharge of their duties. Expenses incurred for necessary secretarial, clerical assistance, office supplies and general administrative expenses in the development of plans and the provision of solid waste collection are to be paid by the county commission from the general funds. W. Va. Code § 22C-4-7 grants authority to the county commission to determine the amount to be allocated annually to the SWA to the extent that such expenses are not paid by fees, grants and funds received by the authority from other sources. Regional SWA expenses are determined by a pro rata share of expenses based upon the population of the county based on the decennial census conducted by the U.S. Census Bureau.

W. Va. Code § 22C-4-3 delegates the appointments to the SWA Board of Directors. Each county SWA Board of Directors is comprised of five members who are appointed as follows: one by the Secretary of the

DEP, two by the county commission, one by the Board of Supervisors for the Conservation District in which the county is situated, and one by the Chairman of the PSC.

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Any two or more counties within the same wasteshed and with the approval of the SWMB can establish a regional SWA. The Board of the regional SWA is comprised and appointed as follows: one by the Secretary of the DEP, two by the county commission of each participating county, one appointed by the Board of Supervisors for each Conservation District in which a county of the region is situated, one by the Chairman of the PSC and two municipal representatives from each county having one or more participating municipality from each county.

The members of the Board are appointed for terms of four years. The initial term started on the first day of July, 1989. The first two members appointed by the county commission were appointed to initial terms of two and four years, respectively, and for terms of fours years thereafter. In 2000, the Legislature amended W. Va. Code § 22C-4-4 to stagger the terms of SWA members in order to provide for continuity in experience among members.

A chair and a vice-chair serve one year terms and are elected annually. The board of directors also appoints a secretary-treasurer, who need not be a member of the board of directors who must give bond in a sum determined adequate to protect the interests of the SWA. The board shall meet at such times and places as it or the chairman may determine. It is the duty of the chair to call a meeting of the board upon the written request of a majority of the members. The board maintains an accurate record and minutes of all its proceedings and is subject to the provisions of the Freedom of Information Act and the Open Governmental Proceedings Act. A majority of the board constitutes a quorum for the transaction of business.

The SWA may exercise all powers necessary or appropriate to carry out the purposes and duties to achieve their responsibilities as defined in W. Va. Code § 22C-4-8. The DNR, DEP, SWMB and the Bureau of Health provide technical assistance to each county and regional SWA as reasonable and practicable. The attorney general provides legal counsel to each county and regional SWA within the existing resources and appropriations available, or with written approval of the attorney general, the authority may employ outside counsel to represent it. The SWMB provides assistance to the county or regional SWAs, municipalities and other interested parties in identifying and securing markets for recyclables.

Each SWA has completed an initial Comprehensive Litter and Solid Waste Control Plan and a Commercial Solid Waste Facility Siting Plan and submitted these plans to the SWMB, as required by W. Va. Code § 22C-4-8. The comments received at mandatory public hearings were to be considered in developing the comprehensive plan. Comprehensive plans must be updated every five years, addressing the requirements of

Notes

the SWMB's Legislative Rules pursuant to 54CSR3. The Commercial Solid Waste Facility Siting Plan must address the requirements of the SWMB's Legislative Rules pursuant to 54CSR4. The SWMB could authorize any reasonable extension of up to one year for the completion of the siting plan for any SWA.

4.3 Development and Designation of Solid Waste Disposal Sheds

On October 21, 1976, the first amendments to the Federal Solid Waste Disposal Act Since 1970 were signed into law. The "Resource and Recovery Act of 1976" (RCRA) represented many years of congressional hearings and reports on the relative roles and needs of federal/state/local government and industry in solid waste management. The ultimate result of all of this effort is the federal solid waste management law, which provides the legal mechanism needed to deal with solid waste management problems.

RCRA's major objectives were to control hazardous wastes from cradle to grave, to eliminate improper land disposal practices, and to develop a long-term program in resource conservation. All of these objectives are greatly dependent on state government for achievement. Inherent in the amendments, therefore, was necessity for state government to embrace these objectives as their own. RCRA provided the mechanism to assist states to do that very thing, but that assumption is entirely dependent upon the willingness of an individual state to get involved.

The first mandated action under RCRA was the promulgation of guidelines that would serve the purpose of unifying the criteria to be used in identifying those areas which had common solid waste management problems, and which were appropriate units for planning solid waste management services. The Act called for boundary identification within six months of the date of the guidelines. The formal identification of regional boundaries and responsible agencies and the approval of state plans are conditions for eligibility of state and federal financial assistance. The West Virginia Resource Recovery - Solid Waste Disposal Authority, now the Solid Waste Management Board, divided the state into geographic regions for solid waste management purposes, and they were identified as wastesheds. W. Va. Code § 22C-3-9 defines the method by which wastesheds are to be designated.

Environmental Energy Engineering, Inc. of Morgantown was selected to assist in carrying out the legislative mandate to delineate and define solid waste sheds into which the state was to be divided. In June 1978, the document, *Designation of Interim Solid Waste Sheds for the State of West Virginia*, was presented to the Resource Recovery-Solid Waste Disposal Authority. In their approach to designate wastesheds, they took advantage of the boundaries already established by the Regional Planning and Development Councils (RPDC). It was anticipated that where a portion of an area can be served best by an adjacent region that an agreement would be negotiated to the mutual advantage of both regions.

Notes

Before designating the sheds, the SWMB consulted with the governing bodies of the counties and municipalities to obtain and evaluate their opinions as to how many sheds there should be and where their boundaries should be located. The SWMB then completed feasibility and cost studies. These studies were to determine the most dependable, effective, efficient and economical solid wastesheds. The sheds were not to overlap and they were to cover the entire state.

Although solid waste disposal sheds could be designated by the SWMB without respect to political or geographical boundaries, they considered such boundaries, regions and any county or municipal comprehensive plan in determining the area and boundary of each shed. The SWMB designated the sheds to comply with W. Va. Code § 22C-3-9 so that:

1. The goal of providing solid waste collection and disposal service to each household, business and industry in the state can reasonably be achieved;

2. The total cost of solid waste collection and disposal per person and the cost of solid waste collection and disposal within each shed can be kept as low as possible;

3. Solid waste collection and disposal services, facilities and projects can be integrated in the most feasible, dependable, effective, efficient and economical manner; and

4. No county is located in more than one shed. However, the SWMB may divide a county among two or more sheds upon request of the appropriate county or regional SWA. The SWMB may, from time to time, modify the boundaries of such sheds in a manner consistent with provisions of W. Va. Code § 22C-3-9.

Since 1978, five modifications to the wastesheds have occurred. The first was in August 1988, when the wasteshed designation changed from numbers to letters. This change went from an interim basis to a final designation upon which solid waste assessment fees were assessed. During this period, public hearings were conducted and the number of sheds was reduced from 11 to 8.

The second modification was in October 1990 when the city of Grantsville, in Calhoun County, elected to remain in Wasteshed C, while Calhoun County was placed in Wasteshed H. The third change occurred in January 1992, when Wasteshed D and E were combined to form Wasteshed E. Wasteshed D was eliminated.

In 1993, two modifications to the wasteshed designations occurred. Logan and Mason Counties were moved from Wasteshed G and C, respectively, to Wasteshed H in order to use the two landfills in Putnam County without incurring the out-of-shed assessment fees.

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4.4 Review of SWA Comprehensive and Siting Plans

In accordance with Legislative Rules 54CSR3 and 54CSR4, each county and regional Solid Waste Authority is responsible for completing a Comprehensive Litter and Solid Waste Control Plan and a Commercial Solid Waste Facility Siting Plan. In general, the comprehensive plan must address 14 points. These are:

1. An assessment of litter and solid waste problems in the county.
2. The establishment of solid waste collection and disposal services for all county residents at their residences.
3. An evaluation of the feasibility of requiring or encouraging the separation of solid waste to facilitate recycling and waste reduction measures.
4. The establishment of an appropriate mandatory garbage disposal program.
5. A recommendation for the siting of one or more properly permitted public or private solid waste facilities to serve the solid waste needs of the county or the region.
6. A timetable for the implementation of the comprehensive plan.
7. A program for the cleanup, reclamation and stabilization of any open and unpermitted dumps.
8. Coordination of the plan with the related solid waste collection and disposal service of municipalities and, if applicable, other counties.
9. A program to enlist the assistance of private industry and civic groups in volunteer cleanup efforts.
10. Innovative incentives to promote recycling.
11. A program to identify the disposal of out-of-county or out-of-region solid waste.
12. Coordination with the Division of Highways and other local, state and federal agencies in the control and removal of litter and the cleanup of open and unpermitted dumps.
13. Establishment of a program to encourage and utilize those individuals incarcerated in the county jail and those adults and juveniles sentenced to probation for the purposes of litter pickup.

14. A provision for the safe and sanitary disposal of commercial and industrial solid waste produced within the county or region, excluding refuse from sources owned or operated by the state or federal governments.

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The Commercial Solid Waste Facility Siting Plan must identify zones within each county where the siting of solid waste facilities is authorized, prohibited or tentatively prohibited. According to W. Va. Code §22C-4-24, the types of solid waste facilities to be included in the siting plan are:

1. Commercial solid waste facilities which may accept an aggregate of more than 10,000 tons of solid waste per month.

2. Commercial solid waste facilities which shall accept only less than an aggregate of 10,000 tons of solid waste per month.

3. Commercial solid waste transfer stations or commercial facilities for the processing or recycling of solid waste.

The county or regional SWA shall develop the siting plan based upon the consideration of the following criteria:

1. The efficient disposal of solid waste including all solid waste generated within the county or region.

2. Economic development.

3. Transportation facilities.

4. Property values.

5. Groundwater and surface waters.

6. Geological and hydrological conditions.

7. Aesthetic and environmental quality.

8. The present or potential land uses for residential, commercial, recreational, environmental conservation or industrial purposes.

9. Historic and cultural resources.

10. The public health, welfare and convenience.

The siting plan is developed based upon information that is readily available. Due to limited time and resources available, the plan need not be an exhaustive and technically detailed analysis of the criteria for the siting plan. Unless the information readily available clearly establishes

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that an area is suitable for the location of a commercial solid waste facility or not suitable for such a facility, the area shall be designated as an area in which the location of a commercial solid waste facility is tentatively prohibited. Any person making an application for the redesignation of a tentatively prohibited area will make the appropriate examination and submit specific detailed information in order to meet the provisions established.

Both the Comprehensive Solid Waste and Litter Control Plan and the Commercial Solid Waste Facility Siting Plan have rules in place for the proper procedures to follow in order for the plans to be approved by the SWMB. The comprehensive plan requires two public hearings, one before the completion of the draft plan and one after submittal of the draft plan to the SWMB. The siting plan requires one public hearing after submission of the draft plan to the SWMB.

The comprehensive plan and the siting plan require an administrative completeness review. If they are found to be complete, the plans progress to the technical review phase. If found incomplete, the plans are returned to the SWAs for corrections. The plans are then subject to technical review. If complete, they are submitted to the SWMB for approval. If the plans are found to have technical deficiencies, they are returned to the SWA for additional work. All of these review phases have time limits for submittal of plans.

The county or regional SWA may, from time to time, amend its plans in a manner consistent with the initial plans and the rules promulgated by the SWMB. The plans will be subject to a mandatory review and revision every five years after approval.

W. Va. Code § 22C-4-24(e) states that “effective upon approval of the siting plan by the SWMB, it is unlawful for any person to establish, construct, install or operate a commercial solid waste facility at a site not authorized by the siting plan.” However, “an existing commercial solid waste facility which, on the eighth day of April, 1989, held a valid solid waste permit or compliance order issued by the DNR may continue to operate but may not expand the spatial land area of the said facility beyond that authorized by the permit or compliance order.” Such a facility “may not increase the aggregate monthly solid waste capacity in excess of 10,000 tons unless such a facility is authorized by the siting plan.” The SWMB will prepare and adopt a siting plan and/or a comprehensive plan for any county or regional SWA which does not complete and file such plans with the SWMB.

SUMMARY OF COUNTY AND REGIONAL PLANS

The following summaries of county and regional solid waste plans are based on the most recent plan submitted to the SWMB, as required by state law. The plan summaries are grouped according to wasteshed designations. The summary will highlight major plan recommendations. Information is gathered from the most recent plans on file for each county which are required to be updated every five years.

Wasteshed A includes the following Solid Waste Authorities: Brooke, Hancock, Marshall, Ohio, Tyler and Wetzel Counties. Hancock**,** Marshall and Tyler Counties have no landfills, while Brooke, Ohio and Wetzel Counties each have large capacity landfills.

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Brooke County is host to a Class A landfill which accepts a large amount of out-of-state solid waste. A mandatory solid waste disposal program has gone into effect to require all households to subscribe to garbage pick-up. The SWA currently operates a drop-off recycling program which recovers approximately 70,000 pounds of paper, aluminum, steel, ferrous and non-ferrous metal a month. Weirton operates a curbside program, the Board of Education has a paper recycling program and the Brooke County Opportunity Center collects aluminum cans. The SWA, along with the cooperation of the WV DEP's PPOD Program and other volunteers, have cleaned up 58 open dumps and reclaimed 65 acres of land to date.

Hancock County's comprehensive plan describes in detail the problem with the large number of open dumps. The solid waste in these dumps may be from out-of-state sources due to Hancock's close proximity to Ohio and Pennsylvania. Hancock County was one of the first authorities in West Virginia to develop administrative procedures to cleanup open dumps. Hancock County SWA has used SWMB grant funds and their own funds to clean up open dumps.

Marshall County's solid waste is currently deposited in a Class A facility in Ohio County and a Class B facility in Wetzel County. The county SWA has developed a map of open dump sites and is using volunteers in a long-term plan to clean the sites. It has also begun to compare customer lists provided by commercial haulers with tax data to identify non-subscribers, with the intent of requiring them to document proper disposal of solid waste. The SWA currently has recycling trailers in place in McMechen, Benwood and Cameron. These communities have volunteer recycling programs in place. Glen Dale has a recycling program which has been in place since 1991.

Ohio County's largest municipality, Wheeling, is in Wasteshed A. Wheeling is the only city that operates its own solid waste collection system. The rest of the county is serviced by two private haulers. Weirton has implemented a mandatory recycling program. The SWA uses a drop-off recycling program for the rural parts of the county. According to the 2000 census, Moundsville's population dropped below 10,000. Because of this, the city is no longer a mandated municipality and notified the SWMB it would discontinue its recycling program effective June 1, 2002.

Tyler and **Wetzel** Counties have implemented a curbside recycling program which serves Middlebourne, Pine Grove, Reader, Friendly, New Martinsville, Paden City, Sistersville, Rolling Acres, Beechwood Estates

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and two housing developments through the "Tyler/Wetzel Recycling Project". Tyler County is committed to cleaning up open dumps throughout the county and continues to work with the DEP, DNR and local law enforcement officials in enforcing the Mandatory Solid Waste Disposal Rules.

Wasteshed B is the largest wasteshed in the state and includes the following Solid Waste Authorities: Barbour, Braxton, Clay, Doddridge, Harrison, Lewis/Gilmer, Marion, Monongalia, Preston, Randolph, Taylor, Tucker and Upshur Counties. This wasteshed covers a large area extending from Clay County in the center of the state to Monongalia County on the Pennsylvania border. In Wasteshed B, three municipalities, Clarksburg, Fairmont and Morgantown, all with populations over 10,000, and located along Interstate 79, are mandated to have recycling programs. North Central West Virginia Recycling Cooperative is made up of eight counties in Wasteshed B and is headquartered in Fairmont, Marion County.

Barbour County, a rural county generating less than 1,000 tons a month, has a very high percentage of residents using proper solid waste collection and disposal service. Philippi and Stewart Sanitation currently offer curbside recycling in the county. There are drop-off locations in Philippi and at the Barbour County SWA Recycling Center. Barbour County was one of the first counties in West Virginia to have a referendum on the siting of a large landfill. The citizens of Barbour County rejected this proposal by an overwhelming margin. The county participates in the North Central Recycling Cooperative.

Braxton County SWA has one drop-off program at Mountain Recycling, located in Gassaway. They also have a curbside program located in Sutton. The program serves approximately 300 households. The SWA offers cardboard pickup to county businesses once per week. The SWA has identified and is in the process of cleaning up six open dumps within the county.

Clay County was very careful in preparing its commercial solid waste facility siting plan, especially to protect areas along the scenic Elk River. Clay County has had difficulty in developing a recycling program for their county because of its rural character. The SWA is actively working with the DEP's PPOD program to cleanup open dumps within the county. They have compiled and mapped open dumps found in the county and have prioritized them for clean up.

Doddridge County uses existing solid waste facilities in Harrison County. Because Doddridge County only generates 450 tons of solid waste per month and there are a large number oil and gas wells in the county, landfills are prohibited countywide. The county SWA believes that the low population density also makes curbside recycling impractical. With

the cooperation of the DEP's PPOD Program, there has been 30 open dumps cleaned up throughout the county.

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Harrison County, the home of the Federal Bureau of Investigation (FBI) Fingerprinting Center, is also the home of two landfills which serve most of Wasteshed B. The two landfills have a permitted capacity of 29,999 tons per month. More than 60 illegal dumps have been cleaned up with the aid of DNR Conservation Officers, DEP Environmental Inspectors, the sheriff's department, 4-H clubs and other volunteers over the last six years. Clarksburg operates a compost facility at the site of the closed municipal landfill.

Lewis and **Gilmer** County haulers take approximately 1,045 tons of solid waste per month to two landfills in Harrison County. A private individual has opened a Class D landfill for construction/demolition debris, municipal solid waste, and tire collection. The Lewis/Gilmer Regional SWA is identifying households that do not subscribe to collection services and are not landfill customers. This information is forwarded to county and state law enforcement agencies. Most of the open dumps identified in the SWA's original comprehensive plan have been cleaned up. Large and small dumps are still scattered throughout the region. The dumps continue to be monitored while resources are being acquired for their cleanup. Lewis/Gilmer participates in NCRC to comply with its recycling ordinance. Drop-off recycling programs are established in Jane Lew, Weston, and Glenville.

Marion County's landfill closed in December 1995. The SWA is involved in several recycling programs and are involved in cleanup efforts of open dumps. They currently have recycling trailers placed at Idamay, Rievesville and the Middletown Mall and a cooperative agreement with the Monongalia County SWA for materials processing and marketing. Marion County SWA also sponsors an annual telephone book and Christmas card recycling program.

Monongalia County has a progressive campaign to implement mandatory disposal. The SWA has prohibited solid waste facilities from being constructed over mined areas. After a state operated landfill closed in 1993, solid waste has been hauled either to Harrison County landfills, Meadowfill or S&S, or to the Ardens-USA Waste and CBF landfills in Pennsylvania. Open dumps are scattered throughout the county. Some of the problems encountered in its cleanup program include lack of public notification of new sites, cleaned up dumps becoming active again, and the availability of resources to clean up new sites. Five of the ten haulers in the county provide curbside recycling collection. Much of the county is still not served by convenient recycling.

Preston County's solid waste is transported to landfills in Tucker County because the county does not have a landfill. There is one transfer station located in Kingwood. Preston County is also home to the Charles H. Pace Tire Monofill. The SWA works with the PPOD program to clean up open dumps. They also plan to pursue an aggressive educational

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program to encourage source reduction, recycling and backyard composting.

Randolph and Tucker Counties want to keep their county landfills open and build recycling/composting facilities adjacent to the landfill area. Randolph County has established a Saturday drop-off program. Unlike most counties, there are no reported open dumps in Randolph County. Tucker County is a very scenic county with a large area of government recreational land and a wildlife refuge area in Canaan Valley. Sunrise Sanitation operates drop-off sites in Thomas, Davis and other locations around the county.

Taylor County has two drop-off locations and two curbside programs. The curbside programs serve 1,991 households in Grafton and 1,220 in a rural community. The SWA takes their solid waste to Harrison County and has a recycling program that complies with the Harrison County Recycling Ordinance. All households in Taylor County have access to garbage service and curbside recycling.

Upshur County's residents are serviced by two solid waste haulers, Weston Transfer, Inc. and Buckhannon. Commercial and industrial accounts are provided service by Allied Waste Services. All waste is deposited into the S & S Landfill in Harrison County. The SWA and Buckhannon established a transfer station and a recycling center on a 48-acre site, because of the closing of the Buckhannon Landfill. The Upshur County SWA participates in the NCWVRC.

Wasteshed C includes the following Solid Waste Authorities: Jackson, Pleasants, Ritchie, Wirt and Wood Counties.

Jackson County solid waste is hauled to Athens-Hocking Landfill in Ohio. The Jackson County SWA proposes to use a public information campaign and explore the use of annual fees paid by all owners to encourage compliance with mandatory collection. Mail carriers, haulers and school bus drivers are to assist the SWA in an inventory of open dumps which will then be prioritized for cleanup. The SWA operates a recycling program in Cottageville. Collection is through eight drop-off sites and a cardboard pickup for businesses.

Pleasants County, a small county located along the Ohio River, transports all of their solid waste to landfills in Wetzel and Wood Counties. The county SWA approved a mandatory disposal program in which haulers work with the SWA to solicit new customers outside St. Marys, which has city collection. The SWA, in conjunction with St. Marys, operates a comprehensive recycling program at the St. Marys Correctional Center.

The **Ritchie** SWA is proposing to have the county commission pass an ordinance to implement mandatory disposal. The county produces approximately 720 tons of waste per month and is served by five commercial haulers. All waste is currently being disposed of at Northwestern

Disposal Co., in Wood County. The Ritchie County Recycling Center operates a drop-off center in Ellenboro. They collected 89 tons of material in 2005. The SWA also has a proposed education program that includes advertising in local papers and initiating informative and educational articles for publication.

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Wirt County currently operates a drop-off recycling center in Elizabeth. All items are transported to the St. Marys Recycling Center in Pleasants County. Wirt County uses the Northwestern Landfill in Wood County and have no plans to site additional landfills in their county. The SWA plans to work with the DEP's PPOD program to identify and list open dumps in the county so that they can be cleaned up. The SWA also publishes "Public Notices" to inform the residents of the county about mandatory garbage disposal.

Wood County is home of Northwestern Landfill, a Class A landfill, owned by Waste Management, Inc. Parkersburg is mandated to have a recycling program and may be the future site of a materials recovery facility (MRF). Vienna has a mandated recycling program in place. The SWA estimates that the number of open dumps in the county range from 300-700. They work with local, state and federal agencies to aide in the cleanup of these dumps.

Wasteshed E includes the following county authorities: Berkeley, Jefferson, Morgan Counties and a regional authority, Region Eight, consisting of five counties: Grant, Hampshire, Hardy, Mineral and Pendleton.

In **Berkeley** County, Martinsburg, the largest city in Wasteshed E, is the only city in the wasteshed mandated to have a recycling program. Berkeley County SWA has twenty-three (23) drop-off locations in which some accept mixed paper, cans and glass. One of the drop-off locations, the Grapevine Road Center, also accepts yardwaste, appliances and various metals. Berkeley County is also home to the LCS Landfill, a Class B facility owned by Waste Management. The residents of Martinsburg are provided with curbside recycling. In the remainder of Berkeley County, recyclable materials are collected at four main drop-off locations operated by the county SWA. The SWA currently has a list of 8 "significant" open dumps within the county which it will work to clean up with the help of volunteers and state agencies. From 1989 - 2000, 31 dumps and over 9.5 acres of land were reclaimed by the SWA and DEP's PPOD Program.

Jefferson County has developed a wood recycling operation and a yardwaste composting program. The SWA processes approximately 1,348 tons of wood and yardwaste per year. Jefferson County has been actively marketing their mulch at the JCSWA Transfer Station. In 1992, Jefferson County passed an ordinance for the mandatory collection of

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recyclables. Waste Management offers curbside collection of commingled residential recyclables and white goods. The Leetown Transfer Station offers separated bins and containers for residential recyclables.

Morgan County is a small county in the eastern panhandle that has received an increase in former residents of the Washington, D.C. area. The county does not have a landfill and sends its solid waste to LCS Landfill in Berkeley County. Recyclable materials are collected at seven drop-off locations in the county. Volunteers assist the SWA during these collections. Curbside recycling is offered to businesses in the town of Bath. In partnering with the DEP's PPOD program, the SWA has cleaned up 35 dumps in the county, reclaimed 49 acres of land and collected 749 tons of material.

The **Region Eight** authority is made up of the following counties: Grant, Hampshire, Hardy, Mineral and Pendleton. The Region Eight SWA operates two solid waste transfer stations. The southern three counties of Region Eight, Grant, Hardy and Pendleton, transport their solid waste to Tucker County from a transfer station in Petersburg. The remaining counties in Region Eight, Mineral and Hampshire, are transporting their solid waste to Tucker County from a transfer station in Romney. The Authority intends to identify all open dumps in the region and maintain them on a map in their office. Dumps will be rated and prioritized for clean up. The SWA will continue to work with DEP's PPOD program to assist them in cleaning up these dumps.

Wasteshed F is the smallest wasteshed in the state and is composed of four county authorities: Greenbrier, Nicholas, Pocahontas and Webster.

Greenbrier County has four municipalities with curbside recycling programs, one drop-off center, and the primary hauler provides curbside pickup of recyclables in most of the remaining areas served by Greenbrier County Landfill. The SWA intends to expand the landfill to a state of the art facility, serving as a construction/demolition debris landfill, a recycling center and a composting site. The SWA has converted a large building into a recycling center. Greenbrier County has been very successful in its recycling campaign as they are recycling 25 - 27% of their solid waste.

Nicholas County is home to the Nicholas County Landfill, owned and operated by the Nicholas County Solid Waste Authority. Drop-off containers are provided at the landfill for newspapers, used motor oil and corrugated cardboard. Privately operated drop-off locations are also located in Nicholas County that accept scrap metals and batteries. Richwood now takes its solid waste to the landfill in Nicholas County. There are currently ten reported open dumps in Nicholas County. The SWA is working with the DNR and DEP's PPOD program to clean up these dumps.

Pocahontas County has a small, centrally located landfill that serves the entire county. The landfill is owned and operated by the Pocahontas County Solid Waste Authority. The federal and state governments own approximately two-thirds of Pocahontas County. Due to the refusal of the government agencies and the limitations of private land, it would be extremely difficult to site another solid waste facility in the county. No cases of major open dumps have been documented since 1990 due mainly to mandatory collection which has been enacted through an assessment fee placed on all dwellings in the county. The fee gives the property owner the right to use the green boxes designated for solid waste disposal placed throughout the county. Recycling bins are available at all green box locations. The SWA intends to increase awareness of the benefits of recycling through public school programs.

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Webster County has notified its residents of the mandatory garbage disposal law by public notice in the two county newspapers. Because of the geography of the county, curbside recycling is not the most efficient or effective manner to collect recyclables. The SWA will continue to promote placement of drop-off boxes for recyclables at the five county schools and at special events. The Webster County Landfill, owned by the Webster County Solid Waste Authority, is currently non-operational.

Wasteshed G in the southern section of the state is composed of eight county authorities: Fayette, McDowell, Mercer, Mingo, Monroe, Raleigh, Summers and Wyoming. The western portion of this wasteshed may have problems properly disposing of solid waste due to the closure of landfills in this area. It will be difficult to develop new landfills because of steep slopes and poor quality roads. Additionally, this area has been extensively deep mined.

Fayette, Raleigh and **Wyoming** Counties submitted their comprehensive litter and solid waste control plan as a regional plan. The Raleigh County Landfill, a Class A facility, is owned and operated by the Raleigh County Solid Waste Authority, serves all three counties. Beckley has implemented a curbside recycling program and the materials collected are transported to the Raleigh SWA Recycling Center. The Fayette County SWA has started a mandatory collection program for solid waste pick-up. The SWA is also working to establish a recycling effort among the whitewater rafting companies. In Wyoming County, 69 open dumps were cleaned up in FY 2004 through the SWA's work with summer youth programs and inmate workers. Raleigh County SWA has a 34,000 square foot state-of-the-art regional recycling center. Built into the center is a massive educational observation room with seating capacity for more than 100 children. Any school in the state may visit and observe the recycling process and receive instruction on recycling and other environmental issues regarding littering and scientific data concerning municipal solid waste management. The center also has a museum with displays of items fabricated from recycled and reused materials.

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McDowell County is transporting solid waste to Mercer County. Currently, McDowell County does not offer curbside or drop-off recycling to residents or businesses.

Mercer County was the first public landfill to have a composite liner installed. The county SWA is currently working with the county commission to develop a mandatory disposal program. Ordinances are in place in Athens, Bluefield and Princeton requiring all households to have garbage pickup. An open dump cleanup program using inmate labor has removed 5,500 tons of waste since 1991. More than half of the waste was recycled. The SWA operates three recycling drop-off centers and its recycling facility. Bluefield operates a curbside recycling collection program for its residents. Approximately 670 tons of recyclable materials were processed in the county in 1998.

In **Mingo** County, the problem of landfill closures and new landfills being built is particularly acute ever since the landfill closed on September 30, 1994. Mingo County is serviced by two private haulers, Waste Management of WV, Inc., and Morgan Sanitation & Recycling. Williamson is the only public hauler in the county. The county currently produces approximately 52.7 tons of solid waste per day which is being transported to landfills in Kentucky. The authority has worked closely with the DEP's PPOD program in cleaning up 25 open dumps to date removing almost 700 tons of waste. Mingo County has had a solid waste ordinance in place, yet has enforcement issues in dealing with the county's problems. Recycling facilities are limited in such a rural county. Residents and businesses only have two current options which are both limited in the items they accept. The authority has been working with the teachers in the county to add more environmental issues into the educational curriculum.

Monroe and **Summers** Counties are working together to implement recycling programs. The Summers County SWA developed its siting plan to protect the scenic beauty of the county since tourism is the number one industry. The Monroe County SWA has planned an aggressive public education program informing residents of the provisions and penalties associated with the state's mandatory garbage disposal law, W.Va. Code §22C-4-10. The Summers County SWA has also developed a mandatory garbage disposal program. They have flyers that have been developed for distribution in personal property tax statements. The Summers County SWA has also developed a database to help keep track of waste service subscribers.

Wasteshed H has the largest population total of any wasteshed in West Virginia. The wasteshed includes the following county authorities: Boone, Cabell, Calhoun, Kanawha, Lincoln, Logan, Mason, Putnam, Roane and Wayne.

The **Boone** County Commission owns and operates two transfer stations. Solid waste is transported to Sycamore Landfill in Putnam County. Boone County provides free solid waste disposal provided that residents bring their waste to one of the transfer stations. The service is funded by coal severance taxes. In the future, Boone County residents may have to pay a fee as coal production declines and landfill tipping fees increase. The cleanup of open dumps has been a continuous effort. A real estate appraiser notifies the county commission of any new illegal sites. Sites are cleaned up as funding becomes available. The plan calls for increased recycling because a landfill is unlikely due to the topography of the area and the fact that much of the area is undermined. The commission has opened a recycling center at a closed school building for storage and baling of materials. Ferrous metal is collected at the transfer stations and office paper at the county courthouse.

Cabell County is working with Huntington to manage their solid waste in the future with a recycling program and composting facility. Most of the county's solid waste gets transported to Kentucky landfills.

Calhoun County sends all of its solid waste to the Northwestern Landfill in Wood County. Grantsville has a mandatory collection ordinance, and a solid waste dumpster is provided for rural residents for a fee. Open dumps remain a problem. The authority is continuing to work with the DEP's PPOD program which has successfully removed 524 tons of litter to date. The Cabot Recycling Station in Grantsville is a drop-off center operated by the SWA and accepts various recyclables from county residents.

In **Kanawha** County, Charleston, St. Albans, and South Charleston are mandated to have recycling programs. Each of these cities offer curbside pick-up of recyclables. Other cities in the county to offer curbside pick-up of recyclables include Cedar Grove, Chesapeake, Dunbar, Marmet and Montgomery. Drop-off sites and roll-off bins have been placed throughout the county. Open dumps continue to create problems for Kanawha County. Waste from within the county is disposed of at Charleston's Landfill.

Lincoln County SWA has four drop-off locations in the county. They have also developed a composting program at a local farm in Hamlin. The SWA works with the DEP's PPOD program to clean up open dumps in the county. Since the inception, 151 illegal dumps have been cleaned up, 76 acres of land have been reclaimed and 1,665 tons of materials have been removed. The SWA has adopted a plan to support mandatory disposal and continues to promote and educate the public on the collection laws. Lincoln County is serviced by one certified hauler, BFI, which transports all waste to either the Charleston Landfill in Kanawha County, or the Sycamore Landfill in Putnam County.

Logan County established a transfer station after the closure of its only landfill in 1992. Solid waste is hauled to landfills in Putnam and Kanawha counties. Four of the five municipalities provide collection for their resi-

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dents. Waste Management of WV., Inc., provides service to the rest of the county. The Logan County SWA has emphasized enforcement of mandatory disposal. The SWA employs a solid waste inspector to educate citizens and enforce compliance. In working with the DEP's PPOD program, the SWA has cleaned up 75 open dumps in the county which has reclaimed 42 acres of land. Four commercial recyclers serve the county however, there is no countywide recycling program in place. The authority has implemented an aggressive recycling education and litter removal campaign for the county.

Mason County SWA and the county commission have constructed a recycling center which is operated as a drop-off site. There are also, 29 cardboard collection bins located throughout the county. The SWA supports the mandatory garbage disposal law and plans to inform county residents through newspaper ads and on the radio. Most of Mason County's solid waste is disposed of out of the state. The county is served by four waste haulers; two private and two public. Open dumps in the county are prioritized and cleaned up accordingly by the SWA in cooperation with the DEP's PPOD section.

Putnam County, one of the fastest growing counties in the state, is home to two landfills, Disposal Services and Sycamore Landfills. Located between Charleston and Huntington, Putnam County landfills serve as the disposal area for significant portions of Wasteshed H. There are two drop-off sites in the county, WV Cashin' Recyclables and E&L Sanitation. WV Cashin' Recyclables also serves as a buy-back center for some materials and a materials brokerage for other collectors of recyclable materials. Cummings trash service provides curbside recycling to its residents. The Authority has established an appliance recycling program and a mobile home recycling program.

The **Roane** County SWA operates a drop-off recycling facility in Spencer and has one collection trailer placed at the Roane-Jackson Vocational Technology School. Two haulers presently provide pickup service for county residents and businesses. Waste is disposed of at Charleston landfill in Kanawha County. The SWA intends to use public education and punitive measures to enforce mandatory disposal. A media campaign is used to assist in identifying open dumps. There have been a total of 27 dumps cleaned up, which reclaimed 22 acres of land. Volunteer programs are in place to assist in the cleanup efforts.

Wayne County SWA has developed three drop-off and one curbside program for area citizens. Wayne provides curbside service to 324 households. The SWA has currently identified 12 open dumps within the county. The authority has implemented an alternative sentencing program in cooperation with local law enforcement to facilitate open dump clean up and litter control. To date, the DEP's PPOD program has cleaned up 346 dumps and reclaimed 193 acres of land since its inception in 1989. The authority will continue to work with the PPOD program.

4.5 Solid Waste Management Board/Solid Waste Authority Coordination

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The SWMB is the coordinator between the SWAs and other state agencies involved in solid waste management. The Board is composed of seven members. The Secretary of the Department of Health and Human Resources (DHHR) and 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 representing the general public.

The SWMB is the coordinator between federal, state and substate programs for solid waste management. The DEP is the coordinator between federal, state and substate programs for air quality, water quality, waste water treatment, pesticides, toxic substances, noise control and radiation control.

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 any authority fails to submit a plan, the SWMB staff must develop a plan for that authority or region.

In addition to identifying and securing markets for recyclables for the SWAs, municipalities and other interested parties, the SWMB must provide help educating the public on source reduction, recycling and reuse. The critical need in waste management is communication through marketing and public education to encourage people to recycle properly and to realize that they are part of a larger continuous effort.

In order to better serve the local SWAs, the SWMB has established a toll-free number to facilitate SWA access to solid waste information. The SWMB staff will attend local SWA meetings to offer support, provide education and to inform the SWAs of changes in regulations, markets, agency responsibilities and to provide workshops. All agencies concerned with, or funded by, solid waste fees in the state need to coordinate support for implementation and enforcement of local plans.

The distribution of federal funds is set forth in 40CFR1 § 256 of the Guidelines for Development and Implementation of State Solid Waste Management Plans. Although no federal funds have been released for development and implementation of state plans for a significant time, the SWMB would serve as the conduit of funding to local SWAs for planning development and implementation should funds become available.

SWMB staff members also attend Association of West Virginia Solid Waste Authorities meetings and conferences in order to maintain con-

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tact with and monitor the needs of the Authorities to provide necessary support. In addition, staff regularly attend meetings of county and regional solid waste authorities.

4.6 Solid Waste Management Board Grants

In accordance with W. Va. Code § 22C-4-30, an assessment fee of $1.25 per ton of solid waste disposed is collected at all solid waste disposal facilities in the state. This fee is in addition to all other fees levied by law and is deposited in a special revenue account, the "Solid Waste Planning Fund," to be allocated by the SWMB. Senate Bill 602 was passed during the legislative session in 1998, which transferred $0.25 of the disposal fee from the West Virginia Development Office to the Solid Waste Management Board.

Fifty percent of the fee is divided equally among each county SWA. The other 50% is expended by the SWMB for (1) administration, technical assistance or other costs necessary to implement the purposes of Chapter 22C, Article 4 and (2) grants to the county or regional solid waste authorities for the purposes of Chapter 22C, Article 4.

The grant rules, found in 54CSR5, prioritize the purposes for which grants can be awarded. The following are in prioritized order:

1. Source Reduction.
2. Reuse.
3. Recycling.
4. Open Dump Cleanup.
5. Transfer Stations.
6. Landfills.
7. Administrative Costs.
8. Projects for Education.

Reports must be submitted on a semi-annual basis reporting total funds expended to date, balance of grant monies remaining, and the percentage of the project completed. Semi-annual reports are due within 15 working days of close of semi-annual period and final reports are to be submitted within 30 calendar days of completion of the project containing the same information as the semi-annual reports. Any funds not expended at the end of the grant period are to be returned to the SWMB.

From January 1, 1991, to September 16, 2006, 319 grants were approved. Grants were awarded for recycling, 68%; open dump cleanup, 13%; and other projects, 20%. Table 4-1 details the grants that have been awarded since 1991. See Appendix A for a summary of these grants.

Factors considered in evaluating applications include hierarchy, potential, financial sustainability and cost effectiveness of project and prior funding. Administrative costs, except for computers, are given low consideration, and equipment or facilities receive preference over funding of operations or salaries. No grants are awarded to buy-back centers that are in direct competition with the private sector.

W. Va. Code § 22C-4-30(h) restricts eligibility to county and regional SWAs or a group of authorities working toward a common goal, such as cooperative marketing groups. Grants are awarded for a maximum period of one year and cannot exceed the maximum amount established by the Board. Authorities acting collectively may receive the total amount available for each of the individual authorities. Matching funds are not required for these grants.

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SWMB TABLE 4-1
WEST VIRGINIA SOLID WASTE MANAGEMENT BOARD
SCHEDULE OF GRANT FUNDS AWARDED
JANUARY 1, 1991 - SEPTEMBER 12, 2006

FISCAL YEAR	NO.	RECYCLING	OPEN DUMP CLEAN-UP	OTHER	TOTAL
1991	29	$220,543	$203,660	$32,000	$456,203
% OF TOTAL		**48%**	**45%**	**7%**	**100%**
1992	22	$213,350	$75,100	$33,400	$321,850
% OF TOTAL		**66%**	**24%**	**10%**	**100%**
1993	30	$351,360	$71,000	$176,027	$598,387
% OF TOTAL		**59%**	**12%**	**29%**	**100%**
1994	32	$330,025	$144,500	$137,361	$611,886
% OF TOTAL		54%	24%	22%	100%
1995	14	$193,905	$35,000	$33,300	$262,205
% OF TOTAL		**74%**	**13%**	**13%**	**100%**
1996	17	$297,265	$71,173	$41,180	$409,618
% OF TOTAL		**73%**	**16%**	**11%**	**100%**
1997	22	$285,709	$55,000	$67,740	$408,449
% OF TOTAL		**70%**	**13%**	**17%**	**100%**
1998	18	$200,695	$0	$62,000	$262,695
% OF TOTAL		**76%**	**0%**	**24%**	**100%**
1999	0	$0	$0	$0	$0
2000	0	$0	$0	$0	$0
2001	15	$221,689	$0	$17,310	$238,999
% OF TOTAL		**93%**	**0%**	**7%**	**100%**
2002	17	$279,329	$0	$20,000	$299,329
% OF TOTAL		**93%**	**0%**	**7%**	**100%**

SWMB TABLE 4-1 (Continued)

FISCAL YEAR	NO.	RECYCLING	OPEN DUMP CLEAN-UP	OTHER	TOTAL
2003	21	$230,224	$20,000	$108,616	$358,840
% OF TOTAL		**64%**	**6%**	**30%**	**100%**
2004	15	$185,052	$0	$54,948	$240,000
% OF TOTAL		**77%**	**0%**	**23%**	**100%**
2005	26	$122,767	$0	$152,233	$275,000
% OF TOTAL		**45%**	**0%**	**55%**	**100%**
2006	21	$259,266	$0	$60,733	$319,999
% OF TOTAL		**81%**	**0%**	**19%**	**100%**
2007	20	$262,735	$0	$60,754	$323,489
% OF TOTAL		**81%**	**0%**	**19%**	**100%**
COMBINED TOTAL	**319**	**$3,653,914**	**$675,433**	**$1,057,602**	**$5,386,949**
COMBINED PERCENT		**68%**	**13 %**	**20%**	**100%**

END NOTES FOR SECTION 4

1. Rice, Otis K., *West Virginia: The Mountain State*, University Press of Kentucky, Lexington KY, 1985, p. 2.

2. Holmes, Darrell E., ed., *West Virginia Blue Book: 1989*, Jarrett Printing Company, Charleston, WV, 1989, p. 1032.

3. Rice, Otis K., *West Virginia: The State and Its People*, McClain Publishing Co., Parsons, WV, 1972, p. 2.

4. Population Estimates Program, U.S. Census Bureau, Washington, D.C.

5. West Virginia Geological and Economic Survey, *West Virginia Transportation System: Railroads, Major Highways, Airports, and Navigable Waterways,* 1986.

6. Ibid.

7. Ibid.

8. Holmes, *West Virginia Blue Book*, 2005, p. 1,042.

9. West Virginia Division of Highways, Enforcement Division, Jeff Davis, September 1, 2002.

10. Ibid.

11. West Virginia Division of Highways, www.wvcorridorh.com. August 28, 2001.

12. West Virginia Division of Highways, September 1, 2002 www.wvdot.com/4_railways/4b1_statistics.htm

Chapter 5

WV Source Reduction and Recycling Plan

5. WV SOURCE REDUCTION AND RECYCLING PLAN

Notes

5.1 Introduction

In response to the federal requirements of the Resource Conservation and Recovery Act (RCRA), the legislature enacted the West Virginia Recycling Act (W.Va. Code § 20-11, which is now § 22-15A as a result of Senate Bill 428 which passed in April of 2005) in 1989. Subtitle D of RCRA emphasizes the importance of integrated waste management, which involves using a combination of techniques and programs to manage municipal solid waste.

The idea behind integrated waste management is that a combination of approaches can be used to handle targeted portions of the waste stream. Instead of immediately driving the development of big, high-technology programs or setting unrealistic expectations as to what portion of the waste stream can be recycled, decision-makers implement a series of programs. Each program is designed to complement the others. Source reduction is at the top of the hierarchy, followed by reuse, recycling and landfilling. Combustion of solid waste, although a part of the USEPA hierarchy, has been banned in West Virginia.

The West Virginia Recycling Act established recycling goals that would reduce the per capita disposal of solid waste by 20% by January 1, 1994; 30% by January 1, 2000; and 50% by January 1, 2010. The Act also authorized the establishment of county recycling programs through referendum. The Act, as amended by Senate Bill 18 in October 1991, also required the establishment of curbside, source separated municipal recycling programs in municipalities of 10,000 or more. In February 1992, House Bill 4149 further amended the Act to require county and regional Solid Waste Authorities (SWAs) to prepare and adopt a comprehensive recycling plan as part of the Comprehensive Litter and Solid Waste Control Plan. The Act also required the establishment of recycling programs by all state agencies, primary and secondary schools, and colleges and universities. It also required state agencies, to the maximum extent possible, to purchase recycled products. Additionally, the Act prohibited yardwaste, tires and lead acid batteries from being deposited in landfills and directed the SWMB to prepare programs for the proper handling of these materials. Recycling is a fundamental part of any integrated waste management plan.

Recycling alone cannot solve the state's solid waste management problems, but it can divert a significant portion of the waste stream from disposal in landfills. Many different recycling options are available, but recycling program development requires strategic planning. This involves understanding materials markets, building local expertise, setting realistic goals and fostering public participation. It is the goal of this plan to help provide direction to state agencies and local SWAs in spending public monies so that the collection, processing, transporting and marketing of recyclables can be implemented as cost-effectively as possible.

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This will require several things: a) analyzing alternatives that work best in urban v. rural areas, b) identification of existing facilities and associated equipment, c) an analysis of existing markets, including their location and the quantity and quality of materials required for processing, d) the potential development of new markets, and e) making incentives available to facilitate the development of those markets.

The advocacy for recycling at both the state and federal levels continues to be strong and generally responsive to widespread public support and demand. However, in the rush to require recycling, the market for recyclable materials has often been ignored or misunderstood. This has created severe stresses and difficulties in the commodities marketplace for recycled materials which is traditionally a volatile element of the economy that is very sensitive to the relationship between supply and demand.

The sudden growth in legislation promoting recycling created an external stimulus that increased the supply of some commodities in the United States to the point where a glut occurred. Plastics and newspaper were prime examples. The phenomenon of negative prices for some commodities severely impacted public programs that were dependent on revenue from this material and the portion of the private sector that was engaged in the recycling of these materials. However, in 2004 prices for plastic and steel hit an all time high while glass prices continue to fall.

Considering the variety of methods available to remove bottles, newspapers, plastics and other materials from the waste stream and the numerous alternatives for processing and transporting recyclables, it is apparent that there is no single combination of alternatives for collecting, transporting, processing and marketing recyclables that should or could be used statewide. There are, however, general guidelines that should be followed when establishing a recycling program. These guidelines will be discussed in this section. The best option or combination of options for a specific community can be achieved when a careful evaluation is made to determine what is available and required to meet specific needs and circumstances in the area.

5.2 Source Reduction

5.2.1 Waste Reduction and Reuse

The reduction of MSW at the source can be achieved by changing purchasing habits, creating less product packaging, repairing, recycling and reusing of products. Although it is the highest mandated preference in the waste hierarchy, source reduction has received very little attention in state legislation.

The US EPA defines source reduction as “the design, manufacture, acquisition, and reuse of materials so as to minimize the quantity and/or toxicity of waste produced. Source reduction prevents waste either by redesigning products or by otherwise changing societal patterns of consumption, use, and waste generation.[1]”

Source reduction involves making a conscious decision to act in such a manner to reduce the amount or harmfulness of waste before the waste is generated. Source reduction activities can be broken down into two broad categories: actions taken by the manufacturer and actions taken by the consumer. Potential consumer actions include product reuse, decreasing consumption and purchasing of products in bulk to reduce packaging. Table 5-1 shows consumer suggestions for waste reduction. Manufacturers, who are also consumers, can take these actions as well by reducing material volume, reducing toxicity and increasing product life-span.[2]

Marketing surveys have found that a large majority of respondents report having changed their purchasing decisions based on environmental concerns. Many companies have responded to the consumer demand for more "environmentally friendly" products.[3] Decreasing consumption includes buying in bulk or not buying excessively packaged materials or "disposable" items. It is important to remember that changes in consumer purchasing behavior patterns occur gradually and, therefore, ongoing public information programs will be required to achieve source reduction goals.

SWMB TABLE 5-1
SUGGESTIONS FOR WASTE REDUCTION AND REUSE

Suggestions for Waste Reduction and Reuse
1. Buy durable products instead of those that are disposable or cheaply made. 2. Repair used items before replacing them. 3. Borrow or rent things you seldom use. 4. Buy items you can reuse. 5. Buy items you can recycle locally. 6. Avoid excess packaging when choosing product brands. 7. Make preferences known to store managers, companies and state and federal legislators. 8. Use less fertilizer or slow release fertilizers on lawn. 9. Use alternative landscaping techniques to create less yardwaste.

There are three basic techniques which can be used to implement waste prevention (Table 5-2). Issues and concerns in developing a waste prevention program are shown in Table 5-3.

SWMB TABLE 5-2
POSSIBLE COMPONENTS OF A WASTE REDUCTION PROGRAM[4]

Waste Prevention Program Techniques		
Financial Incentive and Disincentives	**Regulations and Restrictions or Bans**	**Education and Facilitation**
1. Taxes (e.g., a tax on packaging). 2. Tax credits. 3. Deposits on reusable products and hard to handle waste. 4. Volume based disposal fees (pay-as-you-throw).	1. Banning certain products, uses of a product or constituents of a product. 2. Labeling requirements. 3. Govt. procurement requirements (e.g., purchase preference). 4. Planning requirements. 5. Product design.	1. Public education. 2. Environmental shopping campaigns. 3. Youth education. 4. Technical assistance for individual businesses. 5. Waste exchange program.

SWMB TABLE 5-3
ISUES AND CONCERNS

Issues and Concerns
1. Difficulty in measuring waste that was prevented.
2. Additional administrative demands; enforcement.
3. Staff for administrative and enforcement duties.
4. How does a program change? Is the change equitable?
5. Subsidies for those of limited income.
6. Will the ban on one package or product lead to an increase in another or an increase in litter?
7. Does the substitution improve the situation or does it add weight and volume to the waste stream?
8. Does a proposed change decrease the chance for recycling?

5.2.2 Product Stewardship[5]

Product stewardship, also known as extended product responsibility (EPR), calls on those in the product life-cycle, manufacturers, retailers and users, to share responsibility for reducing the environmental impact of the products they make, distribute and use. In most cases, manufacturers have the biggest opportunity to reduce the environmental impact of their products. Reducing the use of toxic substances in packaging, designing for reuse and recyclability, and creating take-back programs are just a few of the many ways that companies can become better environmental stewards.

Retailers, having the closest ties to consumers, can become collection centers for the products they sell passing them back to manufactures for recycling. Since 2002, at the encouragement of the US EPA, the computer industry has taken a more proactive roll in increasing end-of-life options for electronic waste.

Ultimately, it is the consumer who makes the choice between competing products and who must use and dispose of products responsibly. Consumers must make responsible buying choices which consider the environmental impact of the products they choose and take the extra steps to recycle products that they no longer need.

5.2.3 Enviroshopping, Buy Recycled

In most solid waste legislation, source reduction gets relatively little or no attention because it is difficult to measure. Although the federal government and many state governments have put source reduction at the top of the solid waste management hierarchy, the challenge has been how to put the concept into practice.

State governments have increasingly been expanding their programs to “close the loop.” By adding requirements for procurement of recycled content products and programs to reuse and reduce, they are diverting tonnage from the waste stream.

Government cannot expect citizens to take any action to reduce waste until they understand the reasons reduction is necessary and what actions will be effective. This means that all source reduction programs must have an education and information element. These programs must address the needs, goals, methods, consequences, costs and benefits of source reduction.

Programs have been developed and used in other areas of the country to expand awareness and change behavior of the general public; several include Recycle Now, Earth 911, America Recycles Day, and the EPA’s Waste Wise Program. These campaigns are all designed to affect the purchasing decision where final product choice is made, in the store, by the consumer. This, in turn, sends the manufacturer a message.

The WVU Extension Service has developed an Enviroshopping program. They also have several publications regarding enviroshopping, composting, lifecycle assessment of purchases and other environmental topics. The Solid Waste Management Board operates the West Virginia Materials Exchange, a program designed to facilitate marketing of recyclables and manufacturing leftovers. It is recommended that the SWAs work with the SWMB, the Extension Service and the DEP-REAP to include Enviroshopping and Buy Recycled as part of their education program for source reduction.

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5.2.4. Procurement Activities

W.Va. Code § 22-15A-21 mandates that all agencies and instrumentalities of the state purchase recycled products to the maximum extent possible. State procurement programs need to be initiated at the county and municipal government level. The state Purchasing Division is in the process of developing a comprehensive procurement program for recycled products as required in W.Va. Code § 22-15A-21(b). Price competition is sometimes still a factor impacting quantity purchases.

The state Procurement Program is to include, but not be limited to:

1. A review, and subsequent revision, of existing procurement procedures and bid specifications to remove language that discriminates against recycled products;

2. A review, and subsequent revision, of existing procure ment procedures and bid specifications to ensure that, to the maximum extent possible, all agencies and instrumentalities of the state purchase recycled products. Recycled paper products are to be given a price prefer ence of ten percent and priority is to be given to paper products with the highest post-consumer content;

3. A plan to eliminate, to the maximum extent possible, the use of disposable and single-use products; and

4. A requirement that all agencies and instrumentalities of the state use compost in all land maintenance and landscaping activities.

The need to identify specific recycled products and estimate total potential sales to state, county and municipal agencies and the private sector could lend support for encouraging manufacturers to locate in West Virginia to produce recycled products.[6] Recycled purchases by the state could include paper products, motor oil, laser printer toner cartridges and printer ribbons, plastics, lumber, buckets, boxes, parking lot tire stops, signposts, highway guardrail supports, fenceposts, highway paving material, outdoor park equipment and compost.

The Purchasing Division has reviewed existing procedures and specifications and removed language that discriminates against recycled products. They have developed contracts that procure recycled products and

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expect more emphasis to be placed on this activity as the technology and quality of additional products evolve. West Virginia has statewide contracts for refined oil, retread tires and remanufactured toner cartridges for copiers and printers. [7]

Since yardwaste composting rules have been approved by the Legislature, the use of compost in all land maintenance and landscaping activities will require more study before this specific commodity can be included in the procurement plan. The state's General Services Division locations, like many others, create and use their own compost.

The combined purchasing power of state and local government can be used to expand markets for recycled-content products and the use of recycled material by establishing an aggressive buying program. The state should encourage local businesses and governments to purchase recycled-content products by providing information about product availability and performance by sponsoring product shows, workshops and seminars on buying. State and local governments should examine their purchasing procedures and product specifications to determine a strategy for meeting the recycling goals which have been established.

In October 1993, President Clinton signed an Executive Order designed to give a boost to markets for recycled paper. The Order set minimum levels of recycled content in printing and writing papers purchased by the federal government at 20% by the end of 1994 and 30% by the end of 1998. As part of this Executive Order, then EPA Administrator Carol Browner signed a Comprehensive Procurement Guideline (CPG) that describes more types of recycled products federal agencies will buy. The Order also directed EPA to establish a range of content levels that ensure availability of products, but challenge manufacturers to use more recovered material. To do this, the EPA developed the Recovered Materials Advisory Notice to assist procurement officials in determining appropriate recovered materials content levels for the different items proposed in the CPG. The CPG gives state and local governments additional information and support for buying a broader range of recycled products. The guideline also will have an effect on private sector purchasing with an increase in the demand for recycled products.

5.2.5 Reuse

Product reuse means using an item for its original purpose, or similar purpose, in its original form. Examples include using a coffee can to hold nails, filling a plastic cola bottle with water and freezing it for use in a cooler, returning beverage bottles for a deposit and reusing glass jars to hold leftovers, etc. Many items which are sent to the landfill for disposal are still usable. However, some need to be reconditioned, repaired, rebuilt or remanufactured. Implementation of product and materials reuse activities are best achieved through public information and education programs aimed at consumers, students, business and industry. Education and marketing are important in convincing buyers to purchase reusable packaging, boxes, containers, reconditioned auto parts, appliances and other reusable items. The SWAs should encourage product reuse and include it in their educational programs.

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5.3 Potential Recyclables Characterization and Analysis

This section attempts to characterize potentially recyclable material in the waste stream, establish targets for implementation of recycling programs and develop recommendations to achieve the goals of W. Va. Code § 22-15A (The A. James Manchin Rehabilitation Environmental Action Plan).

5.3.1 Breakdown of Components into Target Materials

A waste characterization study completed by GAI, Inc.[8] for the SWMB in 1997 found that the largest portion of the waste stream is paper (40%). This is followed by organics (16.5%); plastics (15.9%); metals (7.3%); glass (7%); textiles (4.8%); and other portions (8%). The percentages do not equal 100% due to sample loss and/or absorption of moisture during sampling. In estimating the percentage of MSW that can be recycled, certain criteria for each category should be evaluated to logically portray the correct quantity for recycling.

Each SWA or processing facility should identify the major components that characterize its waste stream. They should analyze the marketability of each material and develop a plan that will achieve a constant flow of recyclables to the marketplace. These targeted materials could include aluminum, bi-metals, paper, plastics, textiles, and white goods.

Residential sources generate the most diverse materials of the three waste streams (residential, commercial/institutional and industrial), and include each of the most commonly recyclable materials such as newspapers, bottles and cans. Another characteristic of residential waste is high concentrations of organic food waste and seasonally generated organic yardwaste. The type and amount of material generated is directly impacted by demographics, socio-economic conditions and type of dwellings. Each SWA or recycling center should evaluate the conditions that make up its residential base.

Commercial solid waste is similar to residential solid waste, however, it usually contains high portions of particular materials such as corrugated cardboard, high-grade paper, mixed grades of paper and food wastes. The mix of materials generated from any commercial source usually remains consistent from collection to collection. Retail shops, restaurants, banks, office complexes, schools and hospitals are typical examples of commercial/institutional waste sources. Each entity should catalog the commercial/institutional sources in the operating area and identify the types of materials generated.

Industrial non-hazardous wastes include such materials as food processing wastes, demolition debris, production rejects and packaging. In some cases, when homogeneous materials are generated in large quantities and there is a market outlet, the materials never enter the waste stream. Therefore, recycling of industrial wastes take place often as part of regular business practices of many industries. However, there are many industries which do not practice recycling. A survey of all in-

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dustrial businesses should be conducted as to their involvement in recycling and the types of wastes that are or could be recycled.

5.3.2 Voluntary Reporting

Currently, there is a great deal of uncertainty regarding the quantity and type of materials being processed and marketed because public agencies and private recycling companies are not required to report the quantity of materials recycled. This lack of information makes it hard to formulate and implement recycling policies and to effectively spend or direct monies and establish priorities. The private sector, for example, may in some locales, have a major role in processing recyclables. However, since there is little or no information about the magnitude of that role, it is difficult, if not impossible, to determine what the appropriate level of public involvement should be, if any. In an effort to try to determine an accurate recycling rate for West Virginia, a recycling measurement committee was created in 2000, which consisted of members from the public and private sectors. The committee was charged with determining the format and most efficient way to collect data while trying to abstain from double counting the tonnage. The Solid Waste Management Board and the DEP-REAP Recycling Section require solid waste authorities applying for grants to submit recycling information as part of the application process. However, this information is only obtained from grant applicants, therefore not comprehensive.

Currently, there are no reporting requirements to assess the amount of municipal solid waste that has been diverted from the waste stream. Only monthly and yearly tonnages reported to the DEP-DWWM from the landfills are available. This report, however, does not describe the method by which a reduction in disposal was achieved. The PSC, under 150CSR9 6.4, Rules and Regulations for the Government of Motor Carriers and Private Commercial Carriers, requires every common carrier engaged in the transportation of solid waste to participate in a recycling program applicable to at least 30% of the waste stream generated by the carrier's customers. A survey by the SWMB indicated that not all waste hauler's offer recycling programs.

5.3.3 Analysis and Assessment of State Legislative Goals

The recycling goals established under W. Va. Code § 22-15A-16 can be accomplished only by increased certified hauler involvement, increased public participation in garbage service (currently estimated at 65%), more emphasis on public awareness and education, improved recycling drop-off facilities and cooperation between volunteer, community, county and state organizations. Many communities are mandated to provide curbside recycling and provide garbage service to all of their residents. Twenty percent of the population is located in these communities. The vehicle for recycling is in place, but public involvement and acceptance have not been achieved. Without statewide enforcement of the mandatory disposal law, a restructuring of the current funding situation and more emphasis placed on market development, the goal of 50% by 2010 may not be attained.

What can be done to help achieve the per capita solid waste disposal reduction goals listed in the legislation? First, a concerted effort must be made to increase participation and capture rates in existing recycling programs. In order to achieve this, significantly more effort and resources should be directed toward public information activities. Fliers, newsletters, advertisements and public service announcements could all be used to increase public awareness of recycling, its benefits and the proper way to prepare recyclable material.

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An appropriate recycling infrastructure is growing stronger. This means collection facilities, processing facilities and markets. Establishing incentives to stimulate the development of this infrastructure would help. Tax incentives for recycling businesses can be applied to real estate, recycling equipment, corporate income and franchise tax, accelerated depreciation on recycling equipment, etc. Manufactures can be given tax incentives to use recyclable materials. Tax incentives can also be targeted at problem areas. Eleven states have "bottle bills,"[9] legislation that requires consumers to pay a small deposit for the use of drink containers which is refunded when the bottle is returned for recycling. Still other states give local governments the authority to make recycling businesses exempt from property taxes and to levy taxes or other fees to finance local recycling programs. For a discussion of incentive programs in other states refer to Appendix I of this document.

New and innovative ideas must be formulated to provide an incentive for people to reduce, reuse and recycle. One such idea might be a variable rate system. A study of a variable rate tariff (per bag charge, a.k.a., Pay-As-You-Throw) has been conducted by the Public Service Commission. The study concluded that in terms of its contribution to achieving the public policy objectives of waste reduction, reuse and recycling, usage sensitive or variable rates are in the public interest. Usage sensitive rates provide real incentive to customers to take steps to recycle. However, implementation of a usage sensitive rate could result in both real and apparent increases in illegal dumping. The study also concluded that a per bag rate, which is not accompanied by curbside recycling or convenient drop-off centers, could cause "rate shock" for customers that produce larger quantities of waste.

A sustainable recycling infrastructure includes markets. Efforts need to be made to bring businesses that use recyclable materials into the state. Encouraging these businesses to locate in the state would create jobs. However, this is a lengthy process which would require a significant investment. Another method would be to develop an incentive program to convince existing manufactures to use more recycled materials in their processes. This reduces both cost and implementation time while providing cost effective markets for materials.

5.3.4 Counties with Recycling Ordinances

Currently, all counties have the ability to establish county recycling programs for solid waste by petition or referendum and adopt an ordinance to set requirements for the recycling program. Currently, five counties (Harrison, Jefferson, Taylor, Mason and Kanawha) have adopted ordi-

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nances. County and regional SWAs should implement a strategy to educate the public on the importance of participating in a recycling program.

5.4 Recycling Facilities

It should be noted that W. Va. Code § 22C-4-24 requires that county or regional SWAs prepare Commercial Solid Waste Facility Siting Plans that identify zones within each county where siting of commercial facilities for the processing or recycling of solid waste are authorized or prohibited. Rule 54CSR4-5.2. requires that commercial solid waste facility siting plans delineate zones where recycling facilities are either authorized, tentatively prohibited or prohibited. In order to facilitate the marketing of recyclables through commercial recyclers, it is important that these facilities are strategically and efficiently sited to prevent destructive competition and avoid unnecessary transportation costs.

In the 1993 Legislative Session, W. Va. Code § 22C-4-25 was enacted and states in part that the siting approval requirements for composting facilities, material recovery facilities and mixed waste processing facilities are the same as those for other solid waste facilities. Recycling facilities are exempt from the provisions of W. Va. Code §§ 22-15 and 22C-4, which require the collection of certain solid waste assessment fees. Recycling facilities that accept materials free of charge are also exempt from the PSC Certificate of Need requirements found in W. Va. Code §§ 24-2-1C and 24-2-1F.

5.4.1 Existing Facilities

Most of the counties have some type of collection center and either a curbside or drop-off collection program. However, few actually have fully equipped recycling facilities. Most have several pieces of equipment such as a baler, conveyer, paper shredder, chipper, etc. Equipment is expensive, and most public facilities do not have the necessary funds to fully equip their facility.

Many SWAs are having problems implementing their recycling programs. The biggest problem is in the area of funding. Budgetary items that need to be considered, include staff to oversee facility design, construction, operation, equipment purchase, maintenance and education expenses.

Cost management for public sector recycling programs tends to be difficult. Operational costs go up when materials have to be stored for long periods of time and must be transported long distances to markets. Most high-end materials buyers are manufactures or large processing centers and are unwilling to accept less than truck-load quantities of twenty tons or more. In the case of light weight materials like plastics it may take two years or longer to accumulate enough to send to market. In addition, recyclable materials have a low per unit value. Items must be collected and marketed in high volumes to be even marginally profitable. Fluctuating markets often force recyclers to hold materials for long periods of time waiting for prices to rise.

This situation combined with limited storage space is problematic. The SWAs often have no other choice but to give materials away without

realizing any revenue for their efforts. Without revenue from recycling, the SWAs must look elsewhere for funds to keep their programs running. The state's recycling grant programs don't have the funds to maintain all programs.

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SWMB grants are available only to the SWAs and are for all solid waste programs, including recycling. All of the SWAs have written comprehensive and siting plans that identify recycling goals and objectives and have a blueprint for action to carry out the goals of solid waste legislation. However, many SWAs do not have enough funding for program implementation. SWA facilities and recycling activities for 2005 may be found in Appendix B, Solid Waste Management Board, West Virginia Solid Waste Authority 2005 Summary of Recycling Activities.

5.5 Markets

5.5.1 Market Overview

Markets for collected materials are the foundation of any program. The increased emphasis on recycling has brought with it a need to ensure that once materials are collected, they will be marketed. Volatility in the price of commodities tends to make total dependence on revenues from material sales a risky business strategy.

5.5.2 Existing Markets

A resource helpful in the assessment of the local and regional marketplace for materials to be recycled is the West Virginia Materials Recycling Directory. This directory includes recycling centers listed by county and secondary markets in West Virginia and surrounding states. The directory was prepared by the SWMB in 1991 and is updated every year by the Development Office, Energy Efficiency Program. Also, in 2004, the SWMB developed a list of markets for recyclables for use by the SWAs and are made available to anyone upon request.

Another useful resource is the West Virginia Materials Exchange. The Exchange was created by the WV Solid Waste Management Board to connect collectors and processors of recyclable, reusable or value added materials with appropriate markets for those materials and to provide manufactures with an outlet for hard to market surplus or leftover materials. These items might otherwise end up at the landfill. The Exchange provides a cost free listing service for both buyers and sellers in material specific categories. Listings detail information of quantities on hand, material form and location, as well as transportation and packaging requirements. Each posting lists the company, contact person, address and telephone number which allows users to negotiate the transfer of used, surplus, overstocked or otherwise unneeded materials.

The WV Materials Exchange post listings for electronics, equipment, paper products, glass, aluminum, bi-metals, steel, textiles, scrap rubber, tires, oils, solvents, plastics, chemicals, wood residue and other miscellaneous materials. The service can be accessed through the SWMB website at **www.state.wv.us/swmb/exchange/index.htm.**

Notes

The Exchange is linked through the internet with more than 100 material and waste exchanges from around the world. Contact information for these exchanges is also available on the WV Materials Exchange website.

The Materials Exchange has experienced significant growth since its inception in March of 1998. It is currently posting over 190 listings from 37 states and 8 countries and serves 560 registered users. The Exchange connects West Virginia recyclers and manufactures with appropriate markets in West Virginia, the US and the world. Approximately seventy percent (70%) of all ads placed by materials sellers are from West Virginia businesses. In turn, approximately seventy percent (70%) of ads placed by materials buyers are from out-of-state end-users and processors. The Exchange provides an important service in a commodities market where prices change daily.

Marketing of recyclables is the act or process of transferring, selling and/or purchasing a recyclable material by bringing together the buyers and sellers of recyclable materials. A recyclable material is considered marketed, not necessarily recycled, when ownership or title to the material changes hands. The market is the opportunity for that change to occur. In identifying markets, local governments should not limit the search to the immediate vicinity.

The laws of supply and demand, and the combined buying and selling activities of end users, brokers, and intermediate processors influences the market prices of recyclable materials. When the market is expected to drop, buyers may slow current purchases with the hopes of being able to make future purchases at bargain prices. However, if a market upturn is anticipated, buyers may accelerate their purchases while prices are low and stockpile recyclable materials for use or resale when prices increase.

5.5.3 Materials Typically Collected and Marketed

The primary glass product in the municipal solid waste stream is the glass container, which is commonly clear, brown or green. Only glass containers are considered 100% recyclable. Other glass products, including Pyrex, cookware, dishware, windows and specialty glass, each with different chemical compositions, are considered contaminants in glass container production and are generally not recycled. Of the commonly produced colors of glass, clear has the largest number of applications and is usually in greatest demand by glass manufacturers. Brown and green glass are used in products where degradation may occur when exposed to sunlight.

Scrap metals are commonly divided into two major categories, ferrous metals and non-ferrous metals. Non-ferrous metals are non-magnetic and include such materials as aluminum, brass, copper, lead and zinc. By far, the most common recyclable of this group is the aluminum beverage can. Ferrous metals include cast iron, stainless steel, industrial

scrap, car bodies and household appliances. In the residential waste stream, the tin-plated steel food can is the largest volume ferrous metal product discarded.

Notes

Since World War II, plastics have been used in an increasing number of products. Plastic packaging saw the most growth with the plastic soda bottle being introduced in 1979. Plastic resins are synthetic materials made from oil and natural gas that are combined in a polymerizing process. Each resin has a different molecular structure that gives the material unique qualities and its value as a material. The primary types of plastic resins used in containers include the following:

"PET," polyethylene terephthalate
"HDPE," high-density polyethylene
"PVC," polyvinyl chloride
"PP," polypropylene
"LDPE" low-density polyethylene

Recyclable paper is marketed on the basis of grade, according to the type and quality of fiber. Waste paper is often categorized as: low grade fiber, such as newspaper (ONP) and old corrugated containers (OCC); high grade fiber, such as printing, writing and computer paper. The grade of waste paper is defined and specified by the Paper Stock Institute of America in Paper Stock Standards and Practices, which is accepted and used throughout the paper industry. Mixed recyclable paper is considered the lowest grade of paper because of the lack of uniformity of the fibers. It presents the greatest difficulty for reuse. The Paper Stock Institute of America lists specific guidelines that define different grades of materials based on the type of paper as well as how it is to be prepared for sale. While over 48 types of waste paper are marketed, the most common categories are newspaper, old corrugated containers, high grade paper and mixed paper. A brief description of each category follows.

Old newspaper is primarily used in manufacturing paperboard, newsprint, roofing felt, construction paper, cellulose insulation and molded paper products. Corrugated paper is mainly used in the manufacturing of boxboard, linerboard and dripboard.

High grade waste paper includes printing, writing and computer paper and is used to produce printing, writing, and computer paper as well as exterior liner of waxboard.

Mixed paper is composed of different grades of recyclable paper; quality is not uniform and therefore has a very low value. This type of paper is used mainly in the manufacture of boxboard and chipboard.

The following are typical end user processing requirements for glass, scrap metals, plastic and paper. Though potential buyers may have their own set of specifications, the following requirements are typical of the general market.

Notes

The primary piece of equipment used to process glass is the glass crusher. The glass crusher is used to process glass fraction into small pieces. The crushed glass is then shipped in containers such as barrels, gaylord boxes or open dump trailers.

1. Glass must be free flowing and non-caking.
2. Glass must be free of any organic or inorganic contaminants. (A maximum of 2% organic content is allowable.)
3. Glass cannot contain any metal. (In some cases, foil or metal rings or enclosures are permitted but not encouraged.)
4. Glass, if separated and sorted, must contain:
   a. Flint (clear): 95-100 flint glass
   b. Amber: 90-100 amber glass
   c. Green: 80-100 green glass
5. Glass should be relatively free of moisture.
6. Glass should be able to pass through a two inch mesh screen.
7. Plate glass, light bulbs and ceramic dishes are not acceptable.

The typical piece of equipment used to process aluminum and steel cans is a can flattener or crusher/densifier. The densifier is a special type of baler designed to make concentrated bales of aluminum or steel cans. Magnetic separators are sometimes used to sort out bi-metal cans.

1. It should be free of grit, sand, and particularly no glass may be present.
2. It must be free of organic contaminants.
3. It must be free of iron contaminants (less than 1.7% is preferred).
4. It must have a low surface-to-volume ratio and should be flattened or baled.

Steel scrap is often accepted baled or loose. In general, the material should be free of all aluminum cans, loose tin plates, plate scrap, dirt and garbage. Steel aerosol cans can be recycled if emptied.

The most marketable plastics are soda bottles (PET) and Milk Jugs (HDPE Natural). Processing will be greatly simplified if residents are asked to recycle plastics by their commonly used names (i.e. milk containers, soda/pop bottles, detergent bottles). Although each potential buyer of plastic has its own set of specifications, the following basic requirements will be generally acceptable:

1. Absolutely no PVC contamination accepted.
2. No foreign material in bottles.
3. No caps (metal or plastic).
4. Bale weight is usually set by each market. Consult your buyer for bale weight specifications.
5. Clear PET bales - clear soda bottles only.
6. Green PET bales - green soda bottles only.

7. Custom PET bales - no soda bottles.
8. HDPE Natural - primarily milk and water containers.
9. HDPE Colored - Bottles with necks, laundry detergent and bleach bottles are considered contaminants if mixed in with HDPE Natural.

Notes

The most common equipment used to process plastics to meet end user requirements is a baler. A perforator places holes in the plastic before it is baled. This allows air to escape the bottles and makes the baling process somewhat easier. Baling plastics can be difficult, and training is suggested. The following basic requirements for newspaper are generally acceptable:

1. Clean, dry and not yellowed.
2. Slicks should be separated.
3. Bales should be fastened with wire in one direction only. The suggested minimum weight is 1,000 pounds. It should be noted that loose shipments may be accepted.
4. Cardboard headers may or may not be allowed. Check with the market.

5.5.4 Electronics Recycling

By the year 2007, it is estimated that 500 million computers will have become obsolete in the U.S.[10] The disposal of electronic items is a growing concern in West Virginia. Landfilling electronics is not the best option. Most electronics, particularly computer monitors and TVs, contain both PCBs and heavy metals with the most hazardous substances being lead, cadmium and mercury.

In 2002, the US EPA issued a proposed rule which would reclassify mercury-containing equipment as a “universal waste” and would consider Cathode Ray Tubes (CRTs) as a product instead of a hazardous waste as long as they were being recycled, reused or repaired. The two issues would eventually be considered under separate rules. Discarded mercury-containing equipment was added to the federal list of universal waste under the Resource Conservation and Recovery Act (RCRA) hazardous waste regulations through a US EPA ruling passed in 2005. The latest ruling was approved in July of 2006 (effective date, January 29, 2007), which excludes CRTs and glass removed from CRTs from the RCRA definition of solid waste if certain conditions are met. The US EPA intends to encourage recycling and reuse of used CRTs and CRT glass by streamlining the management requirements for these materials. For a complete discussion of universal waste refer to Chapter 6.

In April of 2002, West Virginia, as part of EPA’s Region III, became a participant in a pilot project on Electronic Recycling, “e-Cycling.” The Solid Waste Management Board, in conjunction with the DEP’s Division of Water and Waste Management, EPA and local SWAs, organized one day electronic collection events around the state. Approximately 274,000 pounds of obsolete electronics were collected and recycled during the project. Counties that participated in the events included, Berkeley, Harrison, Hancock, Kanawha, Monongalia, Ohio and Raleigh.

Notes

In 2004, collection events were held in Hancock and Monongalia County where 62,200 pounds (31.1 tons) of recyclable electronics were removed from the state's waste stream. E-Cycling activities increased in 2005, in which 187,200 pounds, or 93.6 tons, of electronics were collected during events held in Hancock, Harrison, Monongalia and Wood Counties.

Also during 2005, two new computer recycling businesses were started in West Virginia to assist in helping with the state's electronic waste problems. PC Renewal, based in Morgantown, WV, and Amandi Services, formerly Envirocycle, Inc., in Davisville, WV.

Another new addition is the National Center for Electronics Recycling (NCER) also located in Davisville, WV. NCER is a non-profit organization with the mission to organize various activities which promote the recycling of end-of-life electronics throughout the United States.[11]

In 2006, NCER received a grant from the West Virginia High Technology Consortium Foundation (WVHTC), which funded the handling and transportation of electronics collected at several one day events held throughout the state. With additional support from the WV DEP, SWMB, Amandi Services and several county solid waste authorities, nine events were held statewide. As a result, 94.62 tons, or 189,241 pounds of material was recycled.

The Polymer Alliance Zone (PAZ), is a public/private partnership established to promote the plastics industry in Jackson, Mason, and Wood counties. The Polymer Alliance Zone is leading a unique recycling program to provide a holistic solution to recycling plastics found in End Of Life Electronics (EOLE). The Polymer Alliance Zone's Polymer Technology Park, located in Wood County, WV, is also the home of the MARCEE Project's SDR Technologies, Amandi Services and the NCER.[12]

5.5.5 Cooperative Marketing

Cooperative marketing, as a term, generally refers to a group of government entities and/or businesses that agree to collaborate on providing a specific set of services. The goal of a cooperative is to move recyclables more efficiently from sellers to buyers than member communities can achieve individually.[13] Many recycling facilities in the state are small market operations. They are usually drop-off locations where commingled recyclables are separated into gaylord boxes to await shipment to market. Some operations have balers, crushers, roll-off containers or forklifts. These facilities produce a low volume of recyclables and must store products for long periods of time awaiting the shipping volume required for market. Transportation costs also play a factor in a small facility's ability to become cost effective. The size of a shipment and distance to market has a direct relationship with the cost of transportation and therefore the amount of return on the sale.

Compressing, shredding and crushing recyclables in industry volume standards is usually necessary to keep transportation costs down. Small recycling facilities should consider agreements with larger recycling fa-

cilities to cooperatively transport and market these products. Larger volume to the marketplace most often means higher prices from the buyer. Current participants in the North Central West Virginia Recycling Cooperative, Inc. (NCWVRC) include county SWAs in Braxton, Barbour, Jefferson, Lewis/Gilmer, Monongalia, Pocahontas, Preston, Taylor, Tucker and Upshur Counties. These authorities decided that a multi-county effort would collect a sufficient volume of correctly prepared materials to secure long-term, viable markets and/or contracts. The cooperative serves an eight county area with a total population of over 124,000 (according to the 2000 U.S. Census), which is necessary to produce the quantities needed for securing contracts. NCWVRC works with already established recycling centers in the area and does not compete with the private sector.

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5.5.6 Future Markets

The future of recycling in the United States is bright. Since the early eighties, recycling has evolved into a growth industry.[14] In 1980 approximately 10% of municipal solid waste (MSW) was recycled; in 1990 the average U.S. rate was 17%; by 1995 the recycling rate increased to over 27%. By the year 2000, Americans were recycling 30.1% of all municipal solid waste and yardwaste.

Nationally, establishments that collect and process recyclables in the US have created 192,875 jobs with an annual payroll of nearly $5 billion. These establishments have a combined output of over 191 million tons of material annually. In addition, manufactures that use recycled materials and reuse and re-manufacturers employ over 1.1 million people and have an annual payroll of almost $37 billion.[15]

Entrepreneurs in small business, industry and government are turning their ingenuity in new directions to stop proposed landfill sites. Not only are they attempting to recycle solid and hazardous waste, but they are looking at ways to create jobs in the process. More and more, recyclers are seeing a region's waste as a "mine" of potential raw materials that can be used to create products locally and increase local employment, while helping solve environmental problems.

An example of a West Virginia business that uses recycled material as feedstock for a new product is St. Felicien Kraft (SFK) a company who purchased American Fiber Resources, L.P. on November 1, 2006. SFK is a mixed office waste paper recycling mill located in Fairmont, WV. The mill recycles waste paper by separating contaminants, de-inking the paper fibers, removing fillers and bleaching the fibers. The bleaching process is chlorine-free, hence it is an environmentally friendly process. The bleached fibers are formed into a pulp sheet, which is dried, cut and baled. The baled pulp is sold to paper manufacturing companies worldwide, which in turn produce printing and writing paper. The mill is capable of producing over 600 air-dry metric tons of recycled pulp on a daily basis. Contaminants such as wires, wood and plastics within the waste paper are separated and taken to a landfill where further recycling may take place. The ink, fillers and other materials that are removed during the processing of the wastepaper are sent to the residual han-

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dling system. The fillers consist of mostly clay and small fibers. This residual product is used as a beneficial land-use product. The water used in the recycling plant is cleaned and reused many times before being sent to the wastewater treatment system. The wastewater goes through three stages of purification before being discharged back into the Monongalia River.[16]

On the federal level, resources have been made available for recycling on a sporadic basis. The EPA has provided strong support for other related programs such as "Waste To Energy" but has never developed a comprehensive strategy to support recycling. And yet, over the last thirty years, recycling has not only endured it has thrived, not because it is mandated but because people insist on it.

5.6 Recyclable Materials Collection

Although curbside collection is the most convenient type of recycling program nationally for household recyclers, the most common in the counties of West Virginia is the drop-off program. The second most common are buy-back centers. The best system for each county varies depending upon the materials to be collected, market requirements, equipment available, level of funding and demographics. In order to achieve success as a program, scheduling, routing and methodology for collection should become an established routine, organized as a reliable and convenient public service.

An analysis of evaluating the pros and cons of different systems requires a set of evaluation criteria including: convenience to residents; adaptability to adding materials; collection costs (capital and operational); processing costs (capital and operational); container costs; potential for contamination; marketability/value of material; diversion potential; residues produced (unrecoverable garbage); cost of disposing of residues; ability to educate/influence consumer behavior; and ability to provide feedback to residents. Selecting the technology best suited for a particular program will depend on the relative importance placed on the criteria used to compare the various options. Cost-effectiveness will always be a concern. The two key elements in selecting a program: 1) Remember the ultimate goal - to maximize diversion by maximizing source reduction and recycling efforts, and 2) Analyze overall long-term cost effectiveness including environmental, social costs and benefits and the probability that disposal costs, in the form of both transportation costs and tipping fees, will continue to escalate.[17]

5.6.1 Residential Collection Systems

To help accomplish the recycling goals in W. Va. Code § 22-15A-16, the Legislature mandated municipalities with a population of 10,000 or more to establish and implement a source separation and curbside collection program for recyclable materials. An ordinance was to be adopted by the governing body of the municipality requiring that each person, partnership, corporation or other entity in the municipality separate at least three recyclable materials, as deemed appropriate by the municipality, from other solid waste.

One way to stimulate residential recycling is through unit based pricing for waste removal services sometimes referred to as Pay As You Throw (PAYT). PAYT is increasing in popularity all over the US and abroad. Traditional flat rate pricing for trash collection provides little or no incentive for environmental responsibility at the consumer level. PAYT provides a direct economic incentive to reduce waste at its source and to recycle.

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PAYT programs work like other utilities in that you pay for what you use (phone, power, water, etc.) Residents pay a fee based on the volume they throw away. PAYT systems can be implemented in a number of ways. Residents can be charged by the bag, by the can, or the trash can be weighed with charges based on per pound rates. Many localities use PAYT with a traditional billing system. Residents are billed monthly for the number of bags or cans they set out for collection or bills are based on the weight of the containers.

Other communities have implemented systems where the customer buys either a trash bag or a trash bag tag from the hauler or from a local retailer. The price paid covers the cost of the bag and the cost of collection, thus eliminating the necessity of billing and reducing administrative cost for the hauler. Others use a multi-tiered pricing system. Residents pay a small flat-fee for services and pay an additional per-bag fee for the waste they produce. This method provides a guaranteed income and thus, additional financial stability for the hauler.

The primary advantages to PAYT are both a measurable waste stream reduction at its source and higher recycling rates. The haulers accrue additional benefits through a reduce need for labor in trash collection and more income from the sale of recyclable materials.

One of the primary advantages for public sector managers in implementing PAYT is the inherent sense of fairness in this type of system. If the cost of managing waste is hidden in taxes or charged as a flat rate, residents who recycle and thereby prevent waste are just subsidizing their wasteful neighbors. PAYT creates a more equitable distribution of cost.

Today, according to the US EPA, there are over 4,000 PAYT programs in the US serving approximately 27 million people or over 10% of the total population. The state of Minnesota requires some form of a unit-based pricing structure for all solid waste collection. Many states have found unit-based pricing essential to meet their recycling goals. West Virginia currently has six counties with some form of a unit based program in at least part of the county. They are Pleasants, Wayne, Ritchie, Putnam, Mason, Mineral and Wood Counties.[18]

Curbside programs will achieve maximum participation, but are more costly than drop-off programs. According to the US EPA's MSW Generation, Recycling, and Disposal report for 2003, 8,875 curbside programs were operational in the United States in 2002.

Notes

Each type of curbside collection program has advantages and disadvantages. Recyclable materials can be source separated into categories at home by residents, or they can be separated curbside by the vehicle driver. If the residents separate recyclables, there is a savings in labor costs. The disadvantage is that the capture rate may decline substantially as the public is required to do more separation. Often, homeowners resist this method because of inconvenience. Separation at the truck by the driver will be more convenient for the public. However, it will increase collection labor costs. November 2006, West Virginia had 49 curbside programs including two that are countywide in scope. For more details on local programs refer to Appendix B of this publication.

Commingled programs are collection methods in which recyclable materials have been segregated from refuse or garbage and placed in a single container. This makes it easier for the resident, but separation and preparation for market has to be done at an intermediate processing center or MRF. Often cross contamination of commingled materials may occur and affect the quality of materials collected. These facilities are often expensive to build and operate. A new MRF would require an initial investment of several million dollars. Intermediate processing centers utilizing lower technology and/or lower capacity equipment will require a significantly lower capital investment.

Centralized drop-off centers can provide communities under 10,000 an alternative to curbside programs. These programs can be limited to specific materials depending upon the marketability of recycled materials. Most drop-off centers do not process these materials but simply receive and store them until they are picked up for transport to market or intermediate processing facilities. These are well suited to the rural areas where curbside collection is not convenient. Some county SWAs have set up drop boxes in various convenient locations in the county. Others have a central location where material is dropped off and then prepared for market by volunteers at the recycling center. Some counties use Sheltered Workshops to operate their centers.

Drop-off programs can be established with a modest financial commitment. Unstaffed centers have potential problems of vandalism, litter, conflicts with zoning ordinances, neighborhood protests, contamination of recyclables with unacceptable items and ineffectiveness due to inconvenient locations. Although more costly, staffed centers may minimize some of these problems. Convenient locations and ongoing education and promotion are important factors in the successful operation of drop-off centers. The effectiveness of a drop-off program in reducing a community's waste stream depends on the level of public participation. Public education plays an important role in the preparation of recyclables before drop-off. It also serves to identify what can and cannot be recycled. Drop-off centers often have difficulty attracting enough material to cover the cost of operation, particularly if paid staff are required to operate the program. Consequently, most drop-off centers must

receive a subsidy in the form of financial support or employ volunteer labor. Several counties are using labor from the county program for those convicted of minor crimes and sentenced to community service. Buy-back centers may also act as drop-off centers. Like drop-off recycling programs, buy-back recycling programs primarily accept residential wastes. However, buy-back centers pay individuals for materials they recycle. Prices paid vary due to demand for certain materials.

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Buy-back centers can be stationary or mobile and require a substantial start-up investment to cover costs for staff, initial inventory of material brought in by the public and to purchase the equipment necessary to process materials for resale. A buy-back center also must have regular operating hours. Convenience of location and continuing education are important to encourage participation.

Key elements in multi-family recycling are flexibility and proper communication. Recycling fundamentals are the same regardless of whether buildings are garden style or high-rise. Before implementation and throughout the program, education of building staff and residents is important for success. An ongoing promotional program is an integral part of a multi-family program. In some townhouse configurations, a curbside type collection system may work, but most multi-family complexes best lend themselves to central recycling bins to be serviced weekly, near the garbage disposal area.[19]

Multi-family customers are often served by an entirely different MSW collection system than those of single family residents. The collection system designed should utilize similar equipment and strategies as the existing waste management system. The primary constraint in incorporating multi-family units in a recyclables collection program is that apartment complexes and condominiums are not usually designed with space allocated to recycling adjacent to disposal areas. Some issues to be considered in developing multi-family collection programs include:

1. Leases on apartment complexes must incorporate future costs of recycling.
2. Separation requirements should be incorporated in all leases.
3. All dumpsters should have signs to remind residents to recycle.
4. All recycling containers should be clearly marked.
5. Special education programs should be developed for tenants and landlords.
6. Recycling plans should be required for all multi-family complexes.[20]

5.6.2 Commercial, Institutional and Industrial Recovery

A large part of West Virginia's waste is generated by non-household sources. These wastes are different than household wastes and may include significant differences due to types of industry in a particular area. Consequently, local recycling efforts will need to be tailored to the

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nature of the local private sector. Office, financial institutions and publishing/printing businesses generate large quantities of high grade and other recyclable paper; retail businesses, significant quantities of old corrugated containers and mixed paper; restaurant and hospitality businesses, large amounts of food waste, old corrugated containers, and beverage and food containers; manufacturing and light industry, mixed paper, old corrugated containers, plastics, pallets and process-specific materials.

Upon adoption of an ordinance by the governing body of a municipality recycling is required. W. Va. Code § 22-15A-18(b)(1) states that each person, partnership, corporation or other entity in the municipality shall separate at least three recyclable materials as deemed appropriate by the municipality, from other solid waste: Provided, that the list of recyclables to be separated may be adjusted according to whether the generator is residential, commercial or other type of establishment.

Once a comprehensive county recycling program is established by the county commission or by referendum, W. Va. Code § 22-15A-18(c)(1) mandates that any person, partnership, corporation or governmental agency subscribing to a solid waste collection service in the county or transporting solid waste to a commercial facility in the county shall segregate separate identifiable recyclable materials prior to collection at its source. Many of the larger industries such as DuPont and Dow have instituted a variety of in-house recycling programs. The Charleston Area Medical Center has had pilot programs in some divisions.

McDonalds created the McRecycle USA program in 1990. Along with providing educational materials, the company identified more than 200 items used in its restaurants that could be made from recycled materials and has also used recycled materials in some areas of construction of new restaurants. During the years 1990 through 1999, McDonalds eliminated 150,000 million tons of packaging, purchased 3 billion dollars worth of recycled products and recycled one million tons of corrugated paper packaging. The National Recycling Coalition has named McRecycle USA as a model recycling program.[21]

Many smaller companies, offices and businesses have not developed source reduction of recycling programs. SWAs need to work with businesses, educational facilities and trade organizations to provide information, printed materials and guidance on recycling efforts. W. Va. Code § 22-15A-20 reads: “In the absence of either a municipal or a comprehensive county recycling plan pursuant to section five of this article, all agencies and instrumentalities of the state, all primary and secondary schools, where practicable, and private colleges and universities shall implement programs to recycle solid waste.”

A program for recycling office paper is offered through the West Virginia State Employees Office Paper Recycling Program, which is conducted by state employees at the capitol complex and surrounding counties. The DEP’s-REAP is gradually setting up the programs in all other counties. Some colleges and universities have established programs for re-

cycling aluminum cans and paper. Marshall University's Recycling Plan calls for a reduction of 20% from its 100 tons of garbage a month and includes paper, cardboard and aluminum. West Virginia University has established a paper reduction program in University buildings. The remainder of the University's buildings will be included in two more phases of the program.[22] Alderson-Broaddus, Glenville State, and Fairmont State Colleges cooperated with the North Central West Virginia Recycling Cooperative (NCWVRC) on establishing recycling programs. West Virginia Wesleyan College has established a recycling program and is working with the NCWVRC and Upshur County SWA.[23]

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SWAs have worked with school officials to provide recycling educational programs for both primary and secondary schools. It is hoped that these programs will have a positive influence on their families. Some authorities have seen the impact this has made on participation in county programs.

5.6.3 State Tourism Areas

The West Virginia Parkways, Economic Development and Tourism Authority (WVPEDTA) has a recycling program that includes Toll, Maintenance, Tourist Information and Administrative departments. They have a committee of 5 employees from different sections that assist in recycling efforts. The WVPEDTA uses educational literature and displays and distributes items made from recycled content materials at their Tourist Information Centers on occasions such as Earth Day and America Recycles Day to educate the public as well as keep employees informed of the recycling program and the importance of recycling. All new employees are given an orientation which includes information about the recycling program.

The WVPEDTA recycles aluminum cans, cardboard, newspapers, computer paper, junk mail, scrap metal, used oil and filters, tires and batteries. Blue recycle containers with decals indicating items to be recycled are placed in all buildings in convenient accessible areas on the Turnpike. Custodians pick up the recyclable items and place them in designated recycling areas. Their recycling coordinator checks these buildings weekly and processes the items to be recycled or makes arrangements to have the goods picked up at a later date. Cardboard is picked up weekly and transported by Parkways personnel to the recycling center. Oil and filters are picked up by an environmentally licensed vendor. Batteries are picked up by the vendor and are replaced with new ones. Tires are stored in an environmental licensed vendor's trailer at a convenient facility and picked up when the trailer is full. Scrap metal and scrap aluminum is stored and periodically picked up by a recycling dealer.[24]

5.6.4 Hauler Involvement

There are approximately 110 solid waste collection services providing refuse collection to the public in the state. These haulers are regulated by the PSC under its Rule, 150CSR9.6.4 (Participation in recycling programs) which states:

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a. Every such common carrier shall participate in a recycling program applicable to at least thirty (30) percent of the waste stream generated by said carrier's customers.

b. To recover additional estimated costs associated with the recycling program any such carrier may apply for the approval of a surcharge to be applied to some or all of said carrier's customers.

There are no mandatory or voluntary reporting requirements in this rule to assess effectiveness or participation. Only a few haulers have requested modification of their tariff to include a surcharge associated with the implementation of a recycling program. Also, a handful of solid waste carriers have applied for a temporary exemption of 6.4. The PSC can grant exemptions under 1.7.b. (Application of Rules):

> Modification of, or exemption from rules - If hardship results from the application of any rule herein prescribed, or if unusual difficulty is involved in immediately complying with any rule, application may be made to the Commission for the modification of the particular rule for temporary exemption from its provision: Provided, that no application for such modification or exemption shall be considered by the Commission unless there is submitted there with a full and complete justification for such action.

5.7 Processing Facilities

A processing facility is a recycling center that accepts source-separated or commingled recyclable materials and processes these materials for market, recycling or reuse. This facility can market the recyclables to a buyer that will produce a new product for resale and therefore lower the waste stream to the landfills.

There are many types of processing facilities in West Virginia. They range from drop-off sites where commingled recyclables are manually separated, curbside collections which are source-separated at the curb or at the intermediate processing centers or transfer stations, yardwaste composting facilities and tire storage and baling facilities. Each SWA should identify the type of facility which is best for their population and recycling needs.

5.7.1 Recycling Logistics

Population centers in West Virginia primarily encompass the fourteen municipalities with population over 10,000 people. The state is divided into seven wastesheds. Each wasteshed, with the exception of Wasteshed F, has one or more of these municipalities within its boundaries.

The fourteen municipalities are located in eleven counties in the state. These municipalities were mandated to institute curbside recycling by October 18, 1993, and fully implement the program by July 1, 1995. Efforts should be made to ensure that sufficient resources are made

available to these municipalities and counties to implement and continue a recycling program.

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Each county or regional SWA that is establishing or modifying a recycling center must conduct a review of the project area. This review should examine the total population, the mandated recycling municipalities, county recycling referendums, voluntary recycling at drop-off locations and private haulers that are participating in their recycling facility.

Most population centers are served by major highways or railways. Population centers on the Kanawha, Ohio and Monongahela Rivers could be served by barge traffic. Many of the outlying state highway systems are narrow, winding and difficult for large vehicles to travel. Recycling centers should be located on or near major highways. This will enable goods to be transported to market more cost effectively. Plans should be instituted to bring materials from outlying drop-off locations or transfer stations in suitable vehicles considering the roadway and terrain. A study was completed for the North Carolina Department of Economic and Community Development by HDR Engineering establishing the cost/mile ratio for hauling costs. For semi-tractors and trailers the average cost/mile is $2.30 when transporting a standard load of 20 tons. In comparison to, an average cost/mile of $2.50 for a packer truck transporting a load of 5 tons. These averages are obviously impacted by an increased fuel cost.

5.7.2 Material Recovery Facility (MRF)

A Materials Recovery Facility is any solid waste facility at which source-separated materials or materials recovered through a mixed waste processing facility are manually or mechanically shredded or separated for purposes of reuse and recycling, but does not include a composting facility. This type of facility processes high quality recyclables for the marketplace. As of September 30, 2006 West Virginia has no permitted MRFs.

5.7.3 Intermediate Processing Centers

This type of facility usually processes residentially collected mixed recyclables for market. In many instances, this type of center is a cooperative effort between solid waste authorities and the communities to market goods in a collective manner. Private sector recyclers also play a vital role in processing recyclables. Source separated materials are accepted for resale to buyers. The recycler is paid for the recyclable material.

5.8 Public Education, Information and Administrative Needs

Education has become as crucial to a recycling program's success as stable markets and permanent collection sites. However, a lack of information demonstrating return on investment has made it hard for recycling program managers to justify the expenses of creating, launching and maintaining public education programs. Any type of recycling program must have public involvement, awareness and acceptance. At the onset of a program, a publicity campaign must be conducted to educate

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the citizens on the merit and necessity of recycling, as well as on the specific collection procedures to be instituted.

First and foremost, a recycling coordinator, whether paid or volunteer, must be found to establish and develop the direction of advertising and public education for the recycling project. The coordinator should develop specific marketing and informational tools that will show the public the advantages of the recycling project. An evaluation of the campaign results should be conducted to determine the information program's effectiveness and residents' attitude toward recycling. Currently, the DEP-REAP Recycling Program employs a recycling coordinator as do many of the local solid waste authorities. Some recycling coordinators on the local level are paid while some serve as volunteers.

5.8.1 America Recycles Day

West Virginia is an active participant in America Recycles Day (ARD) which is an annual national awareness event to promote the social, environmental and economic benefits of "buying recycled." The goal is to increase the purchase of recycled-content products throughout America. America Recycles Day addresses the issue of consumer demand which is generally considered to be the weak link in the recycling chain. Most efforts to increase public recycling awareness are supply oriented. In other words, the public is persuaded to recycle more waste. While this is worthwhile, it doesn't cover the entire recycling spectrum.

America Recycles Day is a unique opportunity to participate in demand-side recycling promotion. ARD persuades consumers to buy goods manufactured from recycled content materials. In "buying recycled", consumers create a derived demand to recycle. It works like this; manufacturers, responding to consumer buying patterns, use more recycled material in their processes and consequently create additional demand for recycled materials. This increased demand has the effect of increasing the value of recyclable materials. Additional value for materials persuades recycling centers, waste haulers, landfills, recyclable materials processors and other collectors to increase their output. Demand-side promotion is important because it is the only way to stimulate the entire recycling channel.

West Virginia ARD efforts are spearheaded by the West Virginia ARD Steering Committee, which coordinates activities around the state and organizes volunteers to schedule events for schools, businesses and local groups across the state. Primary funding to support events is acquired through donations from environmentally conscious individuals and businesses.

In general, support for ARD has been strong in West Virginia. During the FY 2006, America Recycles Day campaign news reports around the state were aired and countless newspaper articles ran. A statewide school contest reached over 20,000 students. The WV ARD Steering Committee also published an 8 page insert in the Charleston Newspapers which was distributed statewide and included in the Newspapers in Education program reaching countless children. The program is funded through

private contributions. Since ARD's inception in 1997, activities and participation have increased each year.

5.8.2 West Virginia Collegiate Environmental Network (CEN)[25]

The West Virginia Collegiate Environmental Network (CEN) is a statewide network of college and university environmental organizations. CEN's mission is to provide members with the opportunity to become involved in environmental issues relating to the operation of private businesses and governmental agencies on a day-to-day basis and to gain exposure to why and how decisions are made in relation to recycling, waste management and other environmental issues. CEN activities help students understand environmental issues and work toward positive environmental outcomes. The organization assists members in finding internships and provides a format that allows WV collegiate environmental groups to communicate. Colleges currently involved in CEN are Marshall University, Shepherd College, Fairmont State College, West Virginia University and Glenville State College.

5.8.3 General Public

An overall campaign for recycling should be implemented and coordinated in the form of public service announcements (PSAs), news releases, flyers, posters, educational material and speaking engagements to schools, workshops and community groups. The message should show the consequences of not controlling the waste stream, the laws enacted to remedy the problem and the impact on the environment from the improper management of solid waste. Residents can receive educational and informational material through targeted means such as utility billings, solid waste collection billings and employee newsletters (Table 5-4).

SWMB TABLE 5-4
METHODS FOR PROVIDING RECYCLING INFORMATION

Residential	Commercial	Industrial	Yardwaste
News Releases Public Service Announcements Pamphlets Speaking Engagements	Cost Savings Waste Reduction Community Image Resource Recovery	Determine Needs Interview Managers Set Goals Resource Recovery	Target Market Evaluate Audience Leaflets Set Goals

5.8.3 Commercial

About 35% to 45% of the U.S. municipal solid waste stream comes from the commercial sector, totaling an estimated 106 million tons per year.[26] This refuse represents significant recycling potential, yet often it is treated as an afterthought in municipal programs that focus on the residential waste stream. The value of recycling should be shown as a cost savings measure to business. Concern for the environment should be stressed in any public advertisement of their product or services.

5.8.4 Industrial

Industrial non-hazardous waste includes materials such as food processing wastes, demolition debris, production rejects, wood residue, paper mill sludge, spent foundry sand and packaging. In some cases, when homogeneous materials are generated in large quantities and there is a market outlet, the materials never enter the waste stream. Therefore, recycling of industrial waste takes place often as part of regular business practices in many industries. One source of markets for industrial waste is the West Virginia Materials Exchange. However, there are many industries which do not practice in recycling. Each SWA or recycling facility should identify the industrial sites

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in its area. Interviews with plant management should be conducted and determinations of what and how much material for recycling should be formulated. Each industrial location will probably have different requirements and products.

5.9 Roles and Responsibilities

5.9.1 County Sold Waste Authorities

In order to accomplish the goals of W. Va. Code § 22-15A, the Legislature determined that it would be necessary to:

1. Require certain municipalities to implement recycling programs;
2. Authorize each county, by referendum, to adopt a comprehensive recycling program for solid waste;
3. Encourage source separation of solid waste;
4. Increase the purchase of recycled products by the various agencies and instrumentalities of government; and
5. Educate the public concerning the benefits of recycling.

The Legislature further directed (W. Va. Code § 22-15A-17) each county or regional authority, as part of the Comprehensive Litter and Solid Waste Control Plan, required pursuant to W.Va. Code § 22C-4-8, to prepare and adopt a comprehensive recycling plan to assist in the implementation of the recycling goals in W. Va. Code § 22-15A-16.

The plan should include:

1. Designation of the recyclable materials that can be most effectively source separated in the region or county, which shall include at least three recyclable materials.

2. Designation of potential strategies for the collection, marketing and disposition of designated source separated recyclable materials in each region or county.

W. Va. Code § 22-15A states that it is the responsibility of the SWA to plan and implement recycling in order to meet the established waste reduction goals.

County SWA recycling plans typically designate newspapers, corrugated cardboard, aluminum, ferrous metals, glass and plastic as materials that will be recycled. Drop-off bins are the most commonly recommended collection technique, especially in rural areas of the state. Source separated curbside collection programs have been recommended in the more urbanized counties, especially in the municipalities mandated to implement source separated curbside recycling programs.

Recommended marketing strategies have typically focused on individual efforts to find the most accessible outlet for materials. A growing number of counties are relying on cooperative marketing techniques either

through regional cooperation or through the formation of marketing co-operatives.

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5.9.2 County Commissions

In accordance with W. Va. Code § 22C-4-6, a county commission could elect to assume the powers and duties of the county SWA if certain conditions were met. Only the Boone County Commission elected to do so. A comprehensive recycling program for solid waste may be established in any county of West Virginia by action of a county commission and shall require:

1. Prior to collection at its source, all solid waste shall be segregated into separate identifiable recyclable materials by each person, partnership, corporation and government agency subscribing to a solid waste collection service in the county or transporting solid waste to a commercial solid waste facility in the county;
2. Each person engaged in the commercial collection, transportation, processing or disposal of solid waste within the county shall accept only such solid waste from which recyclable materials (designated by the county) have been segregated; and
3. Recycling plans are to be incorporated into the county's comprehensive recycling plan.

Comprehensive recycling programs for a county may also be established by referendum. The process involves filing a petition with the county commission bearing the signatures of registered voters of the county equal to, but not less than, 5% of the number of votes cast within the county for governor at the preceding gubernatorial election. The form should be prescribed by the Secretary of State to include printed name, address and date of birth of each person. Upon verification of signatures, the county commission orders the issue be placed on the ballot for the next primary, general or special election (not less than 70 days before the election).

Approval by a majority of the voters in a subsequent referendum may be held at any regular, general or countywide election located in a voting precinct established for primary or general election. All provisions of general election laws apply and the petition must have been filed 100 days prior to an election. Upon certification of results of referendum, an ordinance must be adopted within 180 days, establishing the comprehensive recycling program.

The countywide recycling program must be implemented and operational no later than 12 months following the certification. If a majority of the legal votes were against the establishment of a recycling program, the policy will not take effect, but may be submitted to a vote at any subsequent election by the same procedure.

If the comprehensive program is established by petition and referendum, it may only be rescinded by the same procedures that established

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the program. If a majority of legal votes are for termination of the previously established recycling program, the county commission shall, upon certification of the results, rescind the program by ordinance. If a majority of votes were for the program to continue, the ordinance shall not be rescinded, but may again be submitted to a vote at any subsequent election by the same process.

5.9.3 Municipalities

To help accomplish the recycling goals, the Legislature mandated municipalities with a population of 10,000 or more to establish and commence implementation of a source separation and curbside collection program for recyclable materials. There are currently fourteen mandated municipalities in West Virginia: 1) Beckley; 2) Bluefield; 3) Charleston; 4) Clarksburg; 5) Fairmont; 6) Huntington; 7) Martinsburg; 8) Morgantown; 9) Parkersburg; 10) St. Albans; 11) South Charleston; 12) Vienna; 13) Weirton; and 14) Wheeling. Moundsville was previously included in this group but dropped out as a result of the 2000 Census. Many other municipalities have either a drop-off or curbside program.

5.9.4 Solid Waste Management Board (SWMB)

Along with providing assistance to the SWAs, municipalities, and other interested parties in identifying and securing markets for recyclables, the SWMB must provide assistance in public education for source reduction, recycling, and reuse. The SWMB must review mandatory recycling plans for consistency with criteria provided in legislation and county and statewide plans and approve proposals for the establishment of MRFs for municipalities having a population greater than 30,000.

The SWMB has prepared comprehensive programs for proper handling of yardwaste, lead-acid batteries and tires. Fact sheets on yardwaste and batteries have been prepared and distributed to the SWAs for use in their programs.

Approximately $5.1 million has been awarded by the SWMB in recycling grants to local SWAs since 1991. Grant descriptions can be found in Appendix A of this document. Grants have been awarded for recycling education programs, equipment purchases, facility construction, and operating expenses. Grant applications are reviewed for consistency with the Comprehensive Litter and Solid Waste Control Plans. Due to budget constraints, SWMB grants were not awarded in FY 1999 or FY 2000. In FY 2001 the grant program was resumed.

5.9.5 Department of Environmental Protection (DEP)

Two sections of the DEP are involved in solid waste management: the Division of Water and Waste Management (DWWM) and Division of Land Restoration. Regulations promulgated by the DWWM are enforced by the sections' Environmental Enforcement unit. Also, if a permit is required for a recycling facility which wishes to charge a tipping fee, the facility is then subject to the DEP rules regarding commercial solid waste facilities. According to W.Va. Code § 22-15-14(c), the Secretary of DEP is directed to issue legislative rules to encourage each commercial solid waste facility to recycle paper, glass, plastic and aluminum.

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The Division of Land Restoration's Rehabilitation Environmental Action Plan (REAP) section, which was enacted in July of 2005 and combined programs from both the Division of Natural Resources and the Department of Environmental Protection, serves as a more effective and streamlined system for the environmental remediation programs. REAP is comprised of the Pollution Prevention and Open Dump Program (PPOD), the WV Make It Shine Program, Adopt-A-Highway Program, Operation Wildflower Program, and the state's Recycling Program.

PPOD, was established in June 1989. Their primary objectives are to reclaim, assist and encourage the cleanup of all West Virginia open dumps, and to promote the practice of pollution prevention. As of July 1, 2006, the PPOD program has reclaimed 9,207 of the state's largest open dumps by removing 114,472 tons of illegally disposed waste. Cleanup efforts through their Car and Appliance Recycling Program (CARP) have resulted in the recycling of 13,136 junked vehicles and 69,743 appliances, all of which represent a total of 16,022 tons of material recycled. PPOD has also collected 660,303 waste tires through its open dump cleanups and waste tire collection events. The Adopt-A-Dump program, through which PPOD solicits the assistance of volunteers in open dump cleanup efforts, has been responsible for the reclamation of an additional 433 illegal dumps. The Make It Shine (MIS) Program is aimed at making West Virginia one of the cleanest states in the nation using groups of volunteers from businesses, community organizations and local governments. In 2006, MIS volunteers collected over 222 tons of litter and recyclables from the states' streams and public lands.[27]

Recycling legislation was enacted in 1989, without a great deal of financial assistance to implement those laws on the county/local level. That changed in 1991, with the enactment of Senate Bill 18, which provided for a $1.00/ton assessment fee for recycling assistance. The grant program was originally administered through the DNR, Environmental Resources Section which is now the REAP Recycling section. The fund is expected to generate approximately $1.5 million per year for grants to assist municipalities, counties and other interested parties in the planning and implementation of recycling programs, related public education programs and recycling market procurement efforts. See Appendix C for a listing of these grants. In order for the municipalities and counties to submit their plans for the establishment and implementation of a mandatory recycling program (W. Va. Code § 22-15A-18(a)), feasibility study grants were made available as the first phase of the Recycling Assistance Grant program. These plans were reviewed by the SWMB for consistency with the legislation, the county or regional solid waste management plan and the statewide plan.

5.9.6 Public Service Commission (PSC)

The PSC can grant or deny a Certificate of Need, which is a permit required for construction, operation and expansion of a commercial solid waste facility or a major modification to an existing facility. The PSC

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becomes involved in recycling if a Certificate of Need is required for a recycling facility which wishes to charge a tipping fee. The facility is then subject to PSC rules regarding commercial solid waste facilities.

5.9.7 West Virginia University (WVU) Extension Service

The WVU Extension Service, through offices at the county and state program levels, provide objective information on solid waste issues particularly relating to waste utilization such as land application of sewage sludge and other organic material, backyard composting, mulching, recycling, resource reduction, environmental shopping, etc.

5.9.8 West Virginia Development Office (WVDO)

The WVDO Energy Efficiency Office maintains a database of commercial, community and secondary recycling markets in West Virginia. The West Virginia Materials Recycling Directory is utilized to assist in the recruitment and retention of businesses by the WVDO. The WVDO Energy Efficiency Office updates the database annually and distributes it in print and on the internet and has provided funding for recycling projects around the state.

5.10 Permitting Requirements

The permitting process for any non-disposal solid waste or "commercial recycling facility", which charges a tipping fee, requires the approval of the county or regional SWA, the PSC, the DEP-DWWM, the Division of Culture and History and the DNR-Wildlife Resource Section (DNR-WRS), according to 33CSR1.3.7.i. The time period for receiving PSC approval is between 120 and 270 days. Once the Certificate of Need is received from the PSC, the permitting process for the DEP-DWWM can begin. This permitting process lasts an average of eighteen months depending on the complexity of the project and the amount of citizen participation or opposition. Some facilities also need a NPDES permit from the DEP to ensure a plan has been instituted for surface water runoff into streams, tributaries or rivers near the project site.

W.Va. Code § 22-15A-23 (originally passed by the Legislature in 1991 as W.Va. Code § 20-11-12) exempts recycling facilities from obtaining the PSC and DEP- DWWM permits. These recycling centers must accept recyclable materials free-of-charge. Below is the statute which exempts this process.

W. Va. Code § 22-15A-23, Recycling Facilities Exemption: Recycling facilities, as defined in section two article fifteen of chapter twenty-two (§ 22-15-2), whose only function is to accept free-of-charge, buy or transfer source separated materials or recycled material for resale or transfer for further processing are exempt from the provisions of said article and article four (§ 22C-4-1 et seq.) of Chapter 22C and sections 1-c and 1-f (§§ 24-2-1c and 24-2-1f), article two, chapter twenty-four of this code.

5.11 Funding

5.11.1 Funding Sources

Although West Virginia encourages private sector development in recycling, the state places a large part of the responsibility for municipal solid

waste management and consequently the development of recycling programs on the local SWAs. For the most part, the SWA's cover their operating cost with a monthly allotment drawn from the state's landfill assessment fee. The average monthly SWA assessment check for FY 2006 was $1,658. (SWAs that have a solid waste disposal facility in their county are permitted to impose an additional $0.50 per ton assessment on every ton of waste deposited in their county.)

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SWAs are eligible for additional funding through grant programs administered by the Solid Waste Management Board and the DEP-REAP Recycling Program. Both grant programs are different in nature and normally receive many more applications than they can fund.

Using tonnage based landfill assessment fees to finance recycling programs tends to be problematic in that it does not provide an incentive to reduce waste at its source.

A number of funding options are used in other states including hazardous waste assessment fees, fees attached to franchise taxes, fees charged to those that manufacture items that might become litter such as packaging and bottles, beer and wine litter taxes, tire and white-goods disposal fees, etc. For a discussion of incentive programs implemented in other states see Appendix I of this document.

5.11.2 Full Cost Accounting (FCA)

Full Cost Accounting is becoming the method of choice when determining the cost associated with recycling and waste management. FCA is a systematic approach to understanding the complete cost structure of managing solid waste.

Recycling programs may seem expensive when viewed from a cash flow accounting perspective but when long-term cost/revenue factors are considered the picture can be quite different. While no single correct formula exists for an FCA program, according to the US Environmental Protection Agency, a successful program utilizes five basic principles:

1. **Accounting for cost rather than outlays**. Outlays are payments for current expenses that are tabulated using cash flow accounting methodologies. Cost accounting is different in that it involves the accrual of expenses over time. This applies to capitol expenses—things like land and equipment which are subject to depreciation over time.
2. **Accounting for hidden cost.** Hidden cost include the cost of remediation and contingencies as well as possible future windfalls such as grant allocations and revenues from sale of recyclable materials. These costs are more difficult to estimate and rely heavily on projections based on past performance of the local program and/or historical industry data.

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3. **Accounting for overhead and indirect cost.** Overhead may include expenditures for administrative support, legal fees and consultant fees. Indirect cost are those cost shared by more than one agency. Governmental entities frequently have overlapping responsibilities and sometimes the cost of corrective action for environmental damage is shared. This is an area where cost information must be shared and where inter-agency cooperation is important.
4. **Accounting for past and future outlays.** FCA factors in the past, present, and future cost of landfilling.
5. **Accounting for cost according to activities or paths.** Accounting for activities involves following the flow of waste as it moves through the complete cycle. An integrated solid waste management system involves waste collection, transfer stations, processing facilities, disposal facilities, and the sale of by-products. Paths include recycling, composting, waste to energy programs, and land disposal. FCA considers the full cost of each path factoring in both revenues and expenditures.

The implementing of a full cost accounting system is a serious endeavor for any state or locality. Most who use a FCA system report that it takes from two to three years to fully implement. The objective of FCA is to generate information that will facilitate the introduction of least cost management options. The system helps managers plan for contingencies and hidden cost, identify cost drivers, and develop long term objectives.

A full cost accounting system is used:

- To facilitate long range planning;
- To defend budget request;
- To explain cost to customers;
- To provide a more accurate picture of cost over time.

The use of FCA is becoming more common and is now mandatory in several states.

5.12 Summary and Recommendations

This chapter has attempted to examine every facet of reduction, reuse and recycling of the municipal waste stream in West Virginia and evaluate the degree to which these efforts have been successful. This plan also defines certain types of recycling projects and processes. Recommendations have been formulated that would increase the likelihood that the state will meet its waste diversion goals. The predominant conclusion in most sections of this plan reveals the need for more public education and public awareness to achieve the legislative goals discussed in the recycling plan.

The major task in any public information program is to evaluate and target the audience. Set goals and keep the message simple. Public

service announcements, leaflets and promotional material will help get the message across. The main goal is to keep the public information simple and informative. This section reviews the different topics of the recycling plan and proposes recommendations that should increase the level of waste stream diversion in West Virginia.

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Section 5.2 on **Source Reduction** details waste reduction and reuse, waste prevention programs, enviroshopping, government procurement, reuse and waste exchange. Recommendations and conclusions from this section are listed below. Change of consumer purchasing behavior patterns occur gradually, and therefore, ongoing public information programs will be required to achieve source reduction.

Estimates of total potential sales of products made from recycled material to state, county and municipal agencies and the private sector are needed, and could lend support for encouraging manufacturers to locate in West Virginia to produce products made from recycled materials. Recycled purchases by the state should include paper products, laser printer toner cartridges and printer ribbons, plastics, lumber, buckets, boxes, parking lot tire stops, signposts, highway guardrail supports, fence posts, highway paving material, outdoor park equipment, carpet and compost. The state should encourage local businesses and governments to purchase recycled-content products by providing information about product availability and performance, and by sponsoring product shows, workshops and seminars on buying.

Local SWAs should sponsor swap meets for reusable items, such as flea markets to promote waste exchange. Charitable organizations or civic groups can promote product reuse by repairing items so they can be reused. In promoting reuse, they would also provide job opportunities. The SWMB has instituted a materials exchange program to connect producers and users of recyclable materials.

Section 5.3 **Potential Recyclables Characterization and Analysis,** assesses the state legislative goals and establishes the methodology for providing sound interpretation of the waste stream and the diversion rates needed to achieve the mandated goals. Conclusions and recommendations for this section follow:

1. Given current solid waste management practices, it will be difficult, if not impossible, to achieve the recycling goals established by the Legislature.
2. A study completed in the Spring of 2002 by the WV Recycling Measurement Committee, a group of both public and private sector individuals, indicated that 16% of the waste stream was being recycled at the time. According to Legislative goals WV should be recycling at a rate of 30%.
3. A concerted effort must be made to increase the participation and capture rate in existing recycling programs. This will require development and implementation of a public information program.
4. New and innovative ideas must be formulated to provide an incentive for people to reduce or recycle. One such idea

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might be a variable rate system, sometimes called a "Pay as You Throw Program." This type of collection rate may be more equitable to the citizens and give them the incentive to reduce and/or recycle their household waste. Other ideas may be found in Appendix I of this document.

5. Each SWA or processing facility should identify the major components that characterize its waste stream. They should analyze the marketability of each material and develop a plan that will achieve a constant flow of recyclables to the marketplace.
6. The type and amount of material generated is directly impacted by demographics, socio-economic conditions and type of dwellings. Each solid waste authority or recycling center should evaluate the conditions that make up its residential base.
7. A survey of all industrial businesses should be conducted as to their involvement in recycling and the types of waste that are or could be recycled.
8. It may be necessary to increase the number and percentage of subscribers to a collection service to maximize participation in a curbside recycling program.
9. Currently there are no reporting requirements other than the amount of MSW deposited in the landfill. There is no reporting mechanism to effectively gauge the diversion of the MSW from landfills by recycling.
10. Legislation should be considered that would have recyclers report the amount of waste diverted through recycling while protecting the privacy of proprietary business information.
11. A waste characterization study for urban and rural areas was completed in 1997. It was determined that the state average waste generation rate is 4 lb. per person per day.
12. Incentive programs should be created to facilitate the development of recycling infrastructure and markets. A study should be instigated to determine which incentives are best for West Virginia. Special emphasis should be placed on incentive programs that encourage manufacturers to use recycled materials in their processes.

Section 5.4 **Recycling Facilities**, review existing and proposed recycling facilities and information on recycling programs. It is recommended that a study be conducted to determine the processing capacity of existing publicly and privately owned recycling equipment to identify where additional equipment may be required.

Section 5.5 **Markets**, provides a market overview, an assessment of existing markets, a definition of marketable wastes, a listing of cooperative markets, barriers to future markets, market development and staffing, and possible future markets. Recommendations and conclusions for this section are listed below:

1. Shipping secondary materials long distances to markets may make costs greater than the selling price.

2. An assessment of the local and regional marketplace for each material to be recycled should be conducted before designing or modifying a recycling program.
3. Cooperative marketing should be pursued by rural counties to improve their position in the marketplace.
4. A number of small intermediate materials processing facilities have been established around the state. For the most part these facilities are operated by the solid waste authorities. The majority of them don't have all the equipment they need and are too small to market materials in high enough volumes to bring in revenue sufficient to sustain their efforts.

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Section 5.6, **Recyclable Materials Collection**, identifies different types of collection systems which include municipal curbside collection, county curbside programs, drop-off programs, buy-back centers, multi-family housing collection, commercial, institutional, industrial recovery, state agencies, college and universities, primary and secondary schools and state tourism areas. It also identifies special wastes and hauler involvement. The following conclusions and recommendations were identified:

1. Curbside programs will achieve maximum participation, but are more costly than drop-off programs.
2. In some rural areas of the state, curbside programs would not be feasible due to the sparse population and the lack of accessibility to homes because of the mountainous terrain. Convenient locations, ongoing education and promotion are important factors in the successful operation of drop-off centers.
3. Each SWA should coordinate with their respective municipalities, contract haulers, commercial and industrial establishments and recycling centers to give guidance for their county or regional plan.
4. Local SWAs need to work with businesses or trade organizations to provide information, printed material and guidance on recycling efforts. State incentives, such as those discussed in the section on Source Reduction, could be offered to businesses and industries to promote achievement of recycling goals and the use of recycled materials.

Processing Facilities are discussed in Section 5.7. It defines material recovery facilities and evaluates planning criteria for their location. Intermediate processing centers and integrated resource recovery facilities are discussed as well.

Public Education, Information and Administrative Needs are discussed in Section 5.8. This section identifies the need to involve the general public, commercial and institutional establishments and industries in the educational process. Education has become as crucial to a recycling program's success as stable markets and permanent collection sites. An overall campaign for recycling should be implemented and coordinated in the form of public service announcements, news releases, flyers, posters, educational material and speaking engage-

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ments to schools, workshops and community groups. The SWMB and DEP have organized a state steering committee to organize volunteers and events for America Recycles Day. All SWAs should sponsor events and participate in America Recycles Day.

Section 5.9, entitled **Roles and Responsibilities**, explains the roles of county and regional SWAs, county commissions and municipalities. It also defines the responsibilities of the SWMB, the DEP, PSC and various recycling programs and grants provided by the state.

Section 5.10 describes **Permitting Requirements** for recylcing facilities.

Section 5.11 **Funding**, explains the sources and distribution of funding for West Virginia's recycling programs and the concept of Full Cost Accounting. An effort should be made to identify innovative funding sources that can be integrated into the states financial structure to finance recycling, public education, awareness, litter control, source reduction, reuse and other resource recovery programs. Over a period of time, the Full Cost Accounting concept should be integrated into both state and local solid waste planning.

END NOTES FOR SECTION 5

1. Environmental Protection Agency, Decision-Makers Guide to Solid Waste Management, p. 153.

2. "Options for Waste Prevention," Cornell Waste Management Institute, Spring 1991.

3. "Waste Prevention: What, Why and How," Cornell Waste Management Institute, Center for Environmental Research, Ithaca, NY, Spring 1991, p. 2. 4.

4 "Source Reduction Counts," BioCycle, November 1993, p. 6.

5. U.S. EPA, Extended Product Responsibility: www.epa.gov/epr.

6. Currey & Company, Recycled Materials Marketing Feasibility Study, Charleston, WV, December 1992, p. 62.

7. Email from Betty Francisco, WV Division of Purchasing, July 2006.

8. Solid Waste Characterization Study for Wasteshed F and Wasteshed H in West Virginia, GAI Consultants, March 1997.

9. Container Recycling Institute's Bottle Bill Resource Guide: www.bottlebill.org.

10. "Electronic Product Recovery and Recycling: Baseline Report," National Safety Council, Copyright 2002.

11. National Center for Electronics Recycling website, www.electronicsrecycling.org.

12. Email from Sharon Albert, Polymer Alliance Zone, Inc., September 2006. www.pazwv.org.

13. Associated Recyclers of Wisconsin, Cooperative Marketing of Recyclables: A Planning and Implementation Guide.

14. "Solid Waste Problems: Creating Jobs in Recycling and Waste Reduction," Citizens Clearinghouse for Hazardous Wastes, December 1992, p. 6.

15. "US Recycling Economic Information Study," National Recycling Coalition, July of 2001.

16. Email received from Steven Demyon, Materials Handling Manager, SFK, October 2006.

17. Bonini, Allen, "Recycling Collection Technologies," BioCycle, February 1993, p. 56.

18. Personal communication with Bill Flenner, West Virginia Public Service Commission, October 2006.

19. "Multi-family Recycling: A Golden Opportunity for Solid Waste Reduction," US EPA, Office of Solid Waste, April 1999.

20. Trendell-Whittaker, Peggy, “Multi-family Recycling on Vancouver’s North Shore,” BioCycle, June 1992, p. 41.

21. “McDonalds Spends Big on Recycling,” World Wastes, June 1993, p. 124.

22. Email from Jim Hill, DEP-REAP, Recycling Coordinator, October 2006.

23. Email from Sandra McClure-Malcolm, NCWVRC Director, October 2006.

24. Information provided by Greg Barr, WV Parkways Economic Development and Tourism Authority, October 2006.

25. West Virginia Environmental Collegiate Environmental Network: www.shepherd.edu/seoweb/cen.html

26. “Municipal Solid Waste Generation, Recycling, and Disposal in the United States: Facts and Figures for 2003”, US EPA Office of Solid Waste publication.

27. Email from Chris Cartwright, Make It Shine State Coordinator, November 2006.

Chapter 6

Special Wastes

6. SPECIAL WASTES

Notes

6.1 Hazardous Waste

Hazardous wastes have been regulated since 1976 by the Resource Conservation and Recovery Act (RCRA). RCRA is divided into 10 subtitles, A through J. The most significant of these is Subtitle C, which establishes the national hazardous waste management program and establishes the basic structure for the RCRA program. The regulations that define and govern management of hazardous wastes are codified in Parts 260 through 279 of Title 40 of the Code of Federal Regulations (40 CFR), "Protection of the Environment."

The main objectives to RCRA's enactment were:

1. To make land disposal of waste safer.
2. To force the employment of new technologies for landfill disposal.
3. To reduce the amount of waste produced.
4. To encourage recycling and resource recovery.
5. To maintain state responsibility for solid waste.[1]

RCRA has been amended several times since its enactment, most importantly by the Hazardous and Solid Waste Amendments of 1984 (HSWA). RCRA established:

1. A national system for identifying and listing hazardous wastes.
2. A "cradle-to-grave" tracking system.
3. Standards for generators and transporters of hazardous wastes and for operators of treatment, storage and dis posal (TSD) facilities.
4. A permit system to enforce these standards.
5. A procedure for delegating to states the administration of the permitting program.

The US EPA is required to promulgate regulations identifying hazardous wastes either by listing specific hazardous wastes or establishing characteristics of hazardous wastes. Persons managing such wastes are required to notify the US EPA of their hazardous waste activities. As defined under Subtitle C, Section 1004(5), the term hazardous waste means a solid waste which because of its concentration, or physical, chemical, or infectious characteristics may: 1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness or, 2) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

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In 40CFR261, subpart D, US EPA has listed specific hazardous wastes that meet one or both of the above criteria. If a waste is not listed as hazardous, the waste is still regulated by RCRA if it exhibits one of four characteristics: *ignitability, corrosivity, reactivity,* or *toxicity.*[2] Hazardous wastes, as defined in 40 C.F.R. § 261.3, can also be generated by the mixture rule, derived-from rule or the contained-in principle.

The prohibitive cost of hazardous waste transportation and disposal has been an incentive in source reduction efforts. In addition, RCRA hazardous waste reduction program has resulted in industrial source reduction through process modifications that produce less waste.

WV Hazardous Waste Rule, 33CSR20

W. Va. Code § 22-18 is the Hazardous Waste Management Act. The WV Department of Environmental Protection (DEP) is designated as the lead agency for West Virginia hazardous waste management and is also the authorized enforcement agency in the regulation of hazardous waste (W.Va. Code § 22-18-4). The Secretary of the DEP has the responsibility for promulgating the rule in consultation with the Department of Health and Human Resources, the Office of Emergency Services, the Public Service Commission, the state Fire Marshall, the Department of Public Safety, the Division of Highways, the Department of Agriculture and the Environmental Quality Board. Rules are to be consistent with, but no more stringent than, federal regulations.

6.2 Household Hazardous Waste (HHW)

The USEPA criteria for hazardous waste applies to paints, thermometers, flammables, used motor oil, carcinogenic chemicals, cleaning supplies and other home use chemicals. However, hazardous wastes that are generated in a household are generally accepted in non-hazardous municipal solid waste landfills because Congress did not intend to cover household items in the rigid waste control mechanism of RCRA.[3] Under RCRA this is known as the *household exclusion*, (40CFR261.4(b).

Household Chemicals

Aerosol sprays, ammonia, batteries, bleach, cosmetics, detergents, disinfectants, solvents, cleaners and medicines are all household hazardous waste (HHW). Even minute amounts of many household chemicals can seriously harm or kill children and pets. HHW in the solid waste stream can pose health risks to sanitation workers and hazards to the environment. Improper disposal can contaminate the air we breathe, the food we eat and the water we drink.

Americans generate 1.6 million tons of household hazardous waste per year. The average home can accumulate as much as 100 pounds of household hazardous waste in the basement or garage and in storage closets.[4]

Proper disposal of HHW is an important management objective for state and local governments. Management must take place at the local level by utilizing the following tools:

1. Public Education programs.
2. Telephone hotlines.
3. Exchange programs.
4. Collection programs.

Educational programs for school age children, civic groups and the general public should be given a high priority at the local level. A hotline could be shared with another agency, such as the Health Department or the WVU Extension Service.

Collection and exchange programs are important options, but they are not long term solutions for management of HHW. The purchase of environmentally safe products should be promoted among consumers. In addition, manufacturers and retailers should be encouraged to work cooperatively to eliminate HHW products from the market as safer products become available.

Various state agencies offer brochures, audio/video materials and other educational materials for the general public which briefly describe problems, disposal methods and alternative products. A statewide inventory of used oil collection centers is also available from the Development Office – motor oil and bulk oil collection sites: www.wvdo.org/recycling/dbase/enduse2.cfm. This site also provides listings for some universal waste sites. Recycling HHW and completely using existing stocks of household products should be encouraged. Choosing less toxic alternatives is the best solution to using household chemicals. For example, use soaps instead of detergents, leave vinegar in an open dish instead of using air freshener, use cedar chips for mothballs. A HHW Disposal Waste Chart is included in this document (Table 6-1).

The state does not have a systematic method for HHW collection and disposal as of 2006. DEP's Division of Water and Waste Management-Emergency Response handles disposal on an as needed basis for residents that want to properly dispose of their HHW. However, this program is in need of additional resources for further development.[5]

Used Motor Oil

While hazardous waste characteristics may apply to used oil, EPA decided not to list used oil that is destined for recycling as a hazardous waste, but instead to have promulgated management standards for its collection and recycling. US EPA figures suggest that 90% (220 million gallons) of the "do-it-yourself" (DIY) automobile oil changed in the U.S. are disposed of improperly either by pouring it down the drain or on the ground, incineration, or mixing it with non-hazardous portions of the

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waste stream.[6] These improper disposal methods can have devastating effects on the environment. For example, a gallon of used oil from a single oil change can contaminate one million gallons of water. One pint of used oil can create an oil slick an acre in size. Improperly disposed oil can reduce the productivity of soils and have toxic effects on aquatic life forms, even when only present in minute concentrations. Improperly disposed oil not only poses a serious threat to the environment, but it also constitutes an unnecessary waste of a renewable resource. Used oil that is properly recycled can be:

1. Re-refined into a high quality motor oil.
2. Used in the production of industrial lubricants, transformer and quench oils.
3. Used in rust prevention efforts and synthetic rubber production.
4. Processed and burned as fuel.

Economic benefits can also be gained from recycling used oil. For example, the USEPA suggests that: 1) it takes only one gallon of used oil to make the 2.5 quarts of lubricating oil that it takes 42 gallons of crude oil to make; 2) re-refining oil takes only about one-third the energy required to refine crude oil to lubricant quality; and 3) the U.S. alone could save approximately 1.3 million barrels of oil per day if all used oil were recycled.[7]

Obstacles in developing a used oil recycling program have included lack of public awareness, contamination of oil to be recycled, and liability. The public is generally unfamiliar with the effects of improperly disposing of used oil, the magnitude of environmental degradation caused by mismanagement and the benefits of used oil recovery and recycling. To increase awareness, an educational campaign is needed to promote its proper disposal and recycling. Education could also prevent the contamination of used oil at collection sites by instructing people not to mix solvents or other household and automobile fluids with oil to be recycled.

Where curbside programs exist, oil could be picked up at the curb in milk jugs or empty oil containers for removal with other recyclables. Garbage trucks could be equipped with special racks to hold containers of used motor oil or tanks in which to empty those containers.

Drop-off collection centers have been established at some gasoline stations and auto parts stores where one can dispose of up to five quarts of used motor oil free of charge. Some counties have numerous sites while others have just one or two. A total of thirty-eight (38) counties in West Virginia have collection sites for used motor oil. The sites are listed in the WV Materials Recycling Directory published by the WV Development Office and at www.wvdo.org.

SWMB TABLE 6-1
HOUSEHOLD HAZARDOUS WASTE CHART

The following information applies to Household Hazardous Wastes ONLY. Consult the appropriate industry representative or the EPA's web site for Non-household Hazardous Waste.

ITEM	DRAIN DISPOSAL	MSW DISPOSAL	HAZ. WASTE DISPOSAL	RECYCLE
KITCHEN				
Aluminum cleaner	X			
Ammonia based cleaner	X			
Drain cleaners	X			
Aerosol cans (empty)		X		
Bug sprays			X	
Floor-care products			X	
Furniture polish			X	
Metal polish			X	
Oven cleaner (lye base)			X	
BATHROOM				
After shaves, perfumes		X		
Alcohol-based lotions		X		
Bathroom cleaners	X			
Disinfectants	X			
Hair relaxers		X		
Medicine (expired)		X		
Permanent lotions		X		
Toilet bowl cleaner	X			
Tub and tile cleaners	X			
Nail polish (solidified)		X		
Nail polish remover			X	
GARAGE				
Antifreeze (1 qt./week)	X			

HOUSEHOLD HAZARDOUS WASTE CHART (Continued)

ITEM	DRAIN DISPOSAL	MSW DISPOSAL	HAZ. WASTE DISPOSAL	RECYCLE
Auto body repair products		X		
Car wax with solvent (solidified)		X		
Metal polish w/solvent			X	
Battery acid (or battery)			X	X
Diesel fuel			X	X
Fuel oil			X	X
Gasoline			X	X
Kerosene			X	X
Motor oil			X	X
Automotive transmission fluid				X
Brake fluid				X
WORKSHOP				
Paint brush cleaner w/TSP	X			
Paint stripper (lye based)	X			
Glue (water based) (solidified)		X		
Paint-latex (solidified)		X		
Cutting oil			X	
Glue (solvent based)			X	
Paint-oil based			X	
Paint-auto			X	
Paint-model			X	
Paint stripper (solvent based)			X	
Primer			X	

HOUSEHOLD HAZARDOUS WASTE CHART (Continued)

ITEM	DRAIN DISPOSAL	MSW DISPOSAL	HAZ. WASTE DISPOSAL	RECYCLE
Rust remover			X	
Turpentine				
Varnish			X	
Wood preservative			X	
Paint brush cleaner w/solvent			X	X
Paint thinner			X	X
GARDENING				
Fertilizer			X	
Fungicide			X	
Insecticide			X	
Rat poison			X	
Weed killer			X	
MISCELLANEOUS				
Photographic chemicals (mixed & properly diluted)	X			
Artist's paints, mediums (solidified)		X		
Fiberglass epoxy (solidified)		X		
Ammunition			X	
Lighter fluid			X	
Moth balls			X	
Old fire alarms			X	
Photographic chemicals (unmixed)			X	
Shoe polish (solidified)			X	
Swimming pool acid			X	
Dry-cleaning solvents			X	X
Gun cleaning solvents			X	X
Mercury batteries				X

Notes

DRAIN DISPOSAL - Products which can be poured down the drain with plenty of water. If you have a septic tank, additional caution should be exercised when dumping these items down the drain.

SANITARY LANDFILL - Materials which cannot be poured down the drain but can be safely disposed of in a sanitary landfill. Be certain the material is properly contained before it is put out for collection or carried to the landfill. If you have questions regarding a specific waste contact your waste hauler.

HAZARDOUS WASTES DISPOSAL - Hazardous wastes which should be saved for a community wide collection day or given to a licensed hazardous wastes contractor. (Even the empty containers should be taken to a licensed contractor.)

RECYCLABLE MATERIAL - If there is a recycling program in your area, take the materials there. If not, encourage local officials to start such a program. Often the best disposal route is to use up the product according to the directions on the label.

6.3 Municipal Sewage Sludge Disposal

The disposal of municipal sewage sludge (MSS) generated within WV is directly regulated by the DEP. Disposal is regulated in two ways; through the issuance of National Pollutant Discharge Elimination System (NPDES) permits under the Title 47 Series 10 rules[8] and by defining wastes that can be disposed of in solid waste facilities under Section 4.13.h. of the DEP's Title 33 Series 1 rules. The issuance of NPDES permits is the responsibility of the Division of Water and Waste Management (DWWM) of the DEP and is the primary method of regulating MSS disposal.

When a wastewater treatment facility applies for an NPDES permit, a certain method of MSS disposal is chosen. Individual treatment facilities are free to choose from a total of four permissible disposal options. The four options include landfilling, land application, marketing of the sludge or a catch-all "other" option. This "other" option is a broad category encompassing disposal methods not falling under the other three categories. Regardless of the method chosen, disposal must be approved by the DWWM Director prior to receiving an NPDES permit.

In 1993, Senate Bill 288 provided the necessary authority for DEP to develop and implement a comprehensive program for the regulation and management of sewage sludge. The DEP was authorized to file emergency rules dealing with municipal sewage sludge management. The DEP's rules manage all sewage sludge produced at a wastewater treatment plant and shipped to a commercial solid waste facility.
The rule, 33CSR2, requires:

1. Test on the sludge for heavy metals, pathogens, toxins and vectors.
2. Reports on the source and amount of sludge actually generated or imported.
3. Access to the processing facility for DEP inspection and monitoring.
4. Posting of bonds for environmental remediation; and
5. The development of reports on municipal sewer sludge volumes and activities[9].

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The DEP is authorized to require permits for all facilities and activities which generate, process or dispose of sewage sludge by whatever means, including, but not limited to, land application, composting, mixed waste composting, incineration or any other method of handling sewage sludge within the state.

Water treatment facilities recently have come under DEP's regulatory control similar to wastewater treatment facilities. The regulating of these facilities will be part of the comprehensive program for managing sludge. Septic tank pumpings and package plants are permitted by DEP as part of their comprehensive sludge management program.

Landfilling of municipal sludge has been a disposal method for many years. During FY 2006 state landfills received 42,627 wet tons of sludge, including out-of-state sources according to DEP-DWWM monthly landfill operators tonnage reports.

Sludge composting has occurred at the Wetzel County Landfill,since 1989 and at the Brooke County Landfill since February 1992, according to the PSC. Composting was incorporated into the two landfill's operating permits issued on November 25, 1992. The permits require the landfills to comply with federal sludge management regulations, which are extensive.

Philippi operates a sewage sludge composting facility. The facility is regulated by the DEP-DWWM. It is permitted under minor modifications to their Public-Owned Treatment Works (POTW) Permit.

During composting, the sludge is mixed with sawdust, wood chips or yardwastes and converted to a product used as a soil amendment or fertilizer.

The US EPA promulgated the final rule regarding the disposal of MSS, Title 40 CFR, Part 503, on November 25, 1992. The purpose of Part 503 is to establish standards for the final use or disposal of sewage sludge generated during the treatment of "domestic sewage in a treatment works". The rule applies to "any person who prepares sewage sludge,

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applies sewage sludge to the land, or fires sewage sludge in a sewage sludge incinerator and to the owner/operator of a surface disposal site."

The objective of Part 503 is to establish minimum standards for the disposal of MSS throughout the U.S. These minimum standards include maximum allowable concentrations of several pollutants in MSS as well as maximum application rates of MSS, applied to land. States have the ability to impose standards in their individual state that are more stringent than those contained in Part 503. It is important to understand that Part 503 standards are applicable not only to generators of MSS, but also those who own or operate a surface disposal site. This provides the state with minimum regulations for the disposal of MSS that is generated outside the state.

6.4 Agricultural Waste

Agricultural waste has been disposed of utilizing mainly land application. However, poultry producers are now being challenged to effectively utilize litter (waste). The industry is seeking ways to better capture the potential value of the litter as a fertilizer source, as a stock material for compost production, or as a feed for cattle. Other methods of disposal may have to be developed to avoid potential ground and surface water contamination.

The state legislature passed House Bill 4380 in 2000 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.

Agricultural waste problems can be caused by "farm dumps" and the disposal of chemicals, such as pesticides, herbicides, fertilizers and insecticides, used on the farm. Most of these old farm dumps are small and require a minimum effort to reclaim. Some farm dumps require pulling out the bigger solid waste items, hand picking and bagging the smaller household items and properly revegetating the area. Other farm dumps require covering the site with two feet of soil material and revegetating. These sites are inspected by a DEP Environmental Inspector or a DNR Conservation Officer. A program needs to be developed similar to the household hazardous waste section of this state plan. This program needs to be coordinated with representatives of each group involved with agriculture.

According to DEP Industrial Solid Waste Rule, under 33CSR1, Section 2.59.a., "Animal Carcasses, Body Parts, Bedding and Related Waste" means contaminated animal carcasses, body parts, and the bedding of animals that are known to have been exposed to infectious agents during research, the production of biologicals, or the testing of pharmaceuticals, or for any other reason.

The primary animal remains disposed of in landfills are livestock and poultry. The emergence of the aquiculture industry will be accompanied by an increase in the amount of fish carcasses and waste that must be disposed or composted.

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6.5 Pollution Control Residuals

In order to comply with US EPA guidelines, one of the wastes the plan shall consider is pollution control residuals. Only air pollution control residuals will be discussed here, since other types of residuals (eg. sludge) have been discussed in other sections of this plan.

The operation of thermal systems in power plants, foundries, etc., produces several impacts on the environment including gaseous and particulate emissions, solid residues and liquid effluents. The proper design of control systems for these emissions is a critical part of the design of a thermal processing system. End products of the thermal process include hot combustion gases composed primarily of nitrogen, carbon dioxide, water vapor (flue gas) and noncombustible residue (ash). Energy can be recovered by heat exchange from the hot combustion gases.[10]

The handling of air pollution control residuals is regulated by the DEP Division of Air Quality (DAQ), while the disposal of the residuals is regulated by the DEP Division of Water and Waste Management. The DAQ requires control equipment to minimize emissions to meet the Federal Clean Air Act.[11]

The major producers of air pollution control residuals are electric power generation plants, coal producers, foundries, chemical plants and cement kilns.

Any facility that uses coal as a fuel produces an ash. The ash is either classified as fly ash or bottom ash. Fly ash is the lighter of the two and exits the combustion chamber in the flue gas stream. Fly ash is generally collected by electrostatic precipitators or bag-houses. The bottom ash is heavier than fly ash and falls to the bottom of the combustion-chamber, where it is collected and removed.[12]

According to DAQ officials all state coal producers and cement kilns have their own landfills or refuse piles. Some chemical plants have their own landfills. The cost of on-site ash disposal is roughly equivalent at a municipal solid waste landfill. Although costs are similar, many chemical plants have concerns about their on-site industrial landfills becoming potential EPA superfund sites.[13]

Some residuals can be reused to keep disposal costs down. The dust from cement or asphalt production is used again in-house. Refuse from coal mining is returned to mined areas as a backfill. The sludge from

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scrubbers at chemical and/or manufacturing facilities are used on-site or shipped to hazardous waste sites by the chemical company or a contracted handler/hauler. All hazardous wastes from pollution control residuals are sent to out-of-state facilities primarily in Ohio, South Carolina and Alabama. The small amount of ash generated from medical incinerators and veterinarians is considered a hazardous waste and also transported out-of-state.[14]

6.6 Mining Wastes

West Virginia is the second leading producer of coal in the U.S. Two types of mining exist within the state: underground and surface mines. Although the ways of extracting the coal differ greatly, the waste or "gob" generated is the same. In both cases, only the seam of coal is removed. However, this seam contains unusable gob along with the coal. The gob/coal is transferred to a preparation plant, where the usable coal is screened out. The rest of the gob is disposed of on site in a gob pile, also known as a coal refuse pile.

The DEP's Division of Mining and Reclamation (DMR) promulgates all of the rules on refuse piles such as diversions, underdrains, and compaction requirements. The unused gob is compacted on-site in order to maximize space and to compress water from the pile. Drains are installed for water that might infiltrate the pile and this water is treated if necessary. For gob with a high water content and no means to extract it, large impoundments are needed to filter the refuse down through the pond. After a variable length of time, the impoundment is drained and the compacted refuse remains. The DMR has stringent regulations for impoundments as well as dry refuse piles.

The mining operation sends the usable coal to the power plants. Ash is generated by the power plant when coal is burned. The power plant is responsible for separating the coal from the ash and for disposing of the unused portion. The power plant stockpiles it on-site with alternating layers of three feet of ash and six inches of dirt.

In addition to the wastes generated through the mining processes, waste is produced through the mining offices and discarded machinery. Office waste is picked up and transported to a sanitary landfill and the discarded machinery may accumulate on-site during the operation, but is not permitted to remain afterward. Generally, the machinery is remanufactured or sold for scrap.[15] Oil used by the machinery is picked up by the oil company and sent to a processing plant.

The goals of the DMR as stated in the rules on mine refuse include the following:

1. Minimize adverse effects of leachate and surface-water runoff on surface and ground water quality and quantity.

2. Ensure mass stability and prevent mass movement during and after all phases of construction.
3. Ensure that the final disposal facility is suitable for reclamation and revegetation compatible with the natural surroundings and the approved post-mining land use.
4. Not create a public hazard.
5. Prevent combustion.[16]

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6.7 Industrial Waste

The management and disposal of industrial solid waste is authorized pursuant to W.Va. Code §22-15. According to DEP Solid Waste Rules, 33CSR1 Section 2.57, an industrial solid waste means any solid waste generated by manufacturing, or industrial processes that is not a hazardous waste regulated under subtitle "C" of RCRA. Such wastes may include, but are not limited to, waste resulting from factories, processing plants, refineries, fertilizer/agricultural chemicals; food and related products/by-products; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals, manufacturing/foundries; organic chemicals; slaughter houses, mills, tanneries, electric power generating plants, mines, or mineral processing operations; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; textile manufacturing; transportation equipment; and water treatment. This term does not include mining waste or oil and gas waste.

Some exceptions would be lunchroom or cafeteria wastes, office wastes, etc. Only those wastes generated as a by-product of an industrial process meet the intention of the definition. Waste resulting from physical, chemical or thermal processes in an industrial setting are examples of industrial waste. Industrial waste is either disposed of at on-site landfills or transported to other solid waste facilities.

The major producers of industrial wastes are mining operations (coal refuse) and coal fired electricity generators (fly ash and bottom ash). The handling of industrial waste varies depending on the type of waste. The majority of industrial wastes are disposed of in landfills. According to DEP Rule 33CSR1Section 2.58, an industrial solid waste landfill means any solid waste disposal facility which is owned, operated, or leased by an industrial establishment for the land disposal of industrial solid waste created by that person or such person and other persons on a cost-sharing or non-profit basis. The term "industrial solid waste landfill" does not include land application units, surface impoundments, or injection wells. Industrial wastes are regulated by DEP-DWWM.

Various types of industrial waste can, by special permit, be disposed of in municipal solid waste landfills. A total of 93,207 tons of industrial waste was disposed of in West Virginia MSW landfills during 2005. This represents 9% of the total municipal waste stream according to the DEP-

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DWWM landfill tonnage reports. This, however, is only a portion of the industrial waste generated in West Virginia in one year as most industrial waste goes to Class F industrial disposal facilities.

Some industrial wastes which contain contaminants at levels greater than regulatory levels for hazardous waste are exempted from regulation under RCRA Subtitle C requirements and may be landfilled, e.g. chromium from tanneries and creosote from wood treatment plants. For exemptions and exceptions, refer to 40CFR1 Part 261 of the US EPA Regulations.

6.8 White Goods (Household Appliances)

The term "household appliances" - often called "white goods"- usually includes large items such as refrigerators, freezers, clothes washers, dryers, dishwashers, ranges, water heaters, microwave ovens, dehumidifiers, trash compactors, and air conditioners. While these are all terrific time and labor saving devices in the home, they can often be a nuisance in a refuse truck or a landfill. There are many problems in the collection and recycling of white goods. The major factor is transportation to a recycler or landfill. SWAs can establish certain dates to implement free disposal services for white goods.

Recent environmental legislation requires 80% to 90% of all PCB's, CFC or HCFC coolant be recovered with certified equipment by a certified technician. A provision in the EPA - Stratospheric Ozone Protection - Final Rule Summary (EPA-430-F-93-010) dated June, 1993, under the section "Mandatory Technician Certification," states: "Persons removing refrigerant from small appliances and motor vehicle air conditioners for purposes of disposal to these appliances do not have to be certified." In another section of this summary, "Safe Disposal Requirements," it states "technician certification is not required for individuals removing refrigerant from appliances in the waste stream." There is still a requirement that the equipment must be certified that it has been tested by an EPA approved testing organization.

This is part of the 1990 re-authorization of the Clean Air Act which is designed to protect the atmosphere. SWAs should contract with authorized organizations to provide this service at a free or reduced cost.

6.9 Bulky Goods Collection

The term "bulky goods" refers to those items of residential solid waste which are too large and/or otherwise inappropriate to be placed into suitable waterproof containers and include such items as furniture, large appliances and other household-generated materials which cannot reasonably be collected during regularly scheduled weekly waste collections.

In accordance with 150CSR9, the Public Service Commission requires all common carriers of solid waste in West Virginia to establish a regularly scheduled monthly bulky goods collection service to be made available to all residential households in the carrier's territory, effective January 1, 1999. To recover additional costs associated with the implementation of bulky goods collection service, any such carrier may apply to the PSC for approval of surcharges to be applied to both regular residential customers and all others in the territory that request bulky goods service. A carrier may propose a surcharge of one dollar per residential customer per month and not file the information required by Rule 42 of the Commission's tariff rule.

Proposed surcharges in excess of one dollar must include Rule 42 information. The carrier will be required to submit periodic reports detailing revenues collected from implementation of the service paid by subscribers and non-subscribers, respectively. In addition, tons of materials collected, disposed of and cost incurred to provide this service, (e.g. additional labor, fuel, landfill, equipment costs) must also be reported. Table 6-2 indicates the bulky goods that are accepted by all the solid waste landfills around the state.

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SWMB TABLE 6 - 2
BULKY GOODS ACCEPTED AT WV LANDFILLS

Landfill	Refrigerators	Air Conditioners	Large Appliances	Furniture	Computers
Brooke/Valero	YES	YES	YES	YES	YES
Charleston	YES	YES	YES	YES	NO
Disposal Service	NO	NO	YES no engine oil	YES	NO
Elkins/ Randolph	YES	YES	YES	YES	YES
Greenbrier County	YES	YES	YES	YES	YES
HAM	YES	YES	YES	YES	YES*
LCS	NO	NO	YES	YES	YES*
Meadowfill	YES	YES	YES	YES	YES*
Mercer County	YES	YES	YES	YES	YES
Nicholas County	YES	YES	YES	YES	YES
Short Creek	YES	YES	YES	YES	YES
Northwestern	YES	YES	YES	YES	YES**
Pocahontas County	YES	YES	YES	YES	YES
Raleigh County	YES	YES	YES	YES	YES
S & S	YES	YES	YES	YES	YES
Sycamore	NO	NO	YES	YES	YES
Tucker County	YES	YES	YES	YES	YES
Wetzel County	YES	YES	YES	YES	YES

All items that contain Freon must have it removed by a certified technician before disposal.
*LCS, Meadowfill and HAM will only accept a limited number of computers per customer.
**Northwestern recycles their computers.

Notes

6.10 Tires

Waste tire disposal has become a significant problem in the state due, in part, to regulatory controls. In accordance with W.Va. Code § 20-11-8(a), waste tires were banned from municipal solid waste landfills effective June 1, 1996. In 2005, W.Va. Code § 20-11was repealed and replaced by W.Va. Code § 22-15a. In addition, state and federal air quality regulations prohibit the open burning of waste tires. Together, these regulations have contributed to an increase in the number of waste tire piles, or "open tire dumps", around the state. A 1998 report, completed by the SWMB and DEP-DWWM, revealed that there are approximately six million waste tires in seventeen of the largest piles which range in size from as few as 5,500 waste tires to as many as 2 million waste tires.[17] Waste tires are bulky, do not decompose and endanger the public health and well-being as they become breeding grounds for rats and mosquitoes. The tire piles also constitute significant fire and pollution hazards.

In 2000, the WV Legislature passed Senate Bill 427 in order to address the concerns over waste tire piles. The new legislation prohibits salvage yards from accumulating more than 100 waste tires without a proper permit. It also created a new fund called the "A. James Manchin Fund" which is funded by a temporary tax of $5.00 on the issuance of motor vehicle titles. The Division of Highways was given the authority to administer the fund and oversee the remediation of the waste tire piles. Only those tires collected as part of a DOH cleanup project or a DEP "Pollution Prevention and Open Dump" program, and for which no markets are available, may be deposited in solid waste facilities.

During the 2005 legislative session, W. Va. Code § 22-15A-9 established that the Commissioner of the Division of Highways shall work with and may use moneys in the Fund to contract with the Secretary of the DEP to accomplish the remediation of waste tire piles. The Fund consists of the proceeds from the sale of waste tires, fees collected by the Division of Motor Vehicles and any other funding source available for waste tire remediation. Any unprogrammed balance remaining in the Fund at the end of the fiscal year is transferred to the State Road Fund.

In addition, W. Va. Code § 22-15A-10 gave the Secretary the authority to establish a tire disposal program within the DEP to provide for a cost effective and efficient method to accept passenger car and light truck waste tires at locations designated by the DEP. The Secretary may pay a fee for each tire and may also establish a limit on the number of tires an individual or business may be paid for during any calendar month.

During 2006 a statewide waste tire collection received 4,925.39 tons of waste tires. The tires were properly disposed of by West Virginia Tire Disposal, Inc.

Notes

In response to SB 427, the DOH promulgated an emergency rule entitled "Waste Tire Remediation/ Environmental Clean Up" which became effective August 25, 2000. The new rule, 157CSR8, intends to eliminate the present danger resulting from discarded and abandoned waste tires, eliminate visual pollution resulting from the tires, and provide for the public health, safety and welfare. Under this rule, the DOH identified waste tire piles, used a ranking system to prioritize their clean-up, and is currently administering remediation efforts. This rule also designated liability for the clean-up costs to any person who has illegally disposed of waste tires and any person who has waste tire piles on their property. Additional guidelines for rights of entry, remediation monitoring, hauling, notices, liens and records are established under this rule which can be found in 157CSR8.

In 2002, the WV Legislature passed Senate Bill 609 to further aide in our state's waste tire problems. This bill makes it a felony to accumulate or dispose of 1000 or more tires illegally. A person convicted of this crime is subject to one to five years in jail and fines of up to $50,000 per day. The convicted person will also be required to properly clean up the site or reimburse the state for clean-up cost.

Waste tires can legally be disposed of in waste tire monofills. Waste tire monofills are approved solid waste facilities in which waste tires are not mixed with any other waste for the purpose of eventual retrieval for marketing. Currently, there are two waste tire monofills in West Virginia.

Recycling is another method of disposal. However, the use of recycled rubber is contingent upon the establishment of a collection and marketing system which will assure that waste tires are collected, transported and processed for use by industry. New and established recycling technology should be identified and encouraged to create more market demand for recycled tire products. The involvement of private sector business to implement these processes should also be encouraged. Additional information may be found in the SWMB publication, *Program for the Proper Handling of Waste Tires in West Virginia*.

In August 2003, the Public Service Commission (PSC) approved changes to 150CSR9 "Rules Governing Motor Carriers, Private Commercial Carriers And The Filing of Evidence of Insurance, and Financial Responsibility By Motor Carriers." Several sections addressed the problem of residential tire disposal.

The definition of "Bulky Goods" has been rewritten to include "waste tires off the rim, having a radius of no more than 16.5 inches, from automobiles, pickup trucks, motorcycles, all-terrain vehicles and from farm tractors."

The changes also require carriers to pick up a maximum of eight tires per year from each residential customer. To cover the costs associated with the service, an additional fee of 50 cents per month will be charged to regular customers of hauling service, and 50 cents per tire plus landfill disposal costs for non-subscribers.[18]

Notes

6.11 Lead Acid Batteries

Landfill disposal of lead acid batteries has been banned since June 1, 1994. Most lead acid batteries are collected at local automotive service or repair garages. Some of these are collected through local household hazardous-waste collection programs operated by local governments. Overall, the collection and recycling efforts for lead acid based batteries tends to be successful because collection and recycling programs operated by automotive garages and repair centers serve as a centralized collection point with very little inconvenience to the consumer. Ultimately, the primary motivation for the recovery of automotive batteries is the profit from the sale of lead.

Additional information may be found in the SWMB publication, *Program for Handling Lead Acid Batteries in West Virginia*.

6.12 Yardwaste

Yardwaste is defined as grass clippings, weeds, leaves, brush, garden waste, shrub or tree prunings and other living or dead plant tissues. US EPA estimates that approximately 12.2% of the total U.S. waste stream is composed of yardwaste.[19] Since these organic materials are relatively clean and biodegradable, disposal in landfills is unnecessary and wastes space. For these reasons, yardwastes have been banned from landfills in West Virginia since January 1, 1997.

Composting of yardwaste is an attractive disposal option for many communities who wish to recycle plant nutrients, save landfill space and comply with WV laws prohibiting landfill disposal. There are currently 4 composting facilities permitted and 20 composting activities registered with the WV DEP. Rules governing the permitting, design and construction, and closure plans of composting facilities can be found in 33CSR3.

Decision-makers for cities or counties providing for yardwaste collection must make a series of choices about collection techniques and equipment. Cities and counties that provide for a collection system for solid waste may want to also provide one for yardwaste not composted by the resident. There are three basic methods of collecting yardwaste for composting:

1. A drop-off system at the landfill or transfer station.
2. Curbside collection in bags.

Notes

3. Bulk collection in which yardwaste is scooped, shredded, raked, swept or vacuumed directly off the streets and along rights-of-way.

The best combination of collection techniques and equipment choices for a county or municipality is one which most efficiently provides compost to the end user. Yardwaste can be collected bagged or unbagged. Bagged yardwaste typically has little extraneous material and can be collected quickly with a standard compactor truck. However, labor is required at the composting site to remove the yardwaste from the bags, and there may be a need to dispose of the bags afterwards. A section of the composting site should be set aside for garbage to be placed in a roll-off box to be hauled to the landfill. Unbagged yardwaste can be collected with a vacuum truck or a front loader. This process is more time consuming, and the amount of extraneous material is likely to be higher than when yardwaste is bagged. A vacuum recovery works well on dry yardwaste; the front loader is more efficient for wet and frozen yardwaste material.

Woody materials, such as trimmings and branches, need to be separated from leaves and grass for shredding prior to composting. The presence of large chips in compost may limit its potential end use. Therefore, screening is necessary.

In designing a collection system, the following should be determined:

1. Capital, operating and maintenance costs of equipment.
2. Availability and cost of labor.
3. Convenience for residents and businesses.
4. Cost of bags.
5. Existing equipment.
6. Effectiveness in excluding extraneous material.
7. Susceptibility to adverse weather.
8. Hazards associated with placing yardwaste at curb or in street.
9. Potential noise and dust from collection equipment.
10. Training of workers - worker safety.

Drop-off sites will be used to a greater extent if they are well advertised. Leaflets or newspaper advertisements with a map and the hours the site is open will enhance public awareness of the new program. Residents of small communities may also be encouraged to empty their own yardwaste and save the bags for reuse.

New collection methods and schedules will run more smoothly if residents are well informed and schedules are uniformly followed. Newspaper articles, television and radio spots, and neighborhood promotion prior to collection days will increase the level of compliance. If special bags must be purchased for yardwastes, this fact should be advertised along with the purchase locations.

Notes

Additional information may be found in the SWMB publication, *Program for Handling Yardwaste in West Virginia*.

6.13 Universal Wastes

In 1995, U.S. EPA promulgated the "Universal Waste Rule" as an amendment to the Resource Conservation and Recovery Act (RCRA) governing hazardous waste. While universal wastes are hazardous wastes, the Universal Waste Rule was designed to reduce the amount of RCRA hazardous waste disposed of in municipal waste landfills, encourage recycling and proper management of some common hazardous wastes, and reduce the regulatory burden on businesses currently managing these materials as hazardous waste. The rule extends the amount of time that businesses can accumulate these materials on-site, allows for common carriers to transport them and no longer requires businesses to obtain a hazardous waste manifest to accompany the wastes during off-site shipment.

"Universal wastes" include the following general categories:

- Batteries, such as nickel-cadmium and small sealed lead-acid batteries, which are found in many household and business items, including electronic equipment, mobile telephones, portable computers and emergency backup lighting.
- Agricultural pesticides that have been recalled or banned from use, are obsolete, have become damaged or are no longer needed due to changes in cropping patterns or other factors. They are often stored for long periods of time in sheds or barns.
- Lamps, (effective January 6, 2000), that typically contain mercury and sometimes lead, such as fluorescent, high intensity discharge, neon, mercury vapor, high-pressure sodium and metal halide lamps, if they are characteristically hazardous.[20]
- Thermostats, which can contain as much as 3 grams of liquid mercury and are located in almost any building, including commercial, industrial, agricultural, community and household buildings. On August 5, 2005, thermostats were added to a new category of universal waste called spent mercury containing equipment (MCE). Other such MCE's are thermometers, switches, barometers and manometers. Basically MCE's were to include all mercury containing devices.

States that are authorized to implement the RCRA program are strongly encouraged to adopt this rule. Because the Universal Waste Rule is less stringent than the current requirements under RCRA, state adoption is optional. West Virginia has adopted the Universal Waste Rule (33CSR20.13).

END NOTES FOR SECTION 6

1. Percival, Robert V., Miller, Alan S., Schroeder, Christopher H., and Leape, James P. *Environmental Regulation: Law, Science and Policy*, second edition. Aspen Law and Business, 1996. p. 209-213.

2. *Title 40, Code of Federal Regulations, Chapter 1, Subchapter I, Part 260*, Identification and Listing of Hazardous Waste.

3. O'Reilly, James T., State and Local Government Solid Waste Management, Clark, Boardman Callaghan, 1991, p. 3-39.

4. EPA website http://www.epa.gov/epaoswer/non-hw/househld/hhw.htm

5. Personal conversation with Carroll Cather, DEP Division of Water and Waste Management, September 11, 2000.

6. *Decision-Maker's Guide to Solid Waste Management*, U.S. Environmental Protection Agency, November 1989, p. 119.

7. EPA website http://www.epa.gov/epaoswer/hazwaste/usedoil/index.htm

8. *Title 47 Series 10*, National Pollutant Discharge Elimination System (NPDES) program, West Virginia Department of Environmental Protection.

9. *Title 33 Series 2*, Sewage Sludge Management.

10. Tchobanoglous, George, Theisen, Hilary, and Vigil, Samuel, *Integrated Solid Waste Management*, McGraw-Hill, Inc., 1993.

11. Personal Communication with Paul Radar, DEP Division of Air Quality, June 4, 1993.

12. *Fly Ash Grouts for Remediation of Acid Mine Drainage at Reclaimed Surface Mines*. Thesis by Kevin L. Harshberger, School of Civil Engineering, WVU, 1991, p. 24.

13. Personal Communication with Paul Radar, DEP Division of Air Quality, June 4,1993.

14. Ibid.

15. Personal Communication with Lewis Halstead, DEP Division of Mining and Reclamation, March 27, 2002.

16. DEP Division of Mining and Reclamation, 38CSR2.

17. *Proposal for Scrap Tire Collection and Disposal*, West Virginia Solid Waste Management Board, January 14, 1998.

18. Personal Communication with Bill Flenner for information used in January 2004 "Under the Dome" published by the Solid Waste Management Board.

19. Basic Facts Page. US EPA. www.epa.gov/epaoswer/non-hw/muncpl/facts.htm.

20. *www.epa.gov/epaoswer/hazwaste/id/univwast.htm*.

Chapter 7

Solid Waste Disposal Fees

7. SOLID WASTE DISPOSAL FEES

Notes

7.1 Assessment Fees

The state has imposed assessment fees on the disposal of solid waste as a mechanism to fund the various solid waste management programs. These fees are collected on a rate per ton basis by the solid waste disposal facility and are remitted to the Department of Tax and Revenue monthly.

During the 1998 legislative session, Senate Bill 602, which affected the distribution of the solid waste assessment fees, was passed. This bill transferred $0.25 per ton that had previously gone to the West Virginia Development Office, to the Solid Waste Management Board's (SWMB) Planning Fund.

Per the provisions of W. Va. Code § 22C-4-30, fifty percent (50%) of a $1.00 per ton fee deposited into the Solid Waste Planning Fund is distributed monthly to the local solid waste authorities. The remaining fifty percent (50%) of the additional revenue is used by the SWMB to partially fund the Business and Financial Assistance Program for local solid waste authorities. As a result of the distribution changes in Senate Bill 602, parts of which are incorporated into W. Va. Code § 22-15A-19, the Auditor's Office and the Department of Tax and Revenue have jointly developed a system to directly deposit the dollars into the appropriate funds, thereby reducing the time it takes to get the money to the affected entities. Senate Bill 602 also provided, that the Secretary of the DEP may transfer up to $.50 per ton on collections made from the Closure Assistance Fund on or after July 1, 1998, to the DEP's solid waste enforcement fund (§ 22-15-11).

Senate Bill 428 was passed and enacted on July 1, 2005, which removed the Environmental Resources Section from the Division of Natural Resources to create the Rehabilitation Environmental Action Plan under the Department of Environmental Protection. With this transfer, W. Va. Code § 20-11 was repealed and language was amended and moved to W. Va. Code § 22-15A-19.

There is a special exemption for "Commercial Recyclers" from all but the $2.00 Recycling Fee (Item 3 on Table 7-1). Commercial Recyclers must have DEP certification that 70% of the waste received at the facility is recycled. When they dispose of the remaining 30% at a landfill they are only assessed $2.00 per ton.

This section will describe the fees the state collects and distributes to the various agencies and programs. Table 7-1 represents the distribution of fees effective since July 1, 2005.

SWMB TABLE 7-1
DEDICATION OF PROCEEDS OF THE SOLID WASTE ASSESSMENT FEES
REVISED JULY 1, 2005

Rates Per Ton

$1.75 **1. SOLID WASTE ASSESSMENT FEE - DEP**
W. Va. Code § 22-15-11
Effective 1-1-88, Revised 7-9-93, Revised 7-1-98*

A. $0.25 per ton for Solid Waste Reclamation and Environmental Response Fund.

B. First $1,000,000 for Solid Waste Enforcement Fund.

C. Next $50,000 to $500,000 to Solid Waste Management Board Re serve Fund - For Bond Reserve.

D. Remaining funds shall be allocated to the above three accounts to maintain reasonable balances.

$1.00 **2. SOLID WASTE ASSESSMENT INTERIM FEE - SWMB Solid Waste Planning Fund**
W. Va. Code § 22C-4-30
Effective 7-1-89, Revised 7-9-93, Revised 7-1-98*

A. $0.50 per ton is distributed equally among all 50 local solid waste authorities on a monthly basis.

B. $0.50 per ton for grants to local solid waste authorities administration and technical assistance costs of the SWMB.

*The language of W.Va. Code § 22-15-11 did not change, however, portions of Senate Bill 602, which are incorporated into W. Va. Code § 22-16-4(h)(1), provided that the DEP may transfer up to fifty-cents per ton from the Closure Cost Assessment Fee into the Solid Waste Enforcement Fund.

$2.00 **3. RECYCLING ASSESSMENT FEE**
W. Va. Code § 22-15A-19(h)(1)
Effective 1-1-92, Revised 7-9-93, Revised 7-1-98, Revised 7-1-05

A. $1.00 per ton to DEP's REAP Recycling Program for grants to assist local governments, municipalities, non-profits, county commissions and private business with recycling projects.

B. $0.25 per ton to DNR for personal services and benefit expenses of full-time salaried conservation officers.

C. $0.25 per ton to the Solid Waste Planning Fund. Fifty percent (50%) to be distributed to the local SWAs and the remaining fifty percent (50%) to provide the local SWAs with the Business and Financial Assistance Program. Prior to July 1, 1998, this $0.25 per ton went to

WVDO, to assist counties and municipalities with wastewater treatment projects.

D. $0.25 per ton to DEP's Solid Waste Reclamation Fund and Environmental Response Fund (PPOD). Same fund as 1A on page 7-2.

E. $0.25 per ton to DEP's Hazardous Waste Emergency Response Fund.

$3.50 **4. CLOSURE COST ASSESSMENT FEE - DEP**
W. Va. Code § 22-16-4
Effective 1-1-92, Revised 7-9-93, Revised 7-1-98

A. All money for the Closure Cost Assistance Fund for proper landfill closure.

B. $0.50 per ton on collections on or after July 1, 1998, may be transferred to the Solid Waste Enforcement Fund per W. Va. Code § 22-16-4.

C. For any landfills taking in more than 30,000 tons per month, 50% of the fees collected in excess of the 30,000 TPM shall be remitted to the county commission in the county where the landfill is located. Not currently applicable.

$8.25 TOTAL REQUIRED FEES PER TON

W.Va. Code §7-5-22 allows local solid waste authorities to impose a $0.50 per ton assessment fee on waste deposited in commercial solid waste facilities in their respective counties. The Tucker County Solid Waste Authority, which owns and operates the Tucker County Landfill, is the only SWA which does not impose this fee at this time. Section 7.3.1 of this plan gives more details on the optional County Solid Waste Assessment Fee.

7.2 Allocation and Use of Assessment Fee Funds

The following graphs labeled Figure 7-1 and Figure 7-2 depict the allocation and use of funds by Agency and by Program. The graphs reflect the change in rates, as a result of redistribution of funds mandated in Senate Bill 602, which was subsequently incorporated into W. Va. Code § 22-15A-19, and the rates were effective as of July 1, 1998.

Notes

Figure 7-1

SOLID WASTE ASSESSMENT FEES

ASSESSMENT DISTRIBUTION BY AGENCY

TOTAL $8.25

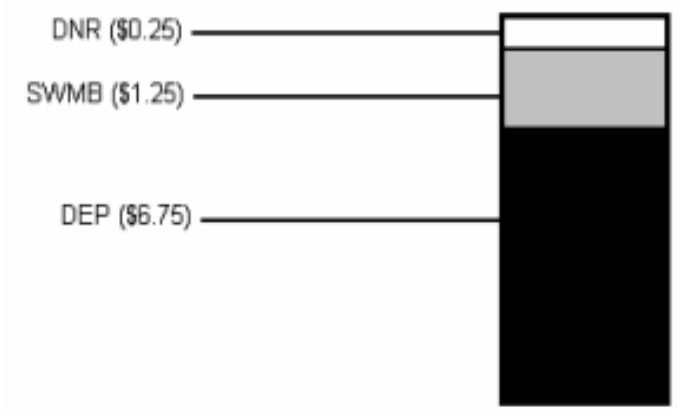
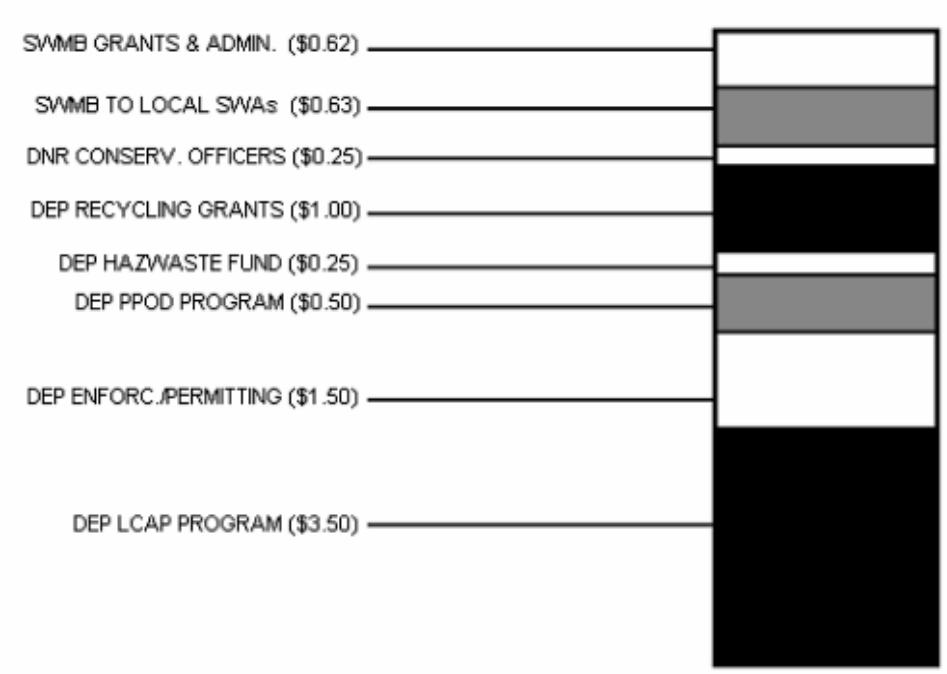


Figure 7-2

SOLID WASTE ASSESSMENT FEES

ASSESSMENT DISTRIBUTION BY PROGRAM

TOTAL $8.25



Fee Distribution by Program

Tables 7-2 through 7-11 reflect the actual dollars generated and distributed by Agency and Program for FY 1997 through FY 2006. The fiscal year program amounts reflect actual dollars received by the agencies during the fiscal year noted. There is a two-month delay from the time the landfill collects the fees on the tonnage and the time the agency actually receives the funds. For example, the landfill collects the fees on tonnage disposed during the month of July. By August 15, they will report the tons collected and remit the fees collected to the Department of Tax and Revenue. By September 15, the Tax Department has the fees tallied, and the funds can be transferred to the various agencies and programs. The following tables report dollars actually collected by the agency for fiscal years beginning with July and ending in June. Therefore, the actual receipt of dollars by the landfills occurred two months before the agency received the dollars.

Notes

7.2.2 Tonnage Disposal per Fiscal Year

Figure 7-3 shows the total tonnages disposed by fiscal year in West Virginia for FY 97 through FY 2006. The reported tonnage by the Department of Tax and Revenue has ranged from a high of 2,363,168 tons in FY 2002 to a low of 1,477,709 tons in FY 99.

7.2.3 Assessment Fee Tons by Month

Table 7-12 shows the tonnage reported to the Department of Tax and Revenue from FY 1997 through 2006, based upon the months when the agencies actually receive the funding.

SWMB TABLE 7-2

FY 1997 ASSESSMENT FEE DISTRIBUTION BY PROGRAM			
AGENCY AND PROGRAM	FY 1997 DOLLARS	% OF TOTAL	ASSESSMENT FEE/TON
DEPT. OF ENVIRONMENTAL PROTECTION			
Reclamation, Environmental Response	773,658	6.2%	$0.50
Solid Waste Enforcement Fund	1,000,000	8.0%	
SWMB Reserve Bond Fund	0	0.0%	
Reallocate to Above	1,415,000	11.4%	$1.50
Closure Fund	4,975,747	40.0%	$3.50
Hazardous Waste Emergency Response	397,798	3.2%	$0.25
SUBTOTAL	8,562,203	68.8%	$5.75
DIVISION OF NATURAL RESOURCES			
Recycling Grant Fund	1,566,040	12.6%	$1.00
Conservation Officers	391,510	3.1%	$0.25
SUBTOTAL	1,957,550	15.7%	$1.25
SOLID WASTE MANAGEMENT BOARD			
SWMB Grants and Administration	764,296	6.1%	$0.50
Local Solid Waste Authorities	764,297	6.1%	$0.50
SUBTOTAL	1,528,593	12.3%	$1.00
WV DEVELOPMENT OFFICE			
Wastewater Treatment	391,510	3.1%	$0.25
TOTALS	$12,439,856	100.0%	$8.25

Source: Reports provided by Department of Tax and Revenue - based upon dates collected by agencies.

SWMB TABLE 7-3

FY 1998 ASSESSMENT FEE DISTRIBUTION BY PROGRAM			
AGENCY AND PROGRAM	FY 1998 DOLLARS	% OF TOTAL	ASSESSMENT FEE/TON
DEPT. OF ENVIRONMENTAL PROTECTION			
Reclamation, Environmental Response	759,923	6.1%	$0.50
Solid Waste Enforcement Fund	1,000,000	8.0%	
SWMB Reserve Bond Fund	0	0.0%	
Reallocate to Above	1,248,926	10.0%	$1.50
Closure Fund	5,247,494	42.1%	$3.50
Hazardous Waste Emergency Response	390,761	3.2%	$0.25
SUBTOTAL	8,647,104	69.4%	$5.75
DIVISION OF NATURAL RESOURCES			
Recycling Grant Fund	1,540,378	12.4%	$1.00
Conservation Officers	385,095	3.1%	$0.25
SUBTOTAL	1,925,473	15.5%	$1.25
SOLID WASTE MANAGEMENT BOARD			
SWMB Grants and Administration	749,656	6.0%	$0.50
Local Solid Waste Authorities	749,657	6.0%	$0.50
SUBTOTAL	1,499,313	12.0%	$1.00
WV DEVELOPMENT OFFICE			
Wastewater Treatment	385,095	3.1%	$0.25
TOTALS	$12,456,985	100.0%	$8.25

Source: Reports provided by Department of Tax and Revenue - based upon dates collected by agencies

SWMB TABLE 7-4

FY 1999 ASSESSMENT FEE DISTRIBUTION BY PROGRAM			
AGENCY AND PROGRAM	FY 1999 DOLLARS	% OF TOTAL	ASSESSMENT FEE/TON
DEPT. OF ENVIRONMENTAL PROTECTION			
Reclamation, Environmental Response	770,388	6.3%	$0.50
Solid Waste Enforcement Fund	2,229,810	18.2%	$1.50
SWMB Reserve Bond Fund	50,000	0.4%	
Closure Fund	4,968,166	40. 4%	$3.50
Hazardous Waste Emergency Response	396,520	3.2%	$0.25
SUBTOTAL	8,414,884	68.5%	$5.75
DIVISION OF NATURAL RESOURCES			
Recycling Grant Fund	1,561,678	12.7%	$1.00
Conservation Officers	390,420	3.2%	$0.25
SUBTOTAL	1,952,098	15.9%	$1.25
SOLID WASTE MANAGEMENT BOARD			
SWMB Grants and Administration	955,146	7.8%	$0.625
Local Solid Waste Authorities	955,147	7.8%	$0.625
SUBTOTAL	1,910,293	15.6%	$1.25
TOTALS	$12,277,275	100.0%	$8.25

Source: Reports provided by the Department of Tax and Revenue - based upon dates collected by the agencies.

SWMB TABLE 7-5

FY 2000 ASSESSMENT FEE DISTRIBUTION BY PROGRAM			
AGENCY AND PROGRAM	FY 2000 DOLLARS	% OF TOTAL	ASSESSMENT FEE/TON
DEPT. OF ENVIRONMENTAL PROTECTION			
Reclamation, Environmental Response	788,390	6.1%	$0.50
Solid Waste Enforcement Fund	2,327,089	18.0%	$1.50
SWMB Reserve Bond Fund	100,000	0.8%	
Closure Fund	5,397,828	41.6%	$3.50
Hazardous Waste Emergency Response	408,898	3.1%	$0.25
SUBTOTAL	9,022,205	69.6%	$5.75
DIVISION OF NATURAL RESOURCES			
Recycling Grant Fund	1,602,168	12.3%	$1.00
Conservation Officers	400,542	3.1%	$0.25
SUBTOTAL	2,002,710	15.4%	$1.25
SOLID WASTE MANAGEMENT BOARD			
SWMB Grants and Administration	975,963	7.6%	$0.625
Local Solid Waste Authorities	975,972	7.6%	$0.625
SUBTOTAL	1,951,935	15.0%	$1.25
TOTALS	$12,976,850	100.0%	$8.25

Source: Reports provided by the Department of Tax and Revenue - based upon dates collected by the agencies.

SWMB TABLE 7-6

FY 2001 ASSESSMENT FEE DISTRIBUTION BY PROGRAM			
AGENCY AND PROGRAM	FY 2001 DOLLARS	% OF TOTAL	ASSESSMENT FEE/TON
DEPT. OF ENVIRONMENTAL PROTECTION			
Reclamation, Environmental Response	774,791	6.1%	$0.50
Solid Waste Enforcement Fund	2,292,146	18.0%	$1.50
Closure Fund	5,348,342	42.1%	$3.50
Hazardous Waste Emergency Response	400,451	3.1%	$0.25
SUBTOTAL	8,815,730	69.3%	$5.75
DIVISION OF NATURAL RESOURCES			
Recycling Grant Fund	1,571,065	12.4%	$1.00
Conservation Officers	392,766	3.1%	$0.25
SUBTOTAL	1,963,831	15.5%	$1.25
SOLID WASTE MANAGEMENT BOARD			
SWMB Grants and Administration	960,429	7.6%	$0.625
Local Solid Waste Authorities	960,435	7.6%	$0.625
SUBTOTAL	1,920,864	15.2%	$1.25
TOTALS	$12,700,425	100.0%	$8.25

Source: Reports provided by the Department of Tax and Revenue - based upon dates collected by the agencies.

SWMB TABLE 7-7

FY 2002 ASSESSMENT FEE DISTRIBUTION BY PROGRAM			
AGENCY AND PROGRAM	FY 2002 DOLLARS	% OF TOTAL	ASSESSMENT FEE/TON
DEPT. OF ENVIRONMENTAL PROTECTION			
Reclamation, Environmental Response	1,193,141	6.1%	$0.50
Solid Waste Enforcement Fund	3,553,371	18.1%	$1.50
Closure Fund	8,291,198	42.3%	$3.50
Hazardous Waste Emergency Response	607,312	3.1%	$0.25
SUBTOTAL	13,645,022	69.5%	$5.75
DIVISION OF NATURAL RESOURCES			
Recycling Grant Fund	2,403,650	12.2%	$1.00
Conservation Officers	600,913	3.1%	$0.25
SUBTOTAL	3,004,563	15.3%	$1.25
SOLID WASTE MANAGEMENT BOARD			
SWMB Grants and Administration	1,484,910	7.6%	$0.625
Local Solid Waste Authorities	1,484,916	7.6%	$0.625
SUBTOTAL	2,969,826	15.2%	$1.25
TOTALS	$19,619,411	100.0%	$8.25

Source: Reports provided by the Department of Tax and Revenue - based upon dates collected by the agencies.

SWMB TABLE 7-8

FY 2003 ASSESSMENT FEE DISTRIBUTION BY PROGRAM			
AGENCY AND PROGRAM	FY 2003 DOLLARS	% OF TOTAL	ASSESSMENT FEE/TON
DEPT. OF ENVIRONMENTAL PROTECTION			
Reclamation, Environmental Response	914,022	6.1%	$0.50
Solid Waste Enforcement Fund	2,705,159	18.1%	$1.50
Closure Fund	6,312,037	42.1%	$3.50
Hazardous Waste Emergency Response	469,086	3.1%	$0.25
SUBTOTAL	10,400,304	69.4%	$5.75
DIVISION OF NATURAL RESOURCES			
Recycling Grant Fund	1,852,648	12.4%	$1.00
Conservation Officers	463,162	3.1%	$0.25
SUBTOTAL	2,315,810	15.5%	$1.25
SOLID WASTE MANAGEMENT BOARD			
SWMB Grants and Administration	1,133,297	7.5%	$0.625
Local Solid Waste Authorities	1,133,304	7.6%	$0.625
SUBTOTAL	2,266,601	15.1%	$1.25
TOTALS	$14,982,715	100%	$8.25

Source: Reports provided by the Department of Tax and Revenue - based upon dates collected by the agencies.

SWMB TABLE 7-9

FY 2004 ASSESSMENT FEE DISTRIBUTION BY PROGRAM			
AGENCY AND PROGRAM	FY 2004 DOLLARS	% OF TOTAL	ASSESSMENT FEE/TON
DEPT. OF ENVIRONMENTAL PROTECTION			
Reclamation, Environmental Response	909,885	6.1%	$0.50
Solid Waste Enforcement Fund	2,685,193	18.0%	$1.50
Closure Fund	6,265,450	42.1%	$3.50
Hazardous Waste Emergency Response	468,169	3.1%	$0.25
SUBTOTAL	10,328,697	69.3%	$5.75
DIVISION OF NATURAL RESOURCES			
Recycling Grant Fund	1,849,411	12.4%	$1.00
Conservation Officers	462,353	3.1%	$0.25
SUBTOTAL	2,311,764	15.5%	$1.25
SOLID WASTE MANAGEMENT BOARD			
SWMB Grants and Administration	1,126,238	7.6%	$0.625
Local Solid Waste Authorities	1,126,244	7.6%	$0.625
SUBTOTAL	2,252,482	15.2%	$1.25
TOTALS	$14,892,943	100%	$8.25

Source: Reports provided by the Department of Tax and Revenue - based upon dates collected by the agencies.

SWMB TABLE 7-10

FY 2005 ASSESSMENT FEE DISTRIBUTION BY PROGRAM			
AGENCY AND PROGRAM	FY 2005 DOLLARS*	% OF TOTAL	ASSESSMENT FEE/TON
DEPT. OF ENVIRONMENTAL PROTECTION			
Reclamation, Environmental Response	930,917	6.1%	$0.50
Solid Waste Enforcement Fund	2,739,937	18.0%	$1.50
Closure Fund	6,393,186	42.0%	$3.50
Hazardous Waste Emergency Response	479,626	3.1%	$0.25
SUBTOTAL	10,543,666	69.2%	$5.75
DIVISION OF NATURAL RESOURCES			
Recycling Grant Fund	1,897,045	12.5%	$1.00
Conservation Officers	474,261	3.1%	$0.25
SUBTOTAL	2,371,306	15.6%	$1.25
SOLID WASTE MANAGEMENT BOARD			
SWMB Grants and Administration	1,150,440	7.6%	$0.625
Local Solid Waste Authorities	1,150,445	7.6%	$0.625
SUBTOTAL	2,300,885	15.2%	$1.25
TOTALS	$15,215,858	100%	$8.25

Source: Office of State Auditor, Solid Waste Tax Special Fund Distribution, Validated Receipts, Monthly Reports, FY 2005.
* Dollar amounts may vary from actual payments due to rounding.

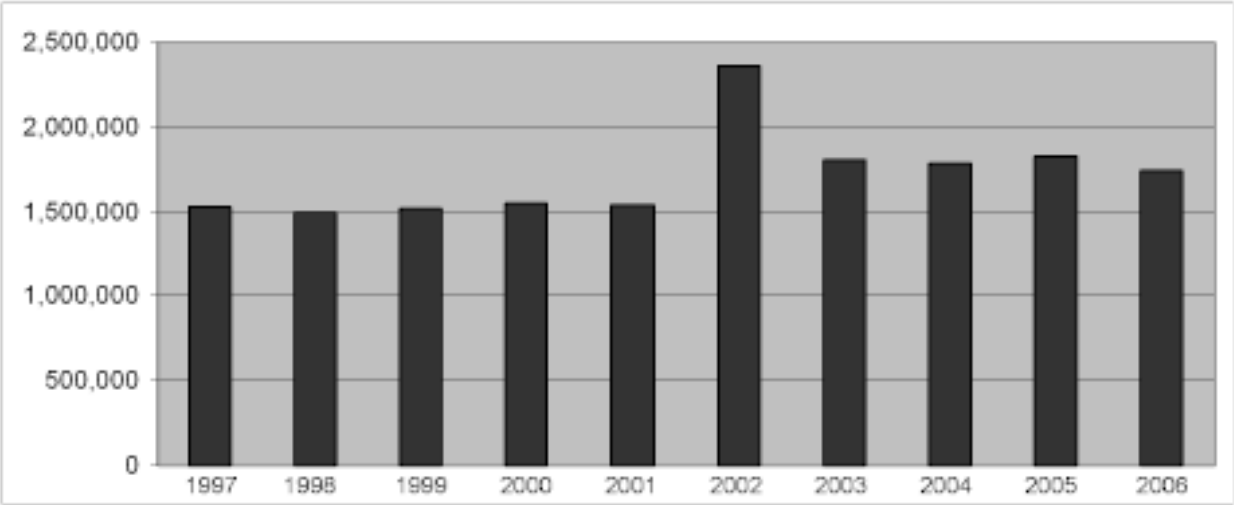
SWMB TABLE 7-11

FY 2006 ASSESSMENT FEE DISTRIBUTION BY PROGRAM			
AGENCY AND PROGRAM	FY 2006 DOLLARS*	% OF TOTAL	ASSESSMENT FEE/TON
DEPT. OF ENVIRONMENTAL PROTECTION			
Reclamation, Environmental Response	839,545	5.8%	$0.50
Solid Waste Enforcement Fund	2,613,206	18.0%	$1.50
Closure Fund	6,121,352	42.4%	$3.50
Hazardous Waste Emergency Response	395,877	2.7%	$0.25
Recycling Grant Fund	1,951,917	13.4%	$1.00
SUBTOTAL	11,921,897	82.1%	$6.75
DIVISION OF NATURAL RESOURCES			
Conservation Officers	404,011	2.8%	$0.25
SUBTOTAL	404,011	2.8%	$0.25
SOLID WASTE MANAGEMENT BOARD			
SWMB Grants and Administration	1,094,076	7.5%	$0.625
Local Solid Waste Authorities	1,094,083	7.5%	$0.625
SUBTOTAL	2,188,159	15.1%	$1.25
TOTALS	$14,514,067	100%	$8.25

Source: Office of State Auditor, Solid Waste Tax Special Fund Distribution, Validated Receipts, Monthly Reports FY 2006.
* Dollar amounts may vary from actual payments due to rounding.

SWMB FIGURE 7-3

WV SOLID WASTE DISPOSAL TONNAGE



Reported in Tons.

Source: Dept. of Tax and Revenue
Validated Receipts Report

SWMB TABLE 7-12
MONTHLY TONNAGE AT MSW LANDFILLS
(FY 1997 - FY 2006)

Month Tonnage Collected By Agency	Month Tonnage Collected By Landfill	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06
July	May	126,510	121,694	124,478	132,457	138,177	132,909	176,720	144,928	104,019	149,851
August	June	155,075	127,062	144,472	127,272	140,141	149,266	189,756	174,386	194,629	138,910
Sept.	July	154,317	123,990	136,665	140,414	130,705	144,469	172,595	181,792	134,860	137,381
Oct.	August	103,455	137,064	127,104	134,175	135,799	177,964	151,476	145,821	186,219	138,150
Nov.	Sept.	165,862	142,368	118,790	139,804	127,334	627,883	140,393	158,255	175,341	130,564
Dec.	Oct.	130,648	128,443	118,203	126,358	126,481	326,131	156,024	156,689	152,528	142,397
Jan.	Nov.	110,565	86,468	124,487	123,940	131,821	142,968	140,435	150,764	146,818	131,436
Feb.	Dec.	120,804	146,351	117,641	132,962	111,398	124,343	129,372	153,129	143,008	147,043
March	Jan.	93,208	117,664	122,620	120,673	107,273	147,631	130,013	94,588	127,981	155,032
April	Feb.	126,666	95,716	116,087	117,816	131,551	113,616	111,579	144,050	151,011	167,306
May	March	107,390	141,180	135,222	130,128	96,446	135,616	118,356	136,584	134,452	150,717
June	April	134,093	131,284	133,809	124,377	156,763	140,852	186,923	148,222	178,013	149,199
TOTALS		1,528,593	1,499,283	1,519,578	1,550,376	1,533,889	2,363,648	1,803,642	1,789,208	1,828,879	1,737,986
Monthly Average		127,383	124,940	126,632	129,198	127,824	196,971	150,304	149,101	152,407	144,832

Source:Department of Tax & Revenue

Notes

7.3 Miscellaneous Assessment Fees

7.3.1 County Solid Waste Assessment Fee

W.Va. Code § 7-5-22 allows local Solid Waste Authorities (SWAs) to impose an assessment fee on the facilities that operate within their county. These fees are remitted directly to the local SWAs monthly to pay operating costs. Local SWAs have the ability to assess the solid waste disposal facilities operating within their county $0.50/ton on all solid waste accepted by that facility. The fees collected are to be applied to the reasonable costs of administering the authority and its expenses incurred from refuse cleanup, litter control programs, or any other solid waste programs deemed necessary to fulfill its duties. Obviously, only those counties which have disposal facilities can collect this fee. See Table 7-13.

7.3.2 Groundwater Protection Act Fee - DEP

Since July 1992, the Groundwater Protection Fee has been invoiced by the DEP's Division of Water and Waste Management in accordance with W.Va. Code § 22-12-9. Facilities assess fees based upon reported tonnages, however, fees may also be assessed from other facilities and/or activities that have the potential to pollute the groundwater. These fees are utilized in the administration, certification, enforcement, inspection, monitoring, planning and research of groundwater protection.

7.4 Other Litter Control Programs

7.4.1 Highway Litter Control Fund

The Division of Motor Vehicles collects $1.00 per each certificate of registration and renewal which is transferred to the Highway Litter Control Fund in accordance with W.Va. Code §17A-10-15 for the litter control maintenance of the highways. Fees collected in FY 2005 and FY 2006 were $1,856,422 and $1,691,426 respectively. However, annual expenditures in FY 2005 and FY 2006 were $2,376,702 and $2,777,850 respectively. The excess expenditures were funded from the Maintenance Appropriation in the State Road Fund. These programs are typically funded as "Litter Control" within the Division of Highways.

Litter Pickup and Disposal - The purpose of this program is to pickup litter from along the roadways, median and rights-of-way to improve appearance, prevent ditch and head wall blockages, fire hazards and eliminate safety and health hazards. Litter pickup is performed by the Division of Highways staff weekly on expressway rights-of-way, semi-annually on paved road rights-of-way and annually on unpaved road rights-of-way. Expenditures in FY 2005 totaled $1,507,505 and expenditures in FY 2006 totaled $1,904,187.

Litter Disposal/Support (Non-DOH Forces) - This program covers all the administrative support expenses and the actual disposal of collected litter for other programs/groups such as:

- Governor's Summer Youth Program.
- Department of Corrections Work Release.
- Community Worker's Employment Programs.

Notes

This program is performed upon notification or as required by the Division's participation in any of the noted programs. Also, disposal site fees for non-DOH collected litter is charged to this program. Expenditures totaled $369,197 in FY 2005 and expenditures totaled $373,662 in FY 2006.

Transfer to Department of Environmental Protection (DEP) - The Division of Highways transfers approximately $500,000 annually to the Department of Environmental Protection. These funds are for administrative costs, educational materials, and promotional materials for the West Virginia Adopt-A-Highway Program, Wildflower Program, statewide Adopt-A-Highway Cleanup, and the District Coordinators' Educational Program.

7.4.2 Department of Environmental Protection

Originally established under W.Va. Code § 20-7-25 and W.Va. Code § 20-7-26, the Litter Control Grant Program and the Litter Control Fund was transferred from the DNR to the DEP as a result of Senate Bill 428 in July of 2005. With the creation of W. Va. Code § 22-15A-3 and W.Va. Code § 22-15A-4 the additional duties of overseeing these programs were transferred to the Secretary of the Department of Environmental Protection. All monies collected from the civil penalties imposed on those found guilty of a litter violation are split evenly between the Litter Control Fund and the county or regional solid waste authority in which the violation occurred. An additional 50% is then split out from the Litter Control Fund into the Litter Control Grant fund.

Litter Control Grants - This fund is used to award grants to West Virginia counties, solid waste authorities, and municipalities for the purpose of establishing litter control projects, cleanup projects, or other environmental projects. Funding is received from litter control fines which totaled $21,109 in FY 2005 and $15,042 in FY 2006.

Litter Control Fund - This fund is used for administrative costs, however, it may be transferred to the Litter Control Grant Program as needed. Receipts for FY 2005 totaled $20,688 and FY 2006 totaled $15,042.

7.4.3 A. James Manchin Fund

Effective July 1, 2000, the Division of Highways began receiving $5.00 for each application for certificate of title and renewal thereof. This fee is transferred to the A. James Manchin Fund, established by the Division of Highways in accordance with W.Va. Code §17A-10-16, for the remediation of waste tire piles in the state. This fee will continue until the Secretary of the Department of Environmental Protection certifies to the Governor

Notes

and the Legislature that the remediation of all waste tire piles that were determined by the Commissioner to exist on the first day of June, two thousand six, has been completed. As of October 2006, the program had collected $21,875,230, expended $11,454,552 to eliminate tire piles and conduct yearly tire collection programs, and transferred $9,290,742 to the State Road Fund, as allowed by statute.

7.5 Current Tipping Fees

As of October 2006, 18 landfills were operating. All MSW landfills have their tipping fees set by the Public Service Commission (PSC). The Solid Waste Management Board acknowledges the cooperation of the PSC in providing a summary of all MSW landfill tipping fees for inclusion in Table 7-13.

SWMB TABLE 7-13
MUNICIPAL SOLID WASTE LANDFILL
RATES AS OF OCTOBER 2006

SHED	COUNTY	NAME	CURRENT BASE RATE	STATE AND LOCAL ASSESSMENT	TOTALS
A	Brooke	Brooke Co	22.08	8.75	30.83
	Ohio	Short Creek	15.45	8.75	24.20
	Wetzel	Wetzel Co.	20.00	8.75	28.75
B	Harrison	Meadowfill	28.25	8.75	37.00
	Harrison	S & S	28.25	8.75	37.00
	Randolph	Elkins/Randolph	61.50	8.75	70.25
	Tucker	Tucker Co.	28.75	8.25	37.00
C	Wood	Northwestern	25.30	8.75	34.05
E	Berkeley	LCS	32.95	8.75	41.70
F	Greenbrier	Greenbrier Co.	32.80	8.75	41.55
	Nicholas	Nicholas Co.	60.50	8.75	69.25
	Pocahontas	Pocahontas Co.	40.00	8.75	48.75
G	McDowell	McDowell Co.	33.75	8.75	42.50
	Mercer	Mercer Co.	38.00	8.75	46.75
	Monroe	HAM	35.00	8.75	43.75
H	Raleigh	Raleigh Co	33.00	8.75	41.75
	Kanawha	Charleston City	31.75	8.75	40.50
	Putnam	Sycamore	30.00	8.75	38.75
	Putnam	Disposal Service	30.00	8.75	38.75

Source: PSC (18 TOTAL LANDFILLS)

MONOFILLS

SHED	COUNTY	NAME	CURRENT BASE RATE	STATE AND LOCAL ASSESSMENT	TOTALS
F	Nicholas	WV Tire Disposal	Variable	8.75	Variable
B	Preston	Pase, Charles H.	Variable		

Chapter 8

Plan Milestones

8. MILESTONES

Notes

8.1 Plan Milestones

This section is designed to describe the activities and time frames needed to achieve plan objectives.

During the 1993 Legislative session the first WV Solid Waste Management Plan was presented to the Legislature. After a legislative review, the Plan was revised to include 1993 legislative changes. In accordance with W. Va. Code § 22C-3-7, the Plan has been revised and updated every two years. Updates have included landfill status, a recycling plan, fees and legislative changes. This 2007 WV Solid Waste Management Plan will be presented to the Legislature before the 2007 session. New information on landfills, recycling programs, waste imports and exports and special waste is provided. USEPA regulations recommend that the Plan be updated every three years.

8.2 Landfill Milestones

At this time, the state has 18 municipal solid waste landfill's. Tire Disposal, in Nicholas County and Charles Pace, in Preston County operate as waste tire monofills. There are presently 18 transfer stations in operation in the state.

The McDowell County SWA is in the process of constructing and opening a new landfill. The facility, Copper Ridge, was first proposed in the early 1990s and requested a permit to accept up to 50,000 tons of solid waste per month. The 50,000-ton cap was approved by McDowell County voters by referendum in 1992. In 1998, the DEP approved a permit for the county to operate a regional landfill that could take in up to the 50,000-ton limit. The DEP approved a permit for a major modification on Oct. 4, 2006. The permit that would enlarge the landfill disposal area from 35 to approximately 106 acres and give the facility a life expectancy of 25 years. The site is on approximately 185 acres of land within a 1,600 acre tract, which includes other ancillary facilities. The authority has contracted with Capel's Landfill, LLC, a subsidiary of EnviroSolutions Holding of Chantilly, VA, for the construction and operation of the facility. The first eight acre cell was completed in 2005 and approved for disposal. Currently approved tipping fees at the landfill for residential and commercial waste are $42.50 per ton. At the time of publication, the opening of the facility has been delayed because of operator reassignment and negotiations for the construction of a railroad spur line to the landfill to facilitate the acceptance of large volumes of out-of-state waste. It is anticipated that the facility will begin accepting waste in 2007.

8.3 Recycling Milestones

Curbside recycling for cities with populations of 10,000 or more, as mandated by W. Va. Code § 20-11-5(b), was to be fully implemented by July 1, 1995. As of September 1, 2004, 14 cities are operating curbside pro-

Notes

grams as a result of the mandate. Kanawha and Mason Counties, under referendum vote, are still working to establish county-wide recycling programs. Jefferson, Taylor and Harrison Counties have curbside programs established under referendum vote. Most counties have some type of recycling program established. The majority are drop-off programs because of the rural nature of the state.

Lead acid batteries have been banned from disposal in landfills since June 1, 1994. Tires and waste tire material were banned from landfill disposal as of June 1, 1996. Yardwaste was banned from landfill disposal effective January 1, 1997, unless it is mixed in with or contaminated by other solid waste. More information on these programs may be found in the SWMB publications listed below:

Program for Handling Lead Acid Batteries in West Virginia
Program for the Proper Handling of Waste Tires in West Virginia
Program for Handling Yardwaste in West Virginia.

Legislative Rules for the handling of batteries, 33CSR4, and yardwaste, 33CSR3, were approved during the 1994 Legislative Session. The Legislative Rules for the handling of tires, 33CSR5, were approved during the 1996 Legislative Session and became effective June 2, 1996.

In 2005, Senate Bill 428 established the Rehabilitation Environmental Action Plan (REAP). This legislation consolidates litter control, open dump elimination and reclamation, waste tire cleanup and recycling programs into one program to be maintained by the Department of Environmental Protection. It also sets forth penalties for wrongful disposal of litter and to promote pollution prevention, it provides for litter control and recycling programs and education.

8.4 Tire Milestones

The West Virginia Waste Tire Bill, Senate Bill 427, was passed during the 2000 Legislative session. The bill addresses several major issues in the effort to clean up the estimated 12 million waste tires in the state.

In order to fund the proposed cleanup a $5.00 fee has been placed on all vehicle title transactions in the state including cars, RVs and boats. The proceeds from the fee, which is projected to be 3.5 million dollars annually, will go into to the newly created “Tire Refuse / Remediation / Environmental Cleanup Fund” now known as the “A. James Manchin Fund.” The West Virginia Division of Highways (DOH) was charged with administering the Fund and overseeing the cleanup of the waste tire piles.

During the 2005 legislative session, W. Va. Code § 22-15A-9 established that the Commissioner of the Division of Highways shall work with and may use moneys in the Fund to contract with the Secretary of

the DEP to accomplish the remediation of waste tire piles. The Fund consists of the proceeds from the sale of waste tires, fees collected by the Division of Motor Vehicles and any other funding source available for waste tire remediation. Any unprogrammed balance remaining in the Fund at the end of the fiscal year is transferred to the State Road Fund.

Notes

In addition, W. Va. Code § 22-15A-10 gave the Secretary the authority to establish a tire disposal program within the DEP to provide for a cost effective and efficient method to accept passenger car and light truck waste tires at locations designated by the DEP. The Secretary may pay a fee for each tire and may also establish a limit on the number of tires an individual or business may be paid for during any calendar month.

During 2006, a statewide waste tire collection received 4,925.39 tons of waste tires. The tires were properly disposed of by West Virginia Tire Disposal, Inc.

In August 2003, the Public Service Commission (PSC) approved changes to 150CSR9 “Rules Governing Motor Carriers, Private Commercial Carriers And The Filing of Evidence of Insurance, and Financial Responsibility By Motor Carriers”. Several sections addressed the problem of residential tire disposal.

The definition of “Bulky Goods” has been rewritten to include “waste tires off the rim, having a radius of no more than 16.5 inches, from automobiles, pickup trucks, motorcycles, all-terrain vehicles and from farm tractors.”

The changes also require carriers to pick up a maximum of eight tires per year from each residential customer. To cover the costs associated with the service an additional fee of 50 cents per month will be charged to regular customers of hauling services and $15.00 for non subscribers.

8.5 Solid Waste Authority Membership Terms

During the 2000 Legislative session, Senate Bill 448, relating to the staggering of terms for solid waste authority members, was passed into law. The bill provides for more continuity in experience on the boards. With the passage of the bill, two positions on each county authority was impacted: the member appointed by the Secretary of the Department of Environmental Protection (DEP) and the member appointed by the Chairman of the Public Service Commission (PSC).

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 are now appointed to four year terms.

Notes

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 will 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.

8.6 Electronic Recycling Milestones

In April of 2002, West Virginia, as part of EPA's Region III, became a participant in a pilot project on Electronic Recycling, "e-Cycling".

The Solid Waste Management Board, in conjunction with the DEP's Division of Water and Waste Management, EPA and local SWAs, organized one day electronic collection events around the state. Approximately 274,000 pounds of obsolete electronics were collected and recyced during the project. Counties which participated in the events include, Berkeley, Harrison, Hancock, Kanawha, Monongalia, Ohio and Raleigh.

In 2003, 128 tons of electronics were recycled, 159.1 in 2004 and 254 in 2005.

In 2006, the SWMB and the DEP participated in an electronics recycling program supported by a grant from the West Virginia High Technology Consortium Foundation, based in Wheeling, WV. The grant was administered by the National Center for Electronics Recycling, Davisville, WV.

The grant allowed for nine, one-day collection events around the state which collected a total of 94.7 tons of electronics. Events were held in Kanawha, Putnam, Wood, Greenbrier, Taylor, Upshur, Monongalia, Marshall and Marion counties.

The data collected from these events is being used in the development of future electronic recycling efforts.

Chapter 9

Economic Impact on Municipal Solid Waste Management in West Virginia

9. Economic Impact of Municipal Solid Waste Management in West Virginia

9.1 Executive Summary

Individuals not directly associated with the implementation and maintenance of environmentally sound integrated solid waste management systems often ask the questions, “Does such a system make economic sense?” “Does the effort and expense of creating and managing such a system result in economic benefits as well as esthetic and environmental improvements for communities?”

The West Virginia Bureau of Employment Programs and the U.S. Census Bureau compile statistics that answers those questions. The following are findings concerning solid waste managements economic benefits to West Virginia:

- Solid waste collectors, transfer stations, composting facilities, recycling centers and landfills in West Virginia paid an estimated $60 million dollars in wages and salaries in 2005.
- These businesses maintained an estimated 2,079 jobs with a relatively high average weekly salaries ranging from $496 to $610; compared to an average weekly salary in the retail trades of $381.
- Various WV governmental entities, including both municipal and county, employ at least 939 workers in their waste management activities (waste hauling, recycling, landfilling, composting) with an annual payroll of $19,932,912.
- In 2006, the states public and private waste management infrastructure consisted of 18 landfills, 2 tire monofills, 18 transfer stations and 25 composting facilities - all of which are fully operational and approved through the West Virginia Department of Environmental Protection. In addition, the state has at least 77 recycling centers, many of which have one or more remote collection sites.
- The states 50 local solid waste authorities own, operate or sponsor recycling programs in 35 counties, recycling 30,366.61 tons of material, bringing in $1,534,477 in recycling revenue and save the state an additional $1,237,915 in landfill tipping fees.

9.2 Jobs[1]

The state’s landfills and composting facilities employ approximately 449 people paying an average weekly wage of $610 at municipal solid waste landfills and $497 at composting facilities with an annual wage and salary payout for the industry of $11,915,548. Jobs include equipment operators, laborers, engineers, managers, clerical and office workers, scale operators and others.

The state’s waste haulers and other waste collectors employ at least 772 people with an annual payroll of $22,360,505. The average weekly salary per employee is $557. Most hauler employees are drivers or laborers but employees also include clerical, office workers and managers.

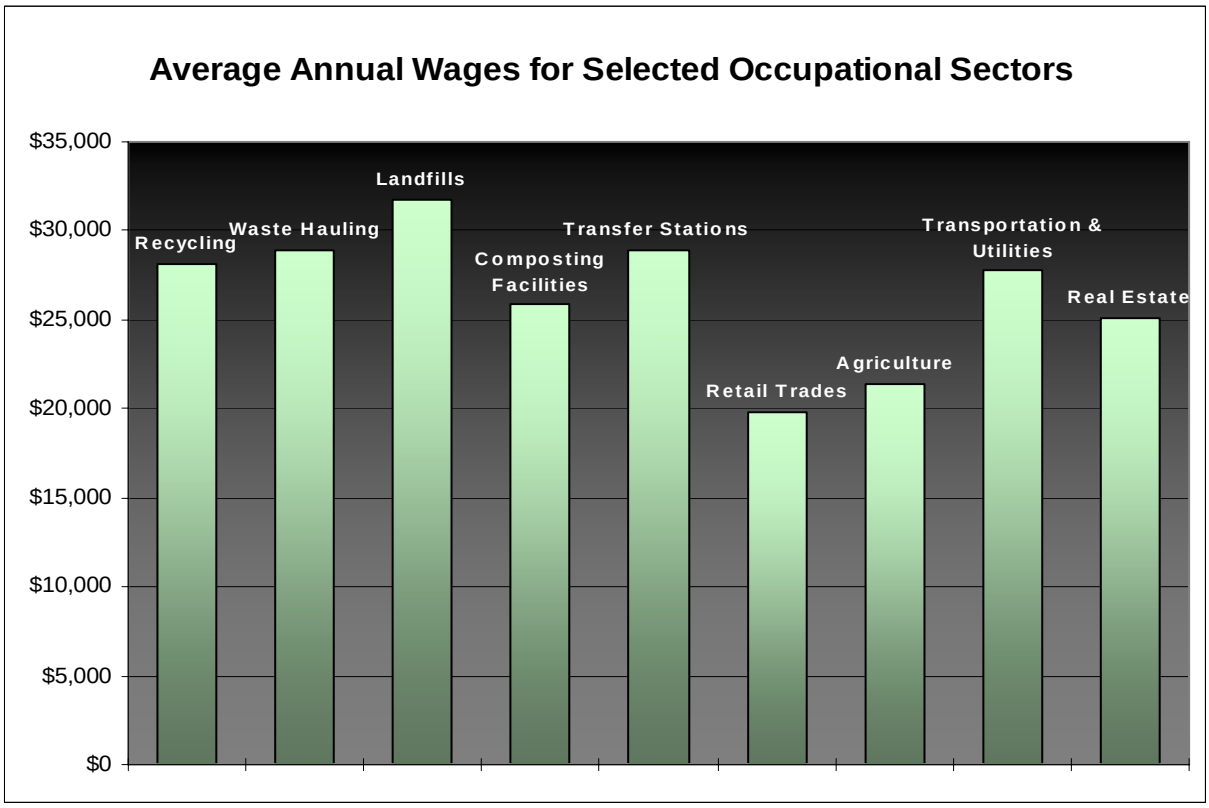
West Virginia’s recycling centers have at least 800 employees and an annual payroll of $23,474,991. These centers pay an average weekly salary of $540. Employees include material collectors and processor, drivers, clerical and office workers as well as managers and recycling coordinators.

Table 9-2
Employment Data: 2005 West Virginia Municipal Solid Waste Employment Alalysis

	Number of Firms	Number of Employees	Average Weekly Wage	Average Annual Wage	Total Annual Wages Paid
Recycling Centers	77	800	$540	$28,080	$22,464,000
Waste Haulers	58	772	$557	$28,964	$22,360,208
Landfills	18	324	$610	$31,720	$10,277,280
Composting Centers	9	125	$497	$25,844	$3,230,500
Transfer Stations	7	58	$556	$28,912	$1,676,896
Total/Average	**169**	**2,079**	**$552**	**$28,704**	**$60,008,884**

While wages and salaries in waste management are not comparable with some occupational sectors such as mining and manufacturing, however, they do compare favorably in other areas as the following graph demonstrates.

Figure 9-1
2005 Average Weekly and Annual Income for Selected Occupational Sectors



Source: WV Bureau of Employment Programs, “West Virginia - Employment & Wages.”

9.3 Direct Impact

Notes

Municipal solid waste management in West Virginia has a direct and measurable impact on the state. In 2005, the states recycling centers, transfer stations, waste haulers and landfills paid out in excess of $60,008,884 in salaries and wages creating an estimated 2,079 jobs. The annual revenue generated by these operations is significant. In FY 2006, West Virginia's landfills generated, based on monthly landfill tonnage reports and an average tipping fee of $39.84, at least $72,862,539 in revenues from tipping fees, in addition to the income earned from investments, proceeds from the sale of recyclable materials and income from other activities.

Another measurable impact is income derived from the industry by the state. In FY 2006, the West Virginia Department of Tax and Revenue collected $15,236,845 in waste assessment fees from the state's landfills and transfer stations. This revenue is used to fund many of West Virginia's most important environmental programs including: 1) the solid waste landfill closure program (LCAP); 2) the hazardous waste emergency response program; 3) the environmental reclamation program; 4) REAP and SWMB grant programs; 5) monthly assessment fees for the states fifty local solid waste authorities; 5) partial funding of West Virginia's conservation officers salaries. A breakdown of expenditures can be found in Chapter 7.

A good example of a state level waste management program is the Department of Environmental Protection's (DEP) Landfill Closure Assistance Program[2] (LCAP). The program manages the closure and post-closure of landfills. LCAP is currently working on 29 landfill closure projects. These closure efforts along with administrative expenses inserted $5,106,173 into the states economy in FY 2006.

According to the US Census Bureau, in FY 2003-04, various governmental entities including both municipal and county, injected $59,207,000 (total government waste management expenses including wages and operations cost) into the states economy to cover the cost of waste management in their areas of responsibility[3]. These same entities received $60,476,000 in fees for their waste management programs providing an excess income over expenses of $1,269,000. Again, these same entities paid an annual estimated $19,932,912 in wages to an estimated 939 full time equivalent employees working in waste hauling, recycling, composting and other waste related activities.

According to the 2002 Economic Census, conducted by the US Census Bureau, waste management service employment has undergone significant changes in recent years. During the period 1997 through 2002, the number of waste management establishments grew by 3.1% while the total number of employees grew by 16.2%. During the same five year period, total wages paid increased by 56.1% indicating significant wage gains for waste management employees. In 1997, the average salary for waste hauler employees in West Virginia was $20,495. By 2002 the average salary was $30,201 – an increase of 32% in just five years. The average wage for an employee at a municipal solid waste

Notes

landfill was $21,427 in 1997. This increased to $26,718 in 2002; an increase of 19.1% for the five year period. According to Workforce West Virginia projections, the number of jobs available in the various waste management occupational areas is expected to increase by about 1% a year for the next ten years.

Recycling is an essential component of an integrated waste management system. In West Virginia, the state's Solid Waste Authorities (SWAs) play an important role in waste management through recycling programs. Of the states 50 SWAs, at least 35 actively participate in recycling, often providing services in low population density areas that are not profitable for private sector operations.

The role a SWA chooses to play in recycling varies due to the needs of individual areas and the availability of resources. For instance, 13 authorities own and operate materials processing centers. Most of these also serve as recycling drop-off centers and at least five, Greenbrier, Kanawha, Monongalia, Pleasants and Raleigh serve as regional processing centers providing services for both public and private sector recyclers for two or more counties. Twelve others own collection equipment and operate collection programs but do not process materials often utilizing the processing services of private processors or other SWAs. Ten participate in other ways usually through sponsoring other public and private sector programs in various ways.

Overall, for calendar year 2005, solid waste authority recycling programs collected at least 30,366.61 tons of material for recycling. Factoring in the states average landfill tipping fee of $39.84 per ton, this represents a savings of at least $1,209,806 in landfill tipping fees. In addition, the authorities received $1,587,350 in revenues for the sale of recyclable materials. These funds are almost always put back into the programs to cover operational cost. Many of the programs are self sustaining or near self sustaining. Total landfill savings and income for authority recycling programs amounts to at least $2,797,156. In maintaining these programs, the authorities help conserve valuable landfill air space and bring in a significant revenue stream to offset the expenses of state and local government.

9.4 Indirect Impact

The indirect impact of the states municipal solid waste facilities is measured through the goods and services these facilities purchase in their individual communities and throughout the state. These purchases provide income for local vendors to cover operations cost and payroll and provide capital for business expansion and job creation.

Landfills spend significant amounts of money on equipment, construction, consulting and engineering services, fuel, equipment maintenance, ground water monitoring and other professional services.

Annual operational expenditures for municipal solid waste landfills include big ticket items such as construction projects and equipment purchases. For example, in a recent landfill construction project in Nicholas

County, cell construction cost amounted to approximately $400,000 per acre. Landfill cells have a limited life span. Therefore, one acre in landfill cell air space may last several years in a low volume rural landfill but only months in a higher volume urban facility, requiring more construction activity.

Notes

According to the DEP Solid Waste Permitting Unit, total expenditures for cell construction in FY 2005 were approximately $6.7 million. This amount covered construction cost for 25.76 acres of landfill space. Landfill cell construction cost statewide averages $250,000 to $270,000 per acre but varies due to working conditions and various environmental requirements that may change from one facility to another due to soil, hydrological and/or geological conditions and other factors.[4]

Waste haulers make significant contributions to the states economy through equipment purchases, maintenance expenses and fuel purchases. These expenses are significant. For instance, according to Recycleworld Consulting[5], the purchase of a new packer truck that is depreciated over 8 years can generate capital cost that vary from $80,000 to $130,000 per year depending on the truck and how its used. This includes an estimated annual labor expense for one operator of $40,000 which included wages, benefits and overhead; the cost of fuel; regular maintenance and the cost of money (truck payments and interest).

Recycling facilities contribute to the economy by contracting transportation services out to local trucking companies and others who collect materials from remote collection sites and haul the processed materials to market. They also purchase trucks, forklifts, bailers, crushers and other equipment. As a result of the states FY 2007 grant cycle, over $2 million was awarded to recycling centers, materials processing centers, materials collectors and manufactures that use recycled materials in their processes for capital improvements that included the purchase of recycling equipment, vehicles and improvements to facilities.

In addition to the task specific purchases mentioned above, all facilities use public utilities such as power, water and sanitation and purchase liability, casualty, life and other types of insurance. Most use local accounting and financial services. Our public and private sector facilities pay local property taxes and those private sector businesses that incorporate pay business franchise tax and corporate net income tax.

The majority of these goods and services are purchased from community and other in-state sources.

9.5 Induced Impact

The direct and indirect impacts represent the first level of expenditures attributed to the states waste facilities. When workers in direct and indirect industries purchase goods and services for consumption, they in turn stimulate another layer of the economy thus creating an induced impact.

Notes

Induced impacts accrue when workers in landfilling, waste hauling, recycling and other associated employment sectors spend their earnings on goods and services in the local area or region. For example, an equipment operator at a landfill spends his or her wages in the local area. These purchases include household items such as food and clothing, as well as various services like insurance, financial services and healthcare. In turn, these local businesses return revenues back to the local economy in the form of payroll, inventory and other business expenditures.

As these funds circulate they continue to generate additional levels of economic activity including business expansion and job creation. These benefits are often referred to as spill-over effects.

9.6 Environmental Impact

The environmental impact includes the short and long term benefits of maintaining a clean, healthy environment for all West Virginian's and is much more difficult to measure.

West Virginia's landfills are built with a dual composite liner system, a leachate collection and treatment system, full ventilation and a comprehensive ground water monitoring systems to ensure the long term containment of possible contaminates that may be harmful to human health and the environment. They are also covered daily to control odors and disease carrying vectors such as insects and rodents.

The proper packaging and regular collection of municipal solid waste and delivery to an approved facility serves to reduce litter and reduce open dumping thus benefiting the tourist industry as well as local residents and is an integral part of the solid waste management system.

Recycling is important for other reasons. Recycling can, and does, reduce the need for energy and saves natural resources as reflected in following facts:

- Recycled aluminum requires only 5% of the energy required to manufacture a can from bauxite ore.
- It takes 17 average-sized trees to make one ton of paper.
- Making one ton of recycled paper uses only 60% of the energy needed to make one ton of virgin paper.
- Every time a ton of steel is recycled, it means 2,500 pounds of iron ore and 40 pounds of limestone will not have to be mined from the earth.
- Recycling glass instead of making it from quartz sand reduces mining waste by 80%, water use by 50%, and air pollution by 20%.
- Five recycled soft drink bottles make enough fiberfill for a man's ski jacket. Thirty-six recycled bottles can make one square yard of carpet.

Recycling serves another function; it allows ordinary citizens to actively participate and contribute to creating and maintaining a cleaner environment through their daily activities.

End Notes for Section 9

1. WV Bureau of Employment Programs, Employment Statistics, “Employment & Wages, 2005.”

2. Department of Environmental Protection, Landfill Closure Assistance Program, Don Martin.

3. US Census Bureau

   The US Census Bureau report, “Local Government Finances by Type of Government and State: FY 2003 – 04.”

   The US Census Bureau report, “2002 Economic Census.”

4. Department of Environmental Protection, Solid Waste Permitting Unit, Sudhir Patel, Glena Shaffer.

5. Recycleworlds Consulting, Inc., Peter Anderson, October 22, 2001.

APPENDIX A

SWMB GRANTS

APPENDIX A: SWMB GRANTS

2007 SWMB Grants

SWA	Amount*	Project
Barbour	$19,400	Utilities, insurance, fuel and wages.
Berkeley	$17,000	Funds will assist with engineering services.
Braxton	$20,000	Recycling expenses, financial examination and wages.
Brooke	$6,900	Recycling, examination of financial records maintenance.
Calhoun	$15,435	Financial examination and building repair.
Greenbrier	$10,000	Purchase of a skid-steer loader.
Harrison	$10,000	Purchase of a recycling trailer.
Jefferson	$8,834	Grapple jaw attachment and foam-filled tires for backhoe.
Lincoln	$19,160	Recycling related expenses, examination of financial records, insurance and wages.
Logan	$11,300	Litter prevention materials and examination of financial records.
Marion	$12,471	Recycling related expenses and wages, Earth Day and ARD promotion.
Mason	$19,992	Education efforts, equipment maintenance, fuel and employee wages.
Mingo	$14,250	Examination of financial records, wages, educational materials, computer software and equipment.
Morgan	$20,000	Recycling related expenses, equipment maintenance, education, insurance and coordinator salary.
Ohio	$15,000	Electronics recycling event.
Region 8	$20,000	Sand blasting and painting transfer station.
Roane	$18,745	Wages, examination of financial records, insurance, education, rent, fuel and office equipment.
Tucker	$10,000	Purchase of fence extensions at the landfill.
Tyler	$20,000	Fuel and employee wages.
Wayne	$20,000	Insurance, wages, utilities and advertising.
Wyoming	$15,000	Wages for a litter control officer.

2006 SWMB Grants

SWA	Amount*	Project
Barbour	$14,500	Financial examination, recycling center operation and to purchase equipment.
Berkeley	$17,000	Electronics recycling event.
Braxton	$19,750	Financial examination and recycling operational expenses.
Brooke	$14,250	Recycling related expenses and office equipment.
Calhoun	$16,652	Financial examination, recycling center operational expenses and purchase equipment.
Fayette	$2,740	Financial examination.
Harrison	$10,000	Purchase of recycling trailers.
Jackson	$13,500	Financial examination and purchase equipment.
Kanawha	$18,000	Purchase of glass pulverizer.
Marion	$16,852	Purchase of equipment and educational activities.
Mason	$19,967	Financial examination and recycling center operational expenses.
Monroe	$20,000	Purchase of a truck for recycling program.
Pleasants	$17,500	Financial examination and recycling center labor cost.
Raleigh	$9,920	Purchase of recycling equipment and education.
Region VIII	$17,771	Purchase of equipment for transfer station.
Taylor	$9,718	Financial examination, education and recycling related expenses.
Tucker	$15,500	Purchase of landfill aeration equipment and litter control.
Wayne	$17,674	Recycling center expenses, training and advertising.
Webster	$17,086	Financial examination, educational expenses and salary for recycling coordinator.
Wetzel	$13,333	Salaries for recycling personnel.
Wirt	$18,286	Salaries for recycling personnel.

2005 SWMB GRANTS

SWA	Amount	Project
Barbour	$8,088	Financial examination and operational expenses.
Brooke	$10,001	Recycling activities.
Clay	$9,271	Recycling education and related recycling activities.
Fayette	$2,500	Operational expenses.
Greenbrier	$11,800	Purchase recycling storage containers and insulation for the recycling and leachate processing building.
Jackson	$13,500	Purchase a recycling trailer.
Jefferson	$20,000	Purchase equipment for the recycling program.
Lincoln	$11,390	Financial examination expenses and support of recycling coordinator.
Logan	$7,500	Financial examination expenses.
Marion	$3,535	Financial examination expenses and education activities.
Marshall	$19,500	Financial examination expenses, computer equipment and countywide cleanup
Mason	$28,029	Recycling equipment and recycling education.
Mercer	$9,404	Operational expenses.
Monongalia	$9,400	Electronics recycling, financial examination and education.
Monroe	$7,340	Financial examination expenses.
Morgan	$13,551	Support recycling activities and operational expenses.
Randolph	$7,000	Educational materials and bookkeeper/coordinator support.
Region VIII	$20,000	Operational expenses.
Ritchie	$8,796	Replace roof on recycling facility.
Summers	$7,358	Financial examination expenses.
Tucker	$20,010	Part of landfill manager's salary.
Tyler	$13,955	Financial examination expenses and labor costs.
Upshur	$7,306	Financial examination and operational expenses and recycling education.
Wayne	$6,876	Financial examination expenses and computer equipment.
Wirt	$9,641	Supplement wages for three recycling center employees.

2004 SWMB GRANTS

SWA	Amount	Project
Barbour	$20,028	Recycling trailer for school and city recycling program and labor.
Braxton	$9,295	Recycling coordinator support and financial examination expenses.
Brooke	$17,950	Recycling program expenses.
Calhoun	$19,698	Recycling center operating expenses and battery recycling program.
Fayette	$17,014	Complete implementation of county mandatory garbage disposal program.
Jackson	$20,000	Recycling program labor expenses.
Marion	$16,237	Recycling education and operating expenses.
Monroe	$9,570	Implement a mandatory garbage disposal program and public education.
Monongalia	$14,005	Electronics recycling program and county recycling research study.
Putnam	$10,488	Purchase roll-off containers for recycling program.
Raleigh	$9,604	Purchase roll-off containers for expansion of school recycling program.
Region VIII	$20,000	Purchase loading equipment for use at transfer station.
Roane	$10,964	Expenses for foreman position and establishment of a composting program.
Wayne	$10,000	Support of recycling coordinator.
Wetzel	$17,227	Labor to support curbside recycling program.

2003 SWMB GRANTS

SWA	Amount	Project
Barbour	$18,200	Enhancements to recycling program.
Berkeley	$20,000	Equipment for recycling center.
Boone	$20,000	Recycling equipment.
Brooke	$20,000	Recycling equipment.
Cabell	$20,000	Compost public awareness program and enhancements to composting facility.
Clay	$18,586	Recycling education and public awareness program.
Fayette	$20,000	Implement a mandatory disposal program.
Greenbrier	$15,000	Improvements to county landfill.
Lincoln	$20,000	Program coordinator and supervisor for convict labor.
Marion	$19,986	Recycling coordinator and public education program.
Monongalia	$15,000	Household hazardous waste program.
Morgan	$20,000	Recycling coordinator and enhancements to recycling program.
Ohio	$15,000	Household hazardous waste program.
Preston	$20,000	Purchase truck for use in recycling program.
Randolph	$20,000	Purchase truck for use in recycling program.
Ritchie	$18,962	Improvements to recycling facility.
Taylor	$9,110	Recycling coordinator and office equipment.
Tyler	$3,616	Office equipment for SWA.
Upshur	$8,400	Recycling coordinator salary.
Wayne	$16,980	Recycling coordinator salary and equipment for recycling program.
Webster	$20,000	Construction of new landfill cell liner.

2002 SWMB GRANTS

SWA	Amount	Project
Boone	$18,895	Purchase a recycling trailer for county recycling program.
Braxton	$10,500	Purchase equipment to enhance recycling program.
Brooke	$20,000	Purchase equipment to enhance recycling program.
Calhoun	$20,000	Continue operation of Restoration Station.
Jackson	$20,000	Purchase equipment for recycling program.
Logan	$20,000	Conduct a cooperative recycling program with Logan, Man, and Smith Recycling, Inc.
Marion	$19,600	Continue community recycling program.
Mercer	$20,000	Continue operation of recycling program.
Mingo	$20,000	Implement a recycling awareness and public education program.
Monongalia	$20,000	Implement a consistent recycling pickup service with the county.
Morgan	$20,000	Maintain and expand existing recycling program.
Pleasants	$5,215	Implement computerized inventory management system for recycling center.
Putnam	$19,532	Implement computerized inventory management system for recycling center.
Roane	$20,000	Continue operation of recycling center.
Taylor	$5,587	Develop recycling education program.
Tucker	$20,000	Enhance existing composting program.
Wayne	$20,000	Purchase a truck to continue recycling program.

2001 SWMB GRANTS

SWA	Amount	Project
Barbour	$17,600	Continue and improve program.
Berkeley	$16,325	Expansion of recycling program.
Braxton	$20,000	Purchase equipment for renovations.
Brooke	$17,860	Continue current recycling program.
Fayette	$14,500	Begin recycling program with white water rafting companies.
Greenbrier	$20,000	Initiate landfill recycling program.
Jackson	$20,000	Purchase recycling equipment.
Jefferson	$20,000	Purchase recycling equipment.
Marion	$10,404	Expand current recycling program.
Mingo	$1,500	Computer equipment.
Morgan	$12,000	Maintain and expand program.
Pocahontas	$20,000	Public education on recycling.
Randolph	$13,000	Operate Saturday drop-off program.
Region 8	$15,810	Computer equipment and promoting ARD.
Wirt	$20,000	Purchase recycling equipment.

1998 SWMB GRANTS

SWA	Amount	Project
Boone	$10,000	Purchase building.
Calhoun	$20,000	Restoration Station support.
Jackson	$17,000	Update plan, recycling employee and water testing.
Jefferson	$8,400	Composting equipment.
Kanawha	$20,000	Recycling equipment
Marshall	$11,000	Update plan and office equipment.
Mason	$6,000	Curbside recycling.
Morgan	$20,000	Recycling equipment.
Preston	$13,155	Recycling containers.
Region 8	$27,140	Recycling coordinator salary.
Roane	$20,000	Source reduction program.
Summers	$11,000	Baler.
Tucker	$20,000	Litter vacuum.
Tyler	$4,500	Update plan.
Upshur	$12,000	Public education on recycling.
Wayne	$2,500	Update plan.
Webster	$20,000	Gravel and stone for landfill.
Wetzel	$20,000	Continue recycling program.

1997 SWMB GRANTS

SWA	Amount	Project
Barbour	$20,000	Recycling facility and plan revision.
Cabell	$20,000	Composting facility.
Calhoun	$20,000	Upgrade Restoration Station recycling building.
Fayette	$20,000	Litter control supervisor.
Greenbrier	$20,000	Purchase brush chipper.
Jackson	$19,846	Recycling equipment and water testing.
Kanawha	$20,000	Recycling equipment.
Logan	$20,000	Solid waste inspector.
McDowell	$20,000	Litter control supervisor.
Mason	$20,000	Truck to haul cardboard.
Mingo	$20,000	Reinstate recycling program.
Monongalia	$16,450	Recycling and source reduction activities.
Nicholas	$20,000	Upgrade recycling building.
Pleasants	$20,000	Recycling trailer and bins.
Pocahontas	$20,000	Tire collection program.
Preston	$19,413	Recycling equipment and education.
Randolph	$20,000	Recycling coordinator.
Ritchie	$20,000	Recycling education and tire disposal program.
Roane	$8,915	Solid waste management activities.
Tyler/Wetzel	$20,000	Continuation of recycling program.
Upshur	$18,825	Source reduction program.
Wayne	$20,000	Office manager/recycling coordinator and two labors.
Wirt	$10,000	Tire disposal program.
Wyoming	$15,000	Litter control officer.

1996 SWMB GRANTS

SWA	Amount	Project
Brooke	$10,500	Recycling drop-offs.
Calhoun	$30,000	Integrated Resource Recovery Facility (IRRF).
Fayette	$29,893	Cleanup Supervisor.
Hancock	$29,680	Recycling drop-off.
Jefferson	$30,000	Composting operation and equipment.
Kanawha	$30,000	Recycling equipment.
Lincoln	$23,000	Recycling drop-off.
Logan	$30,000	Mandatory disposal program Inspector.
Mason	$30,000	Recycling drop-off.
McDowell	$11,280	Inmate program and Litter Control Officer.
Mercer	$30,000	Composting program.
Monongalia	$21,400	Recycling equipment.
Monroe	$11,180	Mandatory disposal.
Pleasants	$28,881	Recycling equipment.
Pocahontas	$30,000	Recycling program.
Preston	$30,000	Recycling equipment.
Ritchie	$21,804	Recycling equipment.
Taylor	$4,750	Recycling coordinator.
Upshur	$12,000	Recycling education.

1995 SWMB GRANTS

SWA	Amount	Project
Brooke	$13,300	Cleanup programs.
Fayette	$20,000	Open dump cleanup and litter programs.
Kanawha	$20,000	Recycling equipment.
Lewis/Gilmer	$6,000	Recycling education.
McDowell	$20,000	Litter control officer.
Mingo	$20,000	Continue recycling program.
Monroe	$20,000	Backyard composting and public education program.
Putnam	$8,905	Recycling education.
Randolph	$19,000	Recycling roll-offs and bins.
Summers	$20,000	Recycling operations and to purchase a computer.
Tyler/Wetzel	$40,000	Continue recycling program.
Upshur	$20,000	Recycling equipment.
Webster	$20,000	Recycling program with NCWVRC.
Wirt	$15,000	Reclaim open dump.

1994 SWMB GRANTS

SWA	Amount	Project
Clay	$20,000	Open dump cleanup program.
Doddridge	$3,500	Picnic tables made from recycled material.
Doddridge	$3,500	Bounty program.
Doddridge	$2,500	Open dump cleanup and bounty program.
Fayette	$20,000	Open dump cleanup.
Greenbrier	$12,000	Purchase recycling equipment.
Harrison	$20,000	Car and appliances recycling program.
Kanawha	$20,000	Purchase recycling equipment.
Lewis/Gilmer	$15,000	Bounty and cleanup programs.
Lewis/Gilmer	$12,000	Purchase drop boxes for recycling program.
Logan	$19,036	Mandatory disposal program.
Marshall	$20,000	Free dumpsters for cleanup.
McDowell	$20,000	Open dump cleanup program.
Mercer	$20,000	Open dump cleanup and litter control programs.
Mingo	$20,000	Continue recycling program.
Monongalia	$7,000	Open dump cleanup program.
Monongalia	$13,000	Storage building at Monongalia Recycling.
Monroe/Summers	$40,000	Recycling programs in Monroe and Summers counties.
Morgan	$10,000	Compost facility at landfill.
Pocahontas	$20,000	Purchase recycling equipment.
Putnam	$20,000	White goods collection and open dump cleanup.
Raleigh	$20,000	Purchase recycling equipment.
Randolph	$18,775	Chipper and continue operation of compost facility.
Region 8	$94,825	Romney transfer station equipment.
Ritchie	$20,000	Bounty and litter cleanup programs.
Roane	$20,000	Construct recycling facility and cleanup program.
Tucker	$20,000	Fish waste composting facility.
Tyler	$1,250	Composting education.
Tyler/Wetzel	$38,750	Continue recycling program.
Upshur	$20,000	Building and improvement of recycling facility and equipment.
Webster	$20,000	Purchase recycling equipment.
Wood	$750.00	Paper shredder for MOVHD project.

1993 SWMB GRANTS

SWA	Amount	Project
Barbour	$20,000	Complete construction on recycling facility. Hire employee.
Boone	$20,000	Purchase containers for transfer station.
Cabell	$20,000	Recycling and composting programs.
Clay	$20,000	Open dump cleanup.
Greenbrier	$20,000	Renovate Ronceverte Manufacturing building.
Harrison	$20,000	Appliance and car recycling program.
Jackson	$20,000	Continue recycling program in Ripley and Ravenswood.
Lewis/Gilmer	$12,000	Open dump cleanup, bounty program, recycling education.
Lewis/Gilmer	$7,000	Recycling education.
Lincoln	$20,000	Implement drop box recycling.
Logan	$16,027	Mandatory disposal program.
Marshall	$20,000	Free dumpster program.
McDowell	$20,000	Open dump cleanup.
Mingo	$20,000	Implement recycling and educational programs.
Monongalia	$20,000	Equipment for Monongalia County recycling facility.
Pocahontas	$20,000	Construct wetlands at landfill.
Putnam	$5,000	Recycling education.
Region 8	$100,000	Assist operation of transfer station.
Ritchie	$20,000	Continue recycling program, purchase recycling equipment.
Roane	$20,000	Open dump cleanup, composting, and recycling
Summers	$20,000	Implement recycling and educational programs.
Taylor	$6,000	Open dump cleanup program.
Taylor	$12,360	Purchase recycling equipment.
Tyler/Wetzel	$40,000	Continue recycling program.
Upshur	$20,000	Construct and equipment recycling facility at transfer station.
Wayne	$20,000	Implement recycling program.
Webster	$20,000	Bounty program and open dump cleanup.
Wood	$10,000	Hazardous waste collection day.
Wood	$10,000	Purchase video camera for enforcement and paper chopper.

SWMB 1992 SWMB GRANTS

SWA	Amount	Project
Berkeley	$9,500	Recycling program & education.
Braxton	$9,950	Purchase baler.
Brooke	$20,000	Open dump cleanup.
Cabell	$20,000	Recycling education.
Doddridge	$2,400	Plastic recycling at schools.
Greenbrier	$16,000	Purchase recycling equipment.
Greenbrier	$4,000	Developed restaurant grease recycling facility.
Kanawha	$20,000	Recycling program & drop boxes.
Lewis/Gilmer	$12,500	Open dump cleanup.
Lewis/Gilmer	$5,000	Recycling program.
Lewis/Gilmer	$2,500	Education for recycling plan.
Lincoln	$20,000	Open dump cleanup.
Mason	$20,000	Recycling program.
McDowell	$20,000	Composting plan & equipment.
Mercer	$20,000	Open dump cleanup & motor oil collection.
Ohio	$20,000	Recycling program.
Putnam	$10,000	GIS Software.
Putnam	$10,000	Education for curbside program.
Raleigh	$20,000	Open dump cleanup.
Ritchie	$20,000	Recycling program & facility.
Summers	$20,000	Open dump cleanup, litter, appliance pickup.
Upshur	$20,000	Construct transfer station with the City of Buckhannon.
Webster	$2,600	Open dump cleanup.
Webster	$750.00	SWA Siting Plan.
Webster	$650.00	Adopt a highway.
Webster	$1,500	Public awareness.
Webster	$2,500	Appliance bounty.
Webster	$10,000	Recycling program with Mountain Recycling and drop boxes.
Webster	$2,000	Mandatory collection program.

1991 SWMB GRANTS

SWA	Amount	Project
Barbour	$19,998	Establish a recycling facility. Purchase land and equipment.
Braxton	$20,000	Open dump cleanup.
Cabell	$20,000	Establish curbside recycling.
Calhoun	$20,000	Open dump cleanup.
Clay	$14,200	Open dump cleanup.
Clay	$5,800	Recycling.
Fayette	$20,000	Open dump cleanup and litter cleanup using inmate labor.
Greenbrier	$8,000	Purchase a baler for the recycling facility.
Greenbrier	$12,000	Landfill - wetlands construction.
Hancock	$20,000	Open dump cleanup.
Jackson	$10,000	Ravenswood recycling program and composting plan.
Jackson	$10,000	Ripley recycling program.
Kanawha	$20,000	Recycling program and drop boxes.
McDowell	$16,245	Purchase of wood chipper for composting.
Monongalia	$20,000	Recycling facility.
Nicholas	$20,000	Leachate treatment at the landfill for wetlands construction.
Raleigh	$4,150	Recycling and educational program.
Raleigh	$15,850	Purchase yard waste shredder.
Randolph	$14,000	Purchase paper shredder.
Randolph	$6,000	Purchase paper baler.
Ritchie	$20,000	Open dump cleanup. Car and appliance recycling program.
Roane	$20,000	Open dump cleanup. Car and appliance bounty.
Summers	$20,000	Open dump cleanup.
Tyler/Wetzel	$40,000	Recycling program and facility in New Martinsville.
Wood	$2,400	Open dump cleanup.
Wood	$7,060	Open dump cleanup.
Wood	$10,500	Recycling programs, drop-boxes and education.
Wyoming	$20,000	Implement recycling program.

Appendix B

2005 SWA Recycling Survey

SOLID WASTE MANAGEMENT BOARD
SOLID WASTE AUTHORITY
SUMMARY OF RECYCLING ACTIVITIES CY 2005

Appendix B details the activities of West Virginia's public sector recycling services focusing on the 50 local Solid Waste Authorities and 14 municipalities that have populations of over 10,000 and are mandated to recycle as established by W.Va. Code §22-15A-18.

The Wasteshed Tables organize the Solid Waste Authorities (SWAs) information by wasteshed and identify the following: the type of collection utilized (drop-off or curbside), the number of drop-off sites or curbside programs, the type of material marketed, the quantity marketed, the market or processor and the revenue derived from the sale of recyclables. The tables also identify the amount of grant funds distributed to the SWA from FY 1991 through FY 2007 by the SWMB. It is important to remember that there may be private sector recyclers whose activities and tonnage are not documented in this appendix.

Unless otherwise specified, tonnages listed in the Wasteshed Tables are for SWA owned and/or sponsored programs. In sponsoring recycling programs, the SWAs offer their support and services to other public and private recycling programs by one or more of the following: promotion of recycling and recycling related activities, leasing recycling equipment to other public and private entities, furnishing recycling containers to facilitate collection of recyclable materials, finding markets for collected materials and many other items. All recycling revenues listed are funds paid to the SWAs for the sale of materials.

Many of the SWAs do not receive revenue for their recyclables. In many instances, the value of the recyclables is used to cover the cost of transportation and marketing. Many public sector recycling programs that are located in low population density areas, such as rural SWA programs or small municipality programs, don't collect and market enough material to cover their operations cost. These programs have limited resources when seeking supplemental funding. Some receive funds from their county commissions or municipal governments, but these funds are not available to all. Many programs are dependent on the Solid Waste Management Board (SWMB) and the Department of Environmental Protection, Rehabilitation Environmental Action Plan (REAP) grant programs to assist in covering salaries, operational cost, educational cost and equipment expenses.

Information for Appendix B was gathered by the WV Solid Waste Management Board in a survey conducted in early 2006. All fifty SWA's and fourteen mandated municipalities were surveyed. Ninety two percent (46 out of 50) SWA's and sixty four percent (9 out of 14) of the mandated municipalities returned surveys. Supplemental information was obtained from the WV Recycling Directory, which is maintained and updated annually by the WV Development Office. The Recycling Directory can be accesses at www.wvdo.org/recycling/index.htm.

WASTESHED A

Wasteshed A consists of Brooke, Hancock, Marshall, Ohio, Tyler and Wetzel Counties. According to the 2000 census, the total population of the wasteshed is 168,345. The projected monthly solid waste generation rate in Wasteshed A for 2010 is 9,603 tons a month.

Two municipalities mandated for curbside recycling are located in this wasteshed; Weirton in Brooke County and Hancock County, and Wheeling in Ohio County. The City of Weirton collects aluminum, glass, newspaper, cardboard and yardwaste. The City of Wheeling collects steel cans,

MANDATED MUNICIPALITIES IN WASTESHED A

Municipality	County	Waste Generated Tons/Year	Materials Recycled	Tons/Year 2005
Weirton	Brook and Hancock	14,267	Aluminum Cans	Unknown
			Bi-metal Cans	Unknown
			Glass	Unknown
			Magazines	Unknown
			Newspaper	Unknown
			Total Recycled	**Unknown**
Wheeling	Ohio	21,637	Aluminum Cans	65.6
			Mixed Paper	770.0
			Total Recycled	**835.6**
Total Mandated Municipalities Wasteshed A				**835.6**

Figures from West Virginia Mandated Municipality Recycling Update 2006.

Brooke County has seven drop-off locations sponsored by the SWA. There is one curbside program in the City of Weirton. All American Recycling of Colliers, WV operates a recycling processing center. The SWA sponsors county events and works with local schools and businesses to establish recycling programs. They also sponsor the Brooke Envirothon team and the WV Youth Environmental Conference. The authority is currently preparing an educational program to present to Brooke County businesses, civic groups, schools and other organizations concerning the importance of recycling.

Hancock County sponsors an annual spring and fall cleanup. The SWA collects white goods (appliances), used oil, tires, household hazardous waste, electronics and batteries during their county cleanup programs which are recycled.

Marshall County SWA does not have a drop-off or curbside collection program. Once per year, the SWA sponsors a county clean-up. In the summer of 2006, the Marshall SWA, along with the SWMB and National Center for Electronics Recycling, sponsored an e-cycling event to collect obsolete electronics for recycling.

Throughout the 1990s, the City of Moundsville was mandated to provide curbside recycling under W. Va. Code §22-15A-18. According to the 2000 census, Moundsville's population dropped under 10,000 and the program was discontinued.

Ohio County SWA, working with J. D. Miller Trucking, sponsors four drop-off locations. The SWA has set up informational displays at schools and fairs. They have assisted several schools in starting recycling programs. The SWA's director speaks to groups when requested and participates in the Ohio County Fair and other events. They also encourage businesses to start office paper recycling programs.

Tyler and Wetzel Counties participate with Northern Mountain State Metals and St. Marys/Pleasants County in providing recycling services. There are seven towns and cities; Middlebourne, Pine Grove, Reader, Friendly, New Martinsville, Paden City and Sisterville, all involved in curbside collection for Tyler-Wetzel counties.

The Tyler County SWA engages in public education within Tyler County Schools providing materials to encourage recycling as an important part of good environmental stewardship. The local media cooperates in promotion of special events such as White Goods Days, stream cleanup, illegal dump reporting and cleanup, and business and household participation in the Tyler/Wetzel Recycling Project. Future plans call for a continuation of the effort to make the recycling project self supporting. This will not only require expansion of the project in order to secure greater quantities of materials, but an increase in available markets in the form of private operations willing to purchase materials at market prices.

Wasteshed A

Solid Waste Authority	SWMB Grants FY 1991 - 2007	Method of Collection	Material Collected for Recycling	Material Market	2005 Tonnage[5] Collected	Revenue from Sales
Brooke	$145,628	Curbside Program (1)	Aluminum	AAR[2]	4.84	$0.00
			Metals			$0.00
		Drop-off Sites (7)	Ferrous	AAR	83.85	$0.00
			Non-Ferrous	AAR	59.89	$0.00
			Paper	AAR	288.22	$0.00
			Total Recycled		**436.80**	**$0.00**
Hancock	$49,883	Curbside Program (1)	Electronics	Amandi Services	17	$0.00
			Scrap Metals	Six Recycling	45	$0.00
		Bi-Annual Cleanup	**Total Recycled**		**62.00**	**$0.00**
Ohio [1]	$50,000	Curbside Program (1)	Aluminum	J D Miller	9.24	$0.00
			Cardboard	J D Miller	642.71	$0.00
			Commingled	J D Miller	74.80	$0.00
		Drop-off Sites (4)	Mixed Paper	J D Miller	124.22	$0.00
			Newspaper	J D Miller	560.30	$0.00
			Office Paper	J D Miller	192.85	$0.00
			Total Recycled		**1,604.12**	**$0.00**
Tyler/Wetzel	$195,399	Curbside Program (1)	Aluminum	NMSM[3]	3.00	$2,214.00
			Bi-Metal Cans	NMSM	18.00	$961.00
			Glass	PC SWA[4]	52.00	$0.00
			Newspaper	PC SWA	5.86	$0.00
			Plastic	PC SWA	52.00	$386.00
			White Goods	NMSM	130.00	$650.00
			Total Recycled		**260.86**	**$4,211.00**
Total Wasteshed A					**2,363.78**	**$4,211.00**

[1] Tonnage figures include the City of Wheeling tonnage. The Ohio SWA in part, sponsors Wheeling's program; [2] AAR - All American Recycling. [3] NMSM - Northern Mountain State Metals. [4] PC SWA - Pleasants County SWA. [5] All tonnage figures are for SWA owned facilities unless specified otherwise. All revenues listed are recycling income for Solid Waste Authority programs.

Wasteshed B

Barbour, Braxton, Clay, Doddridge, Gilmer, Harrison, Lewis, Marion, Monongalia, Preston, Randolph, Taylor, Tucker and Upshur Counties are located in Wasteshed B. According to the 2000 census, total population of the Wasteshed is 389,777. The projected monthly solid waste generation rate in Wasteshed B for 2010 is 23,028 tons a month. Municipalities mandated to curbside recycle are Clarksburg, Harrison County; Fairmont, Marion County; Morgantown, Monongalia County.

MANDATED MUNICIPALITIES IN WASTESHED B

Municipality	County	Waste Generated Tons/Year	Materials Recycled	Tons/Year 2005
Clarksburg[1]	Harrison	12,222	Mixed Recyclables	505.80
			Cardboard	591.89
			Total Recycled	**1,097.69**
Fairmont	Marion	13,941	Aluminum cans	Unknown
			Bi-metal cans	Unknown
			Glass	Unknown
			Magazines	Unknown
			Newspaper	Unknown
			Plastics	Unknown
			Total Recycled	**Unknown**
Morgantown	Monongalia	19,571	Aluminum cans	Unknown
			Bi-metal cans	Unknown
			Glass	Unknown
			Magazines	Unknown
			Newspaper	Unknown
			Plastics	Unknown
			Total	**Unknown**
Total Mandated Municipalities, Wasteshed B				**1,097.69**

[1] Clarksburg tonnage provided by the Harrison County SWA.

The Barbour County SWA works with schools and local businesses. Stewart's Sanitation serves approximately 2,200 households in Barbour County. The company provides curbside collection of aluminum cans, paper, glass, plastic, newspaper, junk mail, cardboard and bi-metal cans. These recyclables are transported and processed by the Barbour County Recycling Center. Stewart's also picks up recycelable items from businesses. Philippi established a recycling drop-off center at their transfer station. They accept aluminum cans, paper, newsprint and cardboard, which are processed at the Barbour county processing facility.

Braxton County SWA reopened their recycling center, "Mountain Recycling" in 1998. The center processes, cardboard, newsprint, aluminum cans, plastic, brass, copper, and white goods. Drop-off sites are located in Gassaway and Sutton. The center also offers a weekly recycling pick-up service for businesses and schools in the county. Like many publicly owned recycling centers in rural West Virginia, Mountain Recycling does not collect enough material to cover the entire operating cost of

the program. The availability of grant funding is important to the continuation of Mountain Recycling. The town of Sutton offers a curbside collection program for approximately 500 households.

The Clay County Solid Waste Authority provides recycling bins for each of the schools in the county. They actively promote recycling by visiting the schools and giving talks. In conjunction with the DEP's REAP program, the Clay County Solid Waste Authority held a very successful Elk River clean up. In this clean up, 367,500 pounds of material was collected.

Doddridge County, as of September 2006, has no drop-off sites. The former drop-off site located in Smithburg closed in July of 2001. They do provide public information on recycling in their local newspaper. The authority also sponsors a once a year two-day countywide cleanup. All metals that are collected go to a local scrap yard for recycling.

The Harrison County Recycling Ordinance established a county wide curbside recycling program. The citizens are able to take yard waste to the commercial yardwaste composting facility in Clarksburg. In addition, there are three private haulers serving Harrison County that provide curbside collection for recyclable materials. Ten towns/cities offer curbside recycling in the county. The SWA provides public information through a weekly newspaper article titled "Uncle Harrison Says". The authority has purchased two drop-off trailers which will be rotated around the county to supplement the counties curbside programs. The authority conducts e-cycling and document shredding events and works closely with local media and schools.

The Lewis-Gilmer SWA and two private hauling companies previously cooperated in a joint venture to collect and process recyclables. Both drop-off and curbside collection methods were utilized. There were three drop-off sites that collected 120 tons of materials in 2003. Curbside collection accounted for 140 tons of various materials and 300 tons of cardboard, also in 2003. The materials collected included appliances, cans, plastic, office paper, newsprint and cardboard.

Marion County SWA sponsors 3 drop-off locations located in Idamay, Rivesville and the Middletown Mall in Fairmont WV. The Marion SWA works with county schools, local media and Allied Waste to promote recycling. Fairmont, in cooperation with Allied Waste, collects newspaper, plastics, aluminum cans, steel cans, glass and office paper through a curbside recycling program. A curbside program is also available in Mannington that accepts the same recyclables as Fairmont. In 2005, the Marion SWA finalized an agreement with the Monongalia SWA for the management of materials collected in the authority's drop-off program. The materials are now picked up by Allied Waste and transported to the Monongalia SWA processing facility for value added processing and marketing. In the summer of 2006, the Marion SWA, along with the SWMB and National Center for Electronics Recycling, sponsored an e-cycling event to collect obsolete electronics for recycling.

Monongalia County has eight drop-off sites serving the county. There are also two private recycling enterprises in Monongalia County, Dick's Recycling and Northern Mountain State Metals. Morgantown has curbside recycling and contracts with BFI to pickup recyclables including aluminum cans, steel, clear glass, newspaper, cardboard, office paper and HDPE plastic. Westover and Star City also have curbside programs owned by the municipalities. The SWA lists recycling information in the Bell Atlantic white pages as well as advertising on local radio, television stations and the authority website. The Monongalia SWA has recently enlarged their recycling facility and is in the process of developing sufficient processing capacity to allow them to become a regional processing center.

Preston County SWA has nine mobile drop-off locations, which accepts aluminum cans, cardboard, glass, newspaper, plastic and steel cans. The SWA provided educational materials to businesses, schools and the general public. The authority uses radio and newspaper advertising to promote recycling and litter control. They participate in the Buckwheat Festival utilizing a display and written material. The towns of Kingwood and Terra Alta have recycling programs for their residents. Preston residents have access to recycling container drop-off sites in Kingwood, Reedsville, Bruceton Mills, Aurora, Tunnelton and Rowlesburg. The municipal areas of Tunnelton and Kingwood offer curbside collection

The Randolph County SWA recycling center began operation in March 2000 and is located south of Elkins. Randolph County has drop-off locations at Davis and Elkins College, Elkins City Hall and most county schools which are maintained by the SWA. A variety of materials are collected including, aluminum cans, steel, cardboard and newsprint. They are also working with local schools and business by providing recycling containers for Randolph county schools to recycle glass, cardboard and by providing a Saturday drop-off trailer. The authority promotes recycling by placing displays at fairs, banks, post offices and schools and providing educational materials for grades one through six.

The Taylor SWA contracts with the North Central West Virginia Recycling Cooperative to provide a recycling coordinator to promote recycling and maintain their programs. The City of Grafton and a private hauler that service an estimated 3,000 households and handels the counties two curbside programs. Two processing centers, owned by Refuse Control and the Taylor County Workshop, recycle cardboard, office paper, newspaper, steel, aluminum and #1 and #2 plastics. The authority pays stipends to Taylor County Workshop and the Taylor County Fair to maintain drop-off recycling sites. The SWA provides education to businesses, schools and the general public. The SWA recycling coordinator established recycling programs at businesses and county schools. The programs recycle cardboard, newspaper, and office paper. The authority sends a recycling schedule to every household in Taylor County. In July 2006, the Taylor SWA co-sponsored an electronics recycling drive in conjunction with the SWMB, DEP and Amandi Services collecting 5,168 lbs of e-waste for recycling.

The Tucker SWA recycles metals collected at the landfill. In 2005, for the first time ever, the authority was able to earn significant revenue from the sale of recyclable metals. In addition to the SWA program, Sunrise Sanitation Services has recycling drop-off locations in Thomas, Mt Storm, Harman and Bayard collecting cardboard, aluminum cans, steel cans, office paper, magazines and telephone books.

The Upshur Solid Waste Authority partners with the City of Buckhannon in the recycling program. The city manages collections and materials processing while the authority manages program promotion, maintenance and development. The authority works closely with the school system to provide recycling education, including field trips annually for all 4th grade students. The SWA covers all cost associated with the transportation of students for these field trips. The authority also visits county schools. The county has two recycling drop-off sites, both owned by Buckhannon, and one curbside collection program operated by Weston Transfer. The Upshur SWA contracts with the North Central West Virginia Recycling Cooperative to provide a recycling coordinator. In the summer of 2006, the Upshur SWA, along with the SWMB and National Center for Electronics Recycling, sponsored an e-cycling event to collect obsolete electronics for recycling.

WASTESHED B

Solid Waste Authority	SWMB Grants FY 1991 - 2007	Method of Collection	Material Collected for Recycling	Material Market	2005 Tonnage[1]	Revenue from Sales
Barbour	$158,118	Drop-off Sites (1)	Aluminum Cans	Grossman Rec.	0.25	$200
			Cardboard	Grossman Rec.	120.00	$4,800
			Glass Containers	Grossman Rec.	50.00	$0
			Newspaper	Grossman Rec.	40.00	$1,600
			Plastic	Grossman Rec.	10.00	0
			Total Recycled		**220.25**	**$6,600**
Braxton	$112,200	Drop-off Sites (2)	Metals	WV Cashin Rec.	500.00	$15,000
			Paper	WV Cashin Rec.	424.00	$13,720
		Curbside Program (1)	Plastic	WV Cashin Rec.	20.00	$400
			Total Recycled		**944.00**	**$29,120**
Clay	$88,955	None	N/A	N/A	N/A	N/A
Doddridge	$11,900	Countywide Cleanup	Metals	N/A	N/A	N/A
Harrison[2]	$60,000	Curbside Countywide	Aluminum	Unknown	Unknown	$0.0
			Bi-metal Cans	Unknown	20.30	$0.00
			Cardboard	Unknown	941.79	$0.00
		Drop-off Site (1)	Newspaper	Unknown	242.74	$0.00
			Plastics, #1, #2	Unknown	69.53	$0.00
			Total Recycled		**1,274.36**	**$0.00**
Lewis/Gilmer	$72,000		N/A	N/A	N/A	N/A
Marion	$103,279.14	Curbside Programs (2)	Aluminum Cans	Monongalia SWA	.15	$177.80
			Christmas Cards	Busy Bison 4-H	0.52	$0.00
			Clear Glass	Monongalia SWA	1.36	$15.06
		Drop-off Sites (3)	Mixed Office Paper	Monongalia SWA	5	$0.00
			Newspaper	Monongalia SWA	5.49	$439.50
			Phone Books	SFK[3] (Books)	13,000	$0.00
			Plastics #1	Monongalia SWA	0.11	$38.49
			Total Recycled		**12.63**	**$670.85**
Monongalia	$156,250	Curbside Programs (3)	Aluminum	Mt State Metals	45.70	$21,996.64
			Cardboard	CellMark, Inc.	1,993.38	$127,900.13
			Glass	Braddish Glass	261.85	$2,078.66
		Drop-off Sites (7)	Newspaper	CellMark, Inc.	718.95	$56,989.47
			Plastics	REMM	99.40	$38,662.50
			Total Recycled		**3,119.28**	**$247,627.40**

Wasteshed B (Continued)

Solid Waste Authority	SWMB Grants FY 1991 - 2007	Method of Collection	Material Collected for Recycling	Material Market	2005 Tonnage[1]	Revenue from Sales
Preston	$145,796	Drop-off Sites (6)	Bi-metal Cans	NCWVRC[4]	4.50	$100
			Cardboard	NCWVRC	81.60	$5,933
			Magazines	NCWVRC	20.40	$1,304
			Newspapers	NCWVRC	52.30	3,099
			Scrap Metals	NCWVRC	22.30	$911
			Total Recycled		**181.10**	**$11,347**
Randolph	$111,775	Drop-off Sites (3)	Aluminum Cans	Midwest Metals	20.59	$14,823.40
			Cardboard	GGR[5]	194.19	$14,220.85
			Glass	Strategic Materials	21.00	$239.65
			Newspaper	GGR	22.08	$1,766.40
			Office Paper	GGR	22.81	1,581.30
			Total Recycled		**280.67**	**$32,631.60**
Taylor[6]	$47,527	Curbside Program Countywide	Aluminum Cans	NCWVRC	1.00	$0.00
			Cardboard	NCWVRC	309.47	$0.00
			Newspaper	NCWVRC	147.74	$0.00
		Drop-off Sites (2)	Office Paper	NCWVRC	39.31	$0.00
			Plastics	NCWVRC	18.42	$0.00
			Steel Cans	NCWVRC	5.53	$0.00
			White Goods	NCWVRC	9.95	$0.00
			Total Recycled		**531.42**	**$0.00**
Tucker	$105,500	Drop-off Sites (5)	White Goods	Tube City, LLC	**99.00**	**$8,918.91**
Upshur[7]	$138,594	Curbside Program (2)	Aluminum Cans	NCWVRC	0.66	$0.00
			Cardboard	NCWVRC	391.28	$0.00
			Newspaper	NCWVRC	223.48	$0.00
			Office Paper	NCWVRC	20.39	$0.00
			Plastics	NCWVRC	4.84	$0.00
			Steel Cans	NCWVRC	5.88	$0.00
			White Goods	NCWVRC	141.71	$0.00
			Total Recycled		**788.24**	**$0.00**
Total Wasteshed B					**7,450.95**	**$336,915.76**

[1]All tonnage figures are for SWA owned facilities unless specified otherwise. All revenues listed are recycling income for solid waste authority programs. [2] The majority of Harrison tonnage was collected curbside by Enterprise Sanitation, Waste Management of WV and Weston Transfer. These materials were processed by Enterprise Sanitation. [3] SFK, St. Felicient Kraft. [4]NCWVRC, North Central West Virginia Recycling Cooperative. [5]GGR, Gary Grossman Recycling. [6]Taylor tonnage is collected and processed by Refuse Control Systems. [7]Upshur tonnage is collected and processed by the City of Buckhannon.

WASTESHED C

Jackson, Pleasants, Ritchie, Wirt and Wood Counties make up Wasteshed C. According to the 2000 Census, 139,716 people live in these five counties. The projected monthly solid waste generation rate in Wasteshed C for 2010 is 8,282 tons a month. There are two municipalities mandated to implement curbside recycling in Wasteshed C, Parkersburg and Vienna. Both municipalities are located in Wood County, with Parkersburg collecting aluminum cans, bimetal and tin cans, plastic, newsprint, phone books, white appliances, tires, yard waste and Christmas trees. Vienna collects aluminum and bimetal cans, plastic and newsprint.

MANDATED MUNICIPALITIES IN WASTESHED C

Municipality	County	Waste Generated Tons/Year	Materials Recycled	Tons/Year 2003
Parkersburg	Wood	24,079	Aluminum	4.50
			Bi-metal cans	34.50
			Glass	105.70
			E-scrap	5.00
			Paper	357.00
			Plastics - #1, #2	43.60
			Propane tanks	10.00
			Tires	50.70
			Used oil	2.25
			White goods	25.3
			Total Recycled	**638.55**
Vienna		7,929	Aluminum	Unknown
			Bi-metal cans	Unknown
			Plastics - #1, #2	Unknown
			Total Recycled	Unknown
Total Mandated Municipalities, Wasteshed C				**638.55**

Jackson County has five SWA drop-off locations. One of these locations is the newly built recycling center between Ripley and Cottageville. The recycling center accepts newspaper, plastic, aluminum, glass, cardboard and office paper. The other four drop-off centers accept newspaper, plastic aluminum and glass. They also work with Kroger, Century Aluminum and Tom Peden Ford to provide additional drop-off trailers. The City of Ripley loans the SWA a garbage truck for the collection of cardboard. Several businesses and schools collect paper and cardboard for the authority. These businesses include Pescheny Rolled Products and Ravenswood Aluminum. The authority also works with Skateland, Simmons General Store, the “Y” Service Station and NAPA Auto Parts Stores. Due to increases in volume and the need for additional expertise, the authority now contracts the management of the recycling center to a local recycling company, Commercial Plastics Recycling, Inc. According to the authority, this move seems to have facilitated further increases in volume and income.

Pleasants County SWA supports a city operated drop-off and a curbside program which serves approximately 1,100 households in St. Mary’s. St. Mary’s provides a curbside collection program. The SWA and St. Mary’s have established a recycling center at the St. Mary’s Correctional Center.

The recycling center serves as a regional processing and marketing center managing materials for Wirt, Tyler, Wetzel and Calhoun counties. The center does not charge the areas public sector recyclers for this service. The authority has developed an educational brochure that has been distributed to every school age child. They also place educational articles in the local paper.

Ritchie County SWA has a drop-off site located at the processing facility in Ellenboro. They currently accept cardboard, office paper, plastic, aluminum, bi-metal cans, non-ferrous metals and white goods. They pick up cardboard and office paper at Ritchie County High School and are planning recycling presentations at local schools. The authority partners with Hearn & Son, Heating and Plumbing Services to provide a roll-off for glass collection. The authority provides informational brochures concerning recycling for their recycling center customers. Board members submit news articles concerning recycling and other SWA activities.

Wirt County SWA has a drop-off program at the Wirt County Recycling Center. The Pleasants County Solid Waste Authority processes all materials. Wirt County's main source of revenue is from the collection of cardboard. The SWA is also actively involved with the local school system. The authority has partnered with the Wirt County schools system for the last 16 years. They are currently sponsoring a program designed for kindergarten through 8th grade that teaches and promotes environmental awareness through participation in Earth Day with various class room and recycling activities. The program will benefit approximately 700 students. The teachers have the students bring recyclable materials to school to be recycled at the center. All revenues obtained from recycling aluminum cans and plastic bags are given to the schools for recycling education and to 4-H clubs for environmental projects. The SWA provides articles for the local newspaper and hands out refrigerator magnets to promote countywide recycling.

The Wood County SWA does not administer an ongoing recycling program. The county has two municipal curbside programs, one in Parkersburg and the other in Vienna. Wood has 4 other curbside programs owned by private sector haulers and 6 private sector drop-off sites. The authority co-sponsors countywide cleanups each year and in 2006 cosponsored an electronics recycling event at the Grand Central Mall. The SWA is partnering with Waste Management Inc. and DuPont to sponsor household hazardous waste collection drives every other year. The authority gives presentations and programs to local schools targeted at elementary age children. They also work with scout groups, 4-H clubs, garden clubs, ect. Prior to the spring cleanup they sponsor a "Paint Swap" to encourage people to use up their paint or trade it to someone else. The SWA has a display at the county fair and has a drawing to give away recycled content products. In 2005 they gave away a deck made of Trex recycled plastic lumber. They also promote America Recycles Day and have a program (with Nike) to recycle tennis shoes. In the summer of 2006, the Wood SWA, along with the SWMB and National Center for Electronics Recycling, sponsored an e-cycling event to collect obsolete electronics for recycling.

Wasteshed C

Solid Waste Authority	SWMB Grants FY 1991 - 2007	Method of Collection	Material Collected for Recycling	Material Market	2005 Tonnage[1]	Revenue from Sales
Jackson	$163,846	Drop-off Sites (3)	Aluminum	Various	1.0	$805.20
			Cardboard	Various	61.7	$4,862.04
			Glass	Various	44.0	$261.55
			Newspaper	Various	271.3	$23,864.97
			Office Paper	Various	39.1	$5,284.12
			Plastics #1, #2	Various	16.3	$3,057.60
			Plastic film	Various	0.3	$107.00
			Total Recycled		**433.7**	**$38,242.48**
Pleasants[2]	$71,896	Curbside Program (1)	Aluminum Cans	Various	3.9	$3,745.00
			Bi-metal cans	Various	3.8	$342.00
			Cardboard	Various	179.7	$13,573.00
		Drop-off Sites (1)	Glass	Various	21.7	$246.00
			Newspaper	Various	100.7	$7,244.00
			Office Paper	Various	15.9	$1,177.00
			Plastics	Various	44.5	$12,917.00
			Textiles	Various	34.1	$2,529.00
			Total Recycled		**404.3**	**$41,773.00**
Ritchie	$194,589	Drop-off Sites (1)	Aluminum Cans	Ashley's	12.6	$3,701.46
			Bi-metal cans	R&J Recycling	5.6	$470.64
			Cardboard	Ace Paper	38.0	$2,799.80
			Glass	Braddish Glass	5.1	$45.30
			Newspaper	WV Cashin	14.1	$337.50
			Plastic	Unknown	1.2	$0.00
			White goods	R & J Recycling	12.4	$923.70
			Total Recycled		**89.0**	**$8,278.40**
Wirt	$72,935	Drop-off Site	Bi-metal Cans	PSWA	2.5	Unknown
			Cardboard	PSWA	55.5	Unknown
			Clothing	P SWA	0.5	Unknown
			Glass	PSWA	7.0	Unknown
			Paper	P SWA	20.0	Unknown
			Plastic - #1, #2	PSWA	1.1	Unknown
			Total Recycled		**86.6**	**$4,000.00**
Wood[3]	$40,710	Curbside Programs (6)	Ferrous metals	Various	Unknown	Unknown
			Nonferrous metals	Various	Unknown	Unknown
			Glass	Various	Unknown	Unknown
		Drop-off Sites (6)	Paper	Various	Unknown	Unknown
			Plastics	Various	Unknown	Unknown
Total Wasteshed C					**1,013.6**	**$92,293.88**

[1]All tonnage figures are for SWA owned facilities unless specified otherwise. All revenues listed are recycling income for solid waste authority programs.[2] The Pleasants (PSWA) SWA Recycling Center serves as a regional processing and marketing center and the revenue from the sale of materials is paid directly to the source and not to the Pleasants SWA. Pleasants tonnage is from a 2004 survey. [3] Wood SWA does not sponsor or manage a recycling program.

WASTESHED E

Wasteshed E is located in the eastern panhandle of the state. Berkeley, Jefferson, and Morgan Counties and Region Eight, which is Grant, Hampshire, Hardy, Mineral and Pendleton counties, had a total population of 212,483 according to the 2000 Census. The projected monthly solid waste generation rate in Wasteshed E for 2010 is 14,065 per month. The only municipality mandated for recycling within Wasteshed E is Martinsburg.

MANDATED MUNICIPALITIES IN WASTESHED E

Municipality	County	Waste Generated Tons/Year	Materials Recycled	Tons/Year 2005
Martinsburg	Berkeley	10,929	Aluminum/tin cans	15.10
			Brown glass	37.89
			Clear glass	18.07
			Green glass	0.87
			Newspaper	53.57
			White goods	21.45
			Total Recycled	**146.95**
Total Mandated Municipalities, Wasteshed E				**146.95**

Berkeley County SWA operates 4 drop-off locations around the county. There are 19 private recycling operations. The authority accepts aluminum cans, magazines, newspapers, plastics, steel cans, mixed paper, clear, brown and green glass, scrap metal and yard waste. The Grapevine Road Center, also accepts yard waste, appliances and various metals. Recently, the county commission gave the authority money to provide upgrades to the Grapevine Road and South Berkeley recycling facilities. This has allowed the Grapevine Road location to extend the operation days from 3 days per week to five and to begin accepting clean wood. Because of these improvement and extended operating hours, the Authority has seen a large increase in customers. The South Berkeley location is expected to receive similar site improvements in the future. The other drop-off locations in the county are specialized and take materials such as oil and lead acid batteries. Berkeley County has a curbside program in the City of Martinsburg, which serves a population of 15,996. The curbside program collects cans and glass. The SWA works with local business and schools to encourage recycling.

The Jefferson County SWA owned transfer station also serves as a composting and recycling drop-off site. At the time of this writing, management of the transfer station and recycling center was contracted to Waste Management Inc. The authority manages the composting operation. The WV Recycling Directory list 4 recycling drop-off sites and curbside collection in Charles Town and parts of rural Jefferson County. The materials collected by drop-off include used oil, newspaper, tires, scrap metals and white goods, #1 & #2 plastics, clear and brown glass, bi-metal, aluminum cans, wood and yard waste. The SWA markets the recycled wood/yard waste as compost at the JCSWA Transfer Station. This material is ground-up and is utilized by the public as mulch. The Halltown Paperboard Co. accepts newsprint, corrugated, mixed paper, tubes and other papers.

The Morgan County SWA has seven drop-off locations. The authority collects aluminum cans, steel cans, foil and pie tins, scrap metal, newsprint, corrugated, office paper, books, magazines, catalogs, phone books, glass (clear, green and brown), chipboard and appliances. The SWA partners with the Town of Bath in their collection efforts. They also have an agreement with Morgan Sanitation to facilitate the efficient and economical transportation of collected materials to market. To promote recycling, the authority places a booth at the Apple Butter Festival and County Fair giving out pamphlets and other literature to promote recycling and other environmental programs. The Morgan County SWA recycling coordinator works with the public by providing information on recycling in the Morgan Messenger, a local newspaper. They have provided business and schools with 4 cubic yard containers for paper and cardboard collection.

The Region 8 SWA recycling program utilizes two SWA-owned drop-off sites. The Southern Transfer Station and Northern Transfer Station are both owned and operated by the Region 8 SWA, and currently accept bulky metals. The SWA has worked with several private recyclers. Currently C & K Salvage is the county's primary metals processor. Region 8 has several private sector recyclers. Mineral County has Quality Supplier, which collects paper and cardboard, Faulk Brothers Scrap Yard that collects various metals and the Development Center Workshop that collects aluminum cans. Envirco Inc. collects aluminum, paper, glass and cardboard in both Hardy and Grant counties. United Disposal collects aluminum and paper at Grant County schools.

WASTESHED E

Solid Waste Authority	SWMB Grants FY 1991 - 2007	Method of Collection	Material Collected for Recycling	Material Market[1]	2005 Tonnage[2] Collected	Revenue from Sales
Berkeley	$79,825	Curbside Program (1)	Aluminum Cans	SS/ZK	6.79	$4,100
			Brown glass	SS	22.49	$0
			Brush	SWA	1,617.00	$5,500
		Drop-off Sites (1)	Clear glass	SS	43.05	$0
			Green glass	SS/ZK	29.41	$0
			Magazines	SEP[2]	26.69	$0
			Mixed paper	SS/Halltown	238.39	$4,500
			Newspaper	SEP	226.54	$1,100
			Plastic #1	WC ARC	21.09	$0
			Scrap metal	SS/Ernie's	164.38	$2,500
			Steel cans	SS/ ZK	16.72	$0
			Total Recycled		**2,412.55**	**$17,700**
Jefferson	$87,234	Curbside Programs (1)	Aluminum	Unknown	Unknown	Unknown
			Metals	Unknown	Unknown	Unknown
		Drop-off Sites (1)	Paper	Unknown	Unknown	Unknown
			Total Recycled	**Unknown**	**Unknown**	**Unknown**
Morgan	$115,550	Curbside Program (1)	Aluminum Cans	ZK	1.20	$978
			Bimetal Cans	ZK	9.40	$0
			Cardboard	ZK	12.00	$408
		Drop-off Sites (7)	Glass	MP	41.30	$0
			Paper	MP	336.00	$8,390
			Total Recycled		**399.90**	**$9,776**
Region 8	$315,546	Drop-off Sites (2)	Metals	C&K Salvage	Unknown	Unknown
Totals Wasteshed E					**2,812.45**	**$27,476**

[1] SS = Southern Scrap; ZK = Zuckerman's; SEP = Southeast Paper; WC ARC = Washington County ARC; MP = Maryland Paper. [2]All tonnage figures are for SWA owned facilities unless specified otherwise. All revenues listed are recycling income for solid waste authority programs.

WASTESHED F

Wasteshed F consists of Greenbrier, Nicholas, Pocahontas and Webster counties. Total population for the wasteshed in 2000 was 79,865. The projected monthly solid waste generation rate in Wasteshed F for 2010 is 4,701 tons a month.

Greenbrier County SWA operates drop-off and processing centers in Fairlea and at the landfill. The cities of Lewisburg, White Sulphur Springs and Ronceverte and the town of Rainelle collect some or all of the following materials curbside from each location: aluminum cans and foil, cardboard, magazines, newsprint, shredded paper, junk mail, brown bags, metal food and #1 & #2 plastic. All of the recyclables collected by drop-off are processed at the center in Fairlea, WV. The SWA serves as a processing and marketing center for several programs in the area. They buy and/or broker various materials from Pocahontas Recycling, Boggs Scrap Yard, Smith Towing, Greenbrier Valley Solid Waste and Southern Sanitation. The SWA provides public information for civic groups, schools, newspaper and radio. The SWA sponsors an aluminum can contest for local schools and they pick up recyclables at the schools. The authority also manages a composting program at the landfill. In the summer of 2006, the authority, along with the SWMB and National Center for Electronics Recycling, sponsored an e-cycling event to collect obsolete electronics for recycling.

The Nicholas County SWA provides drop-off site at their landfill and a location just off Route 19 in Summersville. Materials collected include corrugated cardboard, mixed paper (newspaper, cereal boxes, office paper, etc), plastics and #1 & #2; aluminum. Coffman's Metal, Angler's Roost and Johnson's Iron and Metals are privately operated drop-offs located in Nicholas County that accept scrap metals and batteries. Nicholas County currently has no curbside programs.

Pocahontas County SWA operates six drop-offs: five at the green box sites and one at the landfill. All collect cardboard, magazines, bi-metal cans, newspaper and the one at the landfill collects tires and white goods. Five private businesses accept used motor oil from their customers. A private recycling company, Pocahontas Recycling, accepts aluminum, batteries, glass, cardboard, plastics #1 & #2, any paper product, scrap metal, brass, radiators and stainless steel. The SWA recycling coordinator provides educational information for county organizations. Pocahontas Recycling works closely with the SWA on public awareness and collects, as a donation, recyclables at SWA drop-off sites. Pocahontas Recycling also assists stores and schools in the county with recycling programs. Currently, trailers are being placed at local schools for collection of recyclables.

Webster County SWA has a drop-off site located at the county's closed landfill. The SWA collects various metals including appliances, auto bodies, frames and supports the county litter control officer in cleaning up open dumps and litter. A private recycling company, Trapper's Den, collects aluminum, brass, and copper. The SWA has relied on newspaper ads, word of mouth and free day to publicize recycling. Local grocery stores are participating by recycling corrugated containers. Presently, Webster County has no SWA-operated recycling program for items other than scrap metal.

WASTESHED F

Solid Waste Authority	SWMB Grants FY 1991 - 2007	Method of Collection	Material Collected for Recycling	Material Market	2005 Tonnage[3] Collected	Revenue from Sales
Greenbrier	$138,800	Curbside	Aluminum	Anheuser-Busch	62	$81,323
		Programs (4)	Bi-metal cans	Tube City	22	$5,067
			Cardboard	CF	585	$47,210
		Drop-off	Newspaper	CF/FRR[1]	343	$25,828
		Sites (4)	Office Paper	CF	110	$8,081
			Plastic	Ensley	43	$17,862
			Total Recycled		**1,165**	**$185,371**
Nicholas	$45,000		Unknown	Unknown	Unknown	Unknown
Pocahontas	$110,000	Drop-off	Bi-metal cans	Boggs Scrap	3	$0.00
		Sites (10)	Cardboard	PR[2]	78	$0.00
			Newspaper	PR	62	$0.00
			Plastics	PR	5	$0.00
			Tires	Emanuel Tire	197	$0.00
			White goods	Boggs Scrap	160	$0.00
			Total Recycled		505	$0.00
Webster	$137,086	Drop-off	Ferrous metals	Jerry's Salvage	39	Unknown
		Sites (2)	White goods	Jerry's Salvage	Unknown	Unknown
Wasteshed F Totals					**1,709**	**$185,371**

[1] CF - Chesapeake Fiber; FRR - Fox Run Recycling. [2] PR – Pocahontas Recycling. [3]All tonnage figures are for SWA owned facilities unless specified otherwise. All revenues listed are recycling income for solid waste authority programs

WASTESHED G

Wasteshed G consists of Fayette, McDowell, Mercer, Mingo, Monroe, Raleigh, Summers and Wyoming Counties. Total population of the wasteshed is 289,485. The projected monthly solid waste generation rate in Wasteshed G for 2010 is 17,270 tons a month. Two mandated municipalities are located in the wasteshed: Bluefield, in Mercer County, and Beckley, in Raleigh County. Bluefield, after suspending their curbside collections due to financial constraints, is planning to restore the program. If their current plans are successfully implemented, the program may resume collections sometime in early 2007. Beckley collects aluminum, steel cans, cardboard, magazines, newspapers and #1 & #2 plastics from approximately 95.9% of the households (7,268) in Beckley.

MANDATED MUNICIPALITIES IN WASTESHED G

Municipality	County	Waste Generated Tons/Year	Materials Recycled	Tons/Year 2003
Beckley	Raleigh	12,405	Aluminum cans	Unknown
			Cardboard	Unknown
			Mixed paper	Unknown
			Newspaper	Unknown
			Steel cans	Unknown
			Total Recycled	**Unknown**
Bluefield	Mercer	8,117	Tires	2,300 (units)
			Aluminum	39
			Yardwaste	400
			Total Recycled	**439**
Total Mandated Municipalities, Wasteshed G				439

Fayette County has two privately operated drop-off sites. JR's Recycling collects copper, brass, aluminum, cardboard, and batteries, while Auto Recycling collects scrap metals, and white goods. Fayette County has two curbside programs located in the cities of Smithers and Montgomery. These two curbside programs accept aluminum, glass, paper and plastic. These recyclables are taken to the Raleigh County Regional Recycling Center for processing and marketing.

The McDowell County SWA does not own or operate a drop-off or curbside recycling program. The county has three businesses that collect various types of metals for recycling. Iaeger Junk Yard collects non-ferrous metals while Urps Metals and K & D Wrecking collect ferrous and non-ferrous metals. The SWA employs a litter control officer that aids in public education programs. Also, the county litter control officer has been trained by DNR law enforcement section to enforce litter laws as a result of SB 444.

Mercer County SWA provides a drop-off site at Mercer County Sanitary Landfill. They also co-sponsor a drop-off program at the Concord University in Athens, WV. At the SWA drop-off sites, ferrous and non-ferrous metals, cardboard, #1 & #2 plastics and newspaper are collected. Three private drop-off recyclers operate in the county. Auto Recycling, Lusk Recycling and Empire Salvage. These businesses collect cardboard, aluminum, ferrous and non-ferrous metals.

Mingo County SWA sponsors no recycling drop-off or curbside programs. They provide recycling, litter control and other environmental information to civic groups, schools and other interested parties. The authority has developed a school program and visits every grade school in the county at least once each year. They also present awareness programs to various service organizations. The authority partners with the Mingo Litter Committee and the local chamber of commerce to use both newspapers and radio to promote their programs. The SWA also conducts a once a year countywide clean up partnering with the area scrap metal businesses. Mingo County has three private recyclers that collect ferrous and non-ferrous metals, batteries, oil and tires.

The Monroe SWA is partnering with Ham Sanitary Landfill to create a new recycling center at the landfill. They are now collecting and processing aluminum cans, bi-metal cans, cardboard, glass, newspapers and steel. They will participate in cooperative marketing with the Greenbrier and Raleigh County Solid Waste Authorities. The authority's public education programs are provided for schools, civic organizations and government entities. Public information distribution also includes advertising, flyers enclosed in 15,000 tax statements and a school poster contest. Monroe County has two private sector programs that offer curbside collection. Union Disposal collects glass, tin, aluminum, cardboard and plastic along with regular trash collection. Humphrey's Trash Disposal collects aluminum cans, cardboard and metals at the curbside upon on request.

Raleigh County SWA has a 34,000 square foot regional recycling center. Built into the center is an educational observation room with seating capacity for more than 100 children. Any school in the state may visit, observe the recycling process and receive instruction on recycling and other environmental issues regarding littering and scientific data concerning municipal solid waste management. The Center also has a museum with displays of items fabricated from recycled and reused materials. The SWA also provides a drop-off for aluminum cans, scrap aluminum, steel, bimetal cans, copper, brass, newsprint, office paper, cardboard, plastic (#1 and #2), batteries, radiators, brush, grass and leaves. The authority composted 855 tons of material in 2005, an 11 percent increase over the previous year. The SWA works with the city of Beckley, processing all of their curbside collection materials. They work with the board of education providing collection and educational services to participating schools. They are also working with the county commission to bring recycling to other county agencies. The authority has a full time public educator on staff. Their school recycling program provides recycling trailers to area schools and awards cash prizes to the schools that recycle the most.

There is one drop-off area in Summers County sponsored by Southern Sanitation, a private hauler. Public information programs are provided for civic organizations and schools. The SWA sponsors a wide variety of school programs including recycling contests and classroom recycling projects. They also sponsor a children's camp. The SWA works closely with Southern Sanitation on the drop-off program which collects aluminum cans, newspaper and cardboard.

Wyoming County SWA has developed a countywide mobile recycling program. A trailer is provided at seven different locations in the county each day of the week. The mobile recycling schedule allows residents to place recyclables in the compartmentalized trailer. The county collects a total of seven different recyclable materials. The materials are collected by WV Cashin' Recycling, and Beckley Waste Paper. The SWA works closely with the Wyoming County Commission which has a recycling processing center located on Airport Road that collects aluminum cans, scrap aluminum, brass, copper, radiators, cardboard and mixed paper. Wyoming County also has curbside recycling programs in the municipalities of Gilbert, Baileysville, Mullens and Pineville.

Wasteshed G

Solid Waste Authority	SWMB Grants FY 1991 - 2007	Method of Collection	Material Collected for Recycling	Material Market	2005 Tonnage[5] Collected	Revenue from Sales
Fayette[1]	$166,633	Drop-off sites (1)	Batteries	Unknown	Unknown	$0.00
			Scrap metal	Unknown	Unknown	$0.00
		Curbside Programs (2)	White goods	Unknown	Unknown	$0.00
McDowell	$127,525		Metals	Unknown	Unknown	$0.00
Mercer	$93,500	Drop-off Sites (2)	Aluminum	Unknown	Unknown	$0.00
			Cardboard	Unknown	Unknown	$0.00
			Plastics #1 #2	Unknown	Unknown	$0.00
			Steel	Unknown	Unknown	$0.00
Mingo[2]	$101,500	Drop off Sites (4)	Aluminum cans	Unknown	68.50	$0.00
			Aluminum scrap	Unknown	89.70	$0.00
			Scrap Metals	Unknown	1,047.00	$0.00
			Total Recycled		**1,205.20**	**$0.00**
Monroe[3]	$74,467	Curbside Programs (1)	Aluminum cans	Unknown	0.05	$0.00
			Bi-metal cans	Unknown	0.05	$0.00
			Cardboard	Unknown	0.03	$0.00
		Drop-off Sites (1)	Glass	Unknown	0.01	$0.00
			Newspaper	Unknown	0.25	$0.00
			Plastics #1, #2	Unknown	0.03	$0.00
			Total Recycled		**0.42**	**$0.00**
Raleigh	$117,775	Curbside Programs (1)	Ferrous metals	Unknown	221.00	$5,085.35
			Nonferrous metals	Unknown	31.04	$23,489.81
			Paper	Unknown	385.00	$38,181.22
		Drop-off Sites (6)	Plastics	Unknown	29.00	$1,537.70
			Total Recycled		**666.04**	**$68,294.08**
Summers[6]	$98,500		Aluminum cans	Unknown	Unknown	$0.00
			Cardboard	Unknown	Unknown	$0.00
			Newspaper	Unknown	Unknown	$0.00
Wyoming	$15,000	Curbside Programs (6)	Aluminum cans	WV Cashin'	98.6	$99,260.89
			Cardboard	BWP[4]	154.1	$8,883.43
			Nonferrous metals	WV Cashin'	14.7	$22,690.93
		Drop-off Sites	Newspaper	BWP	3.4	$213.09
			Total Recycled		**270.8**	**$131,048.34**
Total Wasteshed G					**2,142.46**	**$199,342.42**

[1]The Fayette SWA does not own or sponsor a recycling program. [2]The Mingo SWA does not own or sponsor a recycling program. [3]The Monroe SWA recycling program is new and had only been in operation for 45 days when this report was submitted. [4] BWP – Beckley Wastepaper. [5]All tonnage figures are for SWA owned facilities unless specified otherwise. All revenues listed are recycling income for solid waste authority programs. [6] The Summers County SWA does not own or sponsor a recycling program.

WASTESHED H

Wasteshed H consists of Boone, Cabell, Calhoun, Kanawha, Mason, Lincoln, Logan, Putnam, Roane and Wayne Counties. Although parts of the wasteshed are rural, it is the most densely populated wasteshed in West Virginia. According to the 2000 census, the total population of the wasteshed is 525,687. The projected monthly solid waste generation rate in Wasteshed H for 2010 is 30,992 tons a month. Four mandated municipalities are included in this wasteshed: Huntington (Cabell County and Wayne County), Charleston, St. Albans and South Charleston (Kanawha County). Curbside service is available to Huntington residents through subscription to the hauler, Allied Waste

MANDATED MUNICIPALITIES IN WASTESHED H

Municipality	County	Waste Generated Tons/Year	Materials Recycled	Tons/Year 2005
Charleston	Kanawha	38,997	Commingled	450.0
			Paper	660.0
			White goods	250.0
			Yardwaste	3,500.0
			Total Recycled	**4,860.0**
Huntington[1]	Cabell	37,576	Unknown	Unknown
St. Albans	Kanawha	8,444	Aluminum Cans	0.5
			Commingled	376.3
			Total Recycled	**376.8**
South Charleston	Kanawha	9,775	Commingled	235.0
			Total Recycled	**235.0**
Total Mandated Municipalities, Wasteshed H				**5,471.8**

Boone County Commission collects scrap metal, aluminum, cardboard, newsprint, office paper and steel food cans at a drop-off location in Foster at the old Foster Grade School. The Commission also collects ferrous metals and white goods at their Rock Creek transfer station. The commission collects newspaper, cardboard and office paper at county schools through the S.T.A.R. program with the West Virginia University Extension office. The City of Madison collects bi-metal cans, cardboard and newsprint from approximately 276 households at the curb. The town of Whitesville also has curbside collection. The commission's recycling department collects materials from 17 schools, 50 businesses, the county's senior citizen nutrition sites, 8 community centers, 15 post offices and all public buildings. The commission sponsors a newspaper recycling contest for the school system. Each year over 600 students participate. The contest last several months with each class collecting newspaper. The class with the highest tonnage wins various awards and prizes including being treated to a pizza party and a trip to the bowling alley by the commission.

Cabell County currently operates drop-off and curbside programs for composted yard waste. The City of Huntington and Cabell County SWA operate a compost facility at the former Huntington landfill site. They are willing to help business and industry establish

recycling programs if requested. The City of Huntington has curbside recycling available from Allied Waste by subscription only. The authority is currently working with Goodwill Industries to develop ways to expand recycling in the county. The county has several private recyclers including Empire Metal, Tri-state Metal Salvage, Taylor Iron and Metal, Rt. 2 Recycling and Goodwill Industries, which has 4 locations in Cabell County.

Calhoun County has one SWA operated materials processing and drop-off site located at Cabot Station in Grantsville, WV. The materials recycled include newsprint, magazines, office paper, shredded paper, cardboard, books, steel cans, aluminum cans, foil, plastic bottles #1 & #2, household batteries, aluminum cans, non-ferrous metals and auto batteries. The SWA provides paper bins for area businesses and post offices. The Town of Grantsville recycles cardboard from town businesses which is then processed and marketed by the authority. The local bank and the board of education drop off shredded paper for processing and marketing services. The authority makes program flyers available to school faculty. The local extension agent works with the authority to promote recycling. Regular newspaper articles are written by the SWA Chair on reuse and recycling topics.

Kanawha County has fifteen drop-off locations and curbside recycling programs in Charleston, Dunbar, South Charleston, St. Albans, Marmet, Cedar Grove, Montgomery, Belle and Glasgow. The authority assists REAP and Kanawha County Planning and Development in cleaning up tire and open dumps using labor from the authority owned Slack Street Recycling Center. The authority has participated in the Kanawha County Fair and America Recycles events by sponsoring booths and handing out promotional items. In July of 2005, TV Commercials were run on FOX 11 and WCHS TV to encourage recycling in Kanawha County. The Greater Kanawha Valley Foundation has awarded funding to continue the advertising program to the authority. The program is to be expanded to the Sudden Link Communications. A website is currently under development. The authority recycling center at Slack Street is the largest publicly owned recycling center in terms of tonnage of recyclable materials processed in the state and employs 21 people.

Lincoln County SWA has a drop-off recycling program. Bins are located in Hamlin, West Hamlin, Yawkey and Harts. Aluminum and plastics are collected for recycling. The materials are collected and marketed by Allied Waste. All funding received from the sale of materials is retained by Allied Waste. Yardwaste is also collected and taken to Good Farm in Hamlin, WV for composting. The Lincoln County SWA has joined with the county commission in promoting litter prevention and recycling. The director of the SWA visits each elementary school on a monthly basis to speak to children and teachers. The authority sponsors an essay contest, recycling projects and school beautification contest for county elementary schools. The director also speaks to civic groups, 4-H Clubs and Girl Scout Troops. The authority is currently planning to implement a paper recycling program utilizing non-violent criminals for labor in this important community service program.

Logan County has five private drop-off locations including Kelly Smith Recycling in Crown, WV; H & P Recycling in Mud Fork, WV; Vance's Recycling in Davin, WV and Waste Management in Pecks Mill, WV. They process aluminum, brass, copper, white goods, and various metals. The Logan SWA does not own or sponsor a recycling program. The authority's current focus is litter control. This is in response to Logan County's growing tourist industry and public demand. Materials collected during cleanup programs are sent to

an appropriate recycling center.

Mason County SWA has one drop-off location and materials processing center at the Mason County Recycling Center, and has collection bins in Point Pleasant, Mason and Hartford. The Mason County SWA collects, cardboard, magazines, newspaper, office paper, milk jugs, bi-metal cans, steel, white goods, newspaper, aluminum cans and plastic. The recyclables are marketed and processed by WV Cashin' Recyclables. White goods are taken to L & L Scrap Metals in Gallipolis, Ohio. The SWA works with local business by collecting cardboard. Cardboard pickup stations are located at 40 locations within New Haven, Hartford, Mason, Lakin, Point Pleasant and South on Rt. 2. The authorities public relations program consist of timely and periodic articles, pictures and ads in the local paper, an educational exhibit at the Mason County Fair, the distribution of flyers to county residents and poster contest with Mason 4-H Clubs. The authority visits schools and business to promote and encourage recycling.

Putnam County SWA has four curbside and one drop-off program, located in Winfield, Hurricane, Teays Valley and Poca. They also have a countywide white goods pick up. The materials processed include newspaper, aluminum and bi-metal cans. Cummings Collection Service, a private hauler, collects all materials. WV Cashin' Recyclables is a private drop-off recycling center, materials processor and materials broker for the county. The authority provides recycling containers for the City of Hurricane, E & L, Inc., Cummings Collection, WV Cashin Recyclables, the US Postal Service and various schools throughout the county. The SWA works with schools and civic clubs by providing informative programs and literature. They sponsor an annual America Recycles contest for Putnam students and other groups such as 4-H Clubs and scouts. In the summer of 2006 the authority along with the SWMB and National Center for Electronics Recycling sponsored an e-cycling event to collect obsolete electronics for recycling.

The Roane County SWA provides a drop-off location at the SWA recycling center in Spencer. Educational information programs are provided for clubs and schools. The SWA provides industry with information for possible recycling markets. The Roane County Courthouse has developed a paper recycling program. The paper is taken to the SWA recycling center each month. The authority has an educational program at Roane County High School, Spencer Middle School and Spencer Elementary School. They also conduct composting classes and/or project demos in the spring. Plans for 2006 include a white goods program, electronics and hard bound books collection.

Wayne County SWA sponsors five drop-off locations as well as a curbside program for 486 households in the Town of Wayne. Recycling presentations that include educational materials are provided to interested parties and schools. Articles are published in the local newspaper with brochures and flyers distributed to businesses, schools, households and several public facilities. The SWA is working with local businesses and several schools to implement programs in classrooms and offices. Future plans include public awareness efforts and expanding the drop-off locations to areas of the county that may be under served. OK Recycling is a private recycler in the county that accepts aluminum and scrap metal. The Wayne recycling center was the recent recipient of a vertical baler, can crusher and several other pieces of recycling equipment donated free of charge by the Raleigh SWA through a web-based recycling equipment exchange program established by the SWMB.

WASTESHED H

Solid Waste Authority	SWMB Grants FY 1991 - 2007	Method of Collection	Material Collected for Recycling	Material Market	2005 Tonnage	Revenue from Sales
Boone	$128,695.00		Cardboard	Kanawha SWA	272.3	Unknown
			Aluminum	Kanawha SWA	0.8	Unknown
			Office paper	Kanawha SWA	28.8	Unknown
			Steel cans	Benders Recycling	6.8	Unknown
			Newspaper	Kanawha SWA	84.5	Unknown
			Books/magazines	Kanawha SWA	16.2	Unknown
			Total Recycled		**409.4**	
Cabell	$120,000.00	Curbside	Yardwaste	Public	**4,000.0**	**$0.00**
Calhoun	$142,087.65	Drop-off Sites (1)	Aluminum cans	Ashley's	14.3	$13,499.40
			Bi-metal cans	Ashley's	2.3	$349.32
			Cardboard	Kanawha SWA	6.1	$123.06
			Metals - various	Ashley's	10.0	$8,608.13
			Plastics	Kanawha SWA	2.6	$401.82
			Steel	Ashley's	20.2	$0.00
			Total Recycled		**55.5**	**$22,981.73**
Kanawha	$148,000.00	Curbside Programs (8)	Aluminum	WV Cashin	34.9	$43,999.31
			Bi-metal cans	Tube City	59.7	$6,951.70
			Cardboard	FR/SC/RPS[1]	2,864.2	$235,945.93
		Drop-off Sites (7)	Newspaper	BW/FR/SC[1]	2,393.3	$211,316.55
			Office paper	FR/SC/RPS[1]	1,294.9	$121,080.59
			Plastics	Ensley, Mohawk	189.6	$79,214.59
			Total Recycled		**6,836.6**	**$698,508.67**
Lincoln	$113,550.00	Drop-off Sites (4)	Aluminum/plastic	Allied Waste	18.0	$0.00
			Yardwaste	Allied Waste	128.0	$0.00
			Total Recycled		**146.0**	**$0.00**
Logan[2]	$112,563.00	Drop-off Sites (2)	Aluminum cans	Vance Rec.	Unknown	Unknown
			Bi-metal cans	Vance Rec.	Unknown	Unknown
			White goods	Waste Mgt.	Unknown	Unknown
Mason	$133,736.78	Drop-off Sites (3)	Aluminum cans	WV Cashin'	0.8	$0.00
			Bi-metal cans	WV Cashin'	2.0	$0.00
			Cardboard	WV Cashin'	182.5	$8,607.74
			Magazines	WV Cashin'	1.5	$0.00
			Newspaper	WV Cashin'	16.9	$774.78
			Scrap steel	L & L Scrap	10.0	$0.00
			White goods	L & L Scrap	10.1	$607.2
			Total Recycled		**223.8**	**$9,989.72**

WASTESHED H (Continued)

Putnam[3]	$83,917	Curbside Programs (4)	Cardboard	WV Cashin'	50.0	$0.00
			Magazines	WV Cashin'	40.0	$0.00
			Newspaper	WV Cashin'	220.0	$0.00
		Drop-off Sites (1)	Office paper	WV Cashin'	40.0	$0.00
			White goods	WV Cashin'	600.0	$0.00
			Total Recycled		**950.0**	**$0.00**
Roane	$100,065	Drop-off Sites (2)	Aluminum	Russell Moore	0.40	Unknown
			Cardboard	Kanawha SWA	27.0	Unknown
			Glass	Kanawha SWA	16.1	Unknown
			Newspaper	Kanawha SWA	98.2	Unknown
			Paper mixed	Kanawha SWA	8.9	Unknown
			Plastic	Kanawha SWA	2.5	Unknown
			Steel	Kanawha SWA	2.2	Unknown
			Total Recycled		**155.3**	
Wayne	$92,354	Drop-off Sites	Cardboard	Unknown	35.7	$1,221.80
			Ferrous metal	Unknown	2.9	$215.40
			Paper	Unknown	27.0	$702.20
			Tin	Unknown	71.2	$3,329.50
			Total Recycled		**136.8**	**$5,468.90**
Total Wasteshed H					**12,913.4**	**$736,949.02**

[1] BW – Bowater; FR – Fox Run; SC – Sunoco; RPS – Royal Paper Stock. [2] The Logan SWA does not own or sponsor a recycling center. [3]The Putnam SWA provides recycling containers for several entities in the county. WV Cashin' Recyclables process all material. [4]All tonnage figures are for SWA owned facilities unless specified otherwise. All revenues listed are recycling income for solid waste authority programs.

SUMMARY

The solid waste authorities and mandated municipalities have a considerable impact on the states wastestream. The following table gives a per wasteshed overview of their recycling activities. This table is in no way intended to be representative of statewide recycling activity. The table does not factor in the smaller municipalities that have recycling programs, non profit organizations that recycle, private sector recycling firms, industry and manufacturing recycling programs, recycling materials brokerages, ect..

The solid waste authorities successfully removed 30,366.61 tons of material from the wastestream and earned $1,587,349.72 in recycling income to assist in covering the cost of their programs. The mandated municipalities removed another 8,629.47 tons of waste for recycling. Overall, 38,996.47 tons of material was removed from the states wastestream.

Estimated landfilling cost for this volume of material based on an average landfill tipping fee of $39.84 per ton is $1,1,553,619.

WS	Activity by Wasteshed	Tonnage*	Recycling Revenue
A	Mandated Municipalities	835.60	
A	Solid Waste Authorities	2,363.78	$4,211.00
B	Mandated Municipalities	1,097.96	
B	Solid Waste Authorities	7,450.95	$341,706.40
C	Mandated Municipalities	638.55	
C	Solid Waste Authorities	1,013.60	$92,293.88
E	Mandated Municipalities	146.95	
E	Solid Waste Authorities	2,812.45	$27,476.00
F	Solid Waste Authorities	1,670.00	$185,371.00
G	Mandated Municipalities	439.00	
G	Solid Waste Authorities	2,142.43	$199,342.42
H	Mandated Municipalities	5,471.80	
H	Solid Waste Authorities	12,913.40	$736,949.02
Total Recycled		**38,996.47**	**$1,587,349.72**

* Tonnage figures represent total tonnage collected and/or processed by these organizations. To arrive at the total tonnage removed from the wastestream by these entities, it is necessary to factor-out tonnages reported by the cities of South Charleston and Charleston as their material is processed by the Kanawha County Solid Waste Authority.

Appendix C

DNR/DEP REAP Grants

2006 DEP-REAP RECYCLING GRANTS

APPLICANT	AMOUNT	PROJECT
Calhoun County Solid Waste Authority	$40,496	Assist with personnel costs and operational expenses in order to expand and continue the current county recycling program.
Greenbrier County Solid Waste Authority	$100,000	Purchase a baler, fluffer and conveyor system in order to streamline the current processing methods and make the program more efficient.
Kanawha County Solid Waste Authority	$100,000	Purchase a truck and one roll-off to aid in the transportation of recyclables to and from the county's four satellite sites.
Marion County Solid Waste Authority	$46,236	Assist with personnel costs, conference travel, and purchase recycling containers to allow for the expansion of recycling throughout the county with the use of satellite sites and continue operations in the schools.
Monongalia County Solid Waste Authority	$78,000	Purchase a skid loader, perforator, bins, forklift and scales to upgrade the existing county facility/infrastructure.
Morgan County Solid Waste Authority	$34,150	Assist with personnel costs, operational and advertising expenses in order to continue the county's current recycling program.
Roane County Solid Waste Authority	$27,369	Assist with personnel, operating and promotional expenses to allow for the continuation of the county recycling program.
Mason County Solid Waste Authority / Mason County Commission	$59,141	Assist with personnel costs, operational costs, purchase a truck and trailer to replace inefficient equipment used in the county recycling program.
City of Grafton	$11,200	Purchase a truck to assist in the transportation of recycling dumpsters.
City of Kingwood	$38,192	Purchase a truck, trailer and collection bins for the municipal recycling program.
City of Montgomery	$3,382	Assist with the purchase of recycling bags and advertising costs associated with the municipal recycling program.
Beckley Garbage	$49,840	Purchase cardboard collection containers in order to upgrade and expand the current recycling services.
Crosco Services, Inc. dba PC Renewal	$29,200	Purchase two trailers to haul electronics, platform scales, gaylords, pallets, electric forklift, portable shredder and assist with personnel costs associated with the new electronics recycling operation.
D & D Recycling	$17,046	Purchase a baler, set of scales, hoppers and a plasma cutter in order to expand the Boone County recycling opportunities.

2006 DEP-REAP RECYCLING GRANTS (continued)

APPLICANT	AMOUNT	PROJECT
E & L, Inc.	$32,413	Purchase roll-offs and collection carts in order to expand the current cardboard and office paper collection program for northern Putnam County.
Edwards Document Destruction & Recycling, LLC	$21,873	Purchase a skid loader to allow for a more efficient way to move recyclables.
Harbor LLC dba Dick's Recycling	$50,000	Purchase a skid loader to allow for the processing of bulky metal items.
Harold's Refuse Removal	$23,882	Purchase roll-off boxes and cardboard collection containers to be placed at various locations in Wood County to expand the recycling collection services.
KHM Enterprises, Inc.	$48,000	Assist with personnel costs, educational conference attendance, advertising expenses, purchase a baler and shredder to expand the current services offered in Cabell County.
New River Trading, LLC	$46,150	Purchase a forktruck, baler, set of scales, pallet jacks, shear and plasma cutter to allow for the upgrade of the current recycling program.
Nichols Graphics	$21,103	Purchase a forklift to allow for a more efficient way of transporting materials.
North Central West Virginia Recycling Cooperative	$29,850	Assist with personnel costs, educational conference attendance and operating expenses which allow the continued support offered to West Virginia recycling programs.
Oak Hill Garbage Company	$50,000	Purchase roll-off containers to allow for the expansion of cardboard collection for the customers in Fayette and Raleigh counties.
Pocahontas Recycling	$50,000	Assist with personnel costs, operational expenses and purchase a truck to assure the continuation of the countywide recycling program.
Tarbro Filter Recycling	$23,750	Assist with the cost of upgrading the current filter cleaning machine which will allow the acceptance of larger filters from in-state coal companies.
Wadestown Community Resources Center, Inc.	$44,643	Assist with personnel costs, operational and advertising expenses in order to continue the county's current recycling program.

2005 DNR RECYCLING GRANTS

APPLICANT	AMOUNT	PROJECT
Berkeley County SWA	$96,675	To assist with site improvements to the South Berkeley Recycling Center and the Grapevine Road Recycling Center and to purchase additional trailers and roll-off containers.
Brooke County SWA	$86,791	Purchase a truck with hook and hoist and 3 roll-offs to expand the recycling program into the Town and College of Bethany.
Monroe County SWA	$36,009	To establish a drop-off recycling program in Monroe County and purchase a baler.
Putnam County SWA	$13,245	Purchase two 25 yd roll-off boxes and assist with the continuation of the county's mobile home recycling program.
Taylor County SWA	$29,241	Provide funding for continued support of ongoing programs and projects for the authority.
Tyler County SWA	$13,532	Program continuation costs and to expand the curbside collection program.
Wetzel County SWA	$13,532	Program continuation costs and to expand the curbside collection program.
Wirt County SWA	$35,000	To construct a storage building, purchase a pallet jack, 2 dump carts and pay for operational expenses incurred by the recycling program.
Boone County Commission	$79,467	Purchase forklift, 2 trailers, and recycling truck and to pay operating and promotional expenses incurred by the county's recycling program.
City of Charleston	$89,400	Purchase a recycling truck and educational brochures.
City of Hurricane	$19,690	Construct a shed roof building to cover the current recyclables drop-off area.
City of Philippi	$14,500	Purchase baler and 20 yard container to assist with the city's recycling services.
Corporation of Shepherdstown	$50,000	Purchase recycling trailer, pick-up truck, 12 trailer bins, recycling bins, and a concrete pad in order to implement a curbside collection program which will be operated by the Town of Shepherdstown.
Town of Terra Alta	$43,815	To fund wages for an additional laborer and paving recycling center lot.
All American Recycling	$25,863	Purchase a forklift to assist in the current recycling operation.
Cummings Collection	$29,232	Purchase 1008 recycling toters to be used in the expansion of a curbside recycling collection program.
Enterprise Sanitation	$50,000	Purchase grapple for skid steer and baler to expand the drop-off recycling program.

2005 DNR RECYCLING GRANTS (continued)

APPLICANT	AMOUNT	PROJECT
Envirco, Inc.	$50,000	Replace existing roll-off containers and purchase a new grapple truck to allow for a more convenient way of collecting appliances.
Fibertec of WV	$50,000	Purchase pelletizer and water chiller to assist with the recycling of glass fiber.
Goodwill Industries of KYOWVA	$38,345	Purchase vertical baler, portable shredder and provide for personnel to expand into document destruction.
Jack's Septic Service	$45,417	To construct an addition to the recycling facility and replace an existing skid steer loader.
James Evans dba Baisden Recycling	$21,843	Purchase hydraulic shear, goose neck trailer, plasma cutter and floor scales to allow for a cleaner processing of materials.
Northern Mountain State Metals	$50,000	Purchase an appliance baler to allow for the recycling of appliances and sheet tin.
Refuse Control Systems, Inc.	$14,963	Provide funding for program continuation costs and equipment maintenance.
Rt. 2 Recycling	$50,000	Purchase a dry freight van to use in transporting paper and other recyclable materials.
Russell Moore Recycling	$16,500	Purchase an alligator shear for processing metals.
Stonewall Resort	$32,805	Purchase a baler, one hundred containers, ten recycled plastic lumber centers and fifteen bins to implement a recycling collection program throughout the state resort.
Suburban Sanitation	$46,500	Purchase a trailer to collect and transport bulky goods collected at the transfer station.
SW Resources, Inc.	$33,000	Purchase fork-lift and pick-up truck for recycling purposes.
Weston Transfer	$50,000	To construct an addition to the recycling facility to increase the operation's storage area.

2004 DNR RECYCLING GRANTS

APPLICANT	AMOUNT	PROJECT
Barbour County Solid Waste Authority	$57,605	Assist with costs of building addition, new truck and baler.
Braxton County Solid Waste Authority	$54,400	To assist with personnel costs, educational travel, supplies, vehicle expenses, rent, utilities and advertising for program continuation needs.
Calhoun County Solid Waste Authority	$62,217	Assist with personnel costs, roof repairs, cement, overhead door opener, and shipping costs for recyclables to improve current recycling facility.
Clay County Solid Waste Authority	$15,722	Assist with personnel costs, mileage, savings bonds, photo paper, digital camera, shipping/handling and educational travel to expand current educational program in county.
Jackson County Solid Waste Authority	$100,000	To assist in costs with building and equipment insurance, gas, equipment maintenance contracts, supplies, utilities, contracted labor, blacktop, fencing, loading dock/storage area, septic system, restroom, wall reinforcement, skid steer and collection trailers.
Jefferson County Solid Waste Authority	$19,411	To construct a building, cement pad, electric service, baler, baler handling equipment and educational/promotional items.
Marion County Solid Waste Authority	$32,013	To assist with personnel costs, Ice's Run Auto Wrecking, rehandling charges, educational travel, Earth Day event, Christmas card event, e-cycling drive and advertising for special event.
Pleasants County Solid Waste Authority	$80,900	To assist with personnel costs, baler, paving, educational publications, building modifications and bins to continue recycling services.
Randolph County Solid Waste Authority	$65,500	Assist with personnel costs, purchase recycling trailer, skid steer and educational brochures to expand current Saturday drop-off program and public awareness program.
Wayne County Solid Waste Authority	$9,968	Assist with recycling coordinator and laborer salaries.
Kanawha County Solid Waste Authority / City of South Charleston / Town of Marmet / Town of Glasgow / Town of Cedar Grove	$200,000	To assist with the purchase of a baler to continue existing recycling program.
Raleigh County Solid Waste Authority / City of Beckley / Raleigh County Commission	$200,000	Assist with costs associated in the continued construction of the new regional recycling facility.

2004 DNR RECYCLING GRANTS (continued)

APPLICANT	AMOUNT	PROJECT
Tucker County Commission	$16,180	To purchase five roll-offs and expenses associated with Sunrise Sanitation (transportation) to introduce a county-wide recycling program.
City of Clarksburg	$100,000	To purchase a new tub grinder that will replace a 1995 model.
City of Kingwood	$29,472	Purchase a baler and skid steer to expand the current recycling program.
City of Lewisburg	$36,000	Purchase a recycling truck, print and video development, flyer/brochures, promotional items, recycling consultation, and follow-up consultation to increase public awareness program and replace current collection truck.
City of Parkersburg	$90,175	Purchase baler/conveyor/box dumper, assist with utilities, promotional items, advertising, office and safety supplies to expand municipal recycling program.
Beckley Waste Paper	$39,500	To assist with purchase of baler to be used in the recycling program.
Dave's Sanitation Service, Inc.	$40,000	To purchase a truck and lift system in order to continue the current operation.
Diamond Electric Mfg. Co.	$12,300	To purchase a baler, bailing wire, and recycling containers to expand existing recycling program.
Greenpak, Inc.	$50,000	To purchase a grinder to mulch damaged and unuseful pallets.
Mannington Refuse LLC	$41,701	Purchase front end loader, self-dumping trailer, and building to increase curbside and drop-off pickups.
Midway Scrap & Recycling, Inc.	$26,860	Purchase a baler and platform scales to improve bailing and handling capability.
North Central West Virginia Recycling Cooperative, Inc.	$30,425	To assist with personnel costs, supplies/postage, educational promotion, educational travel, tax preparation, rent, insurance and phone costs for program continuation needs.
Northwestern Landfill, Inc.	$41,884	Assist with costs to replace current tow motor and purchase a new pallet jack.
Smith's Recycling	$42,640	To purchase a Dens-A-Can with conveyor to process aluminum and metal cans; cement and gravel needed to comply with DEP rules for free drop-off of white goods.
Snowshoe Mountain, Inc.	$27,987	Purchase recycling compartment trailers to expand and increase efficiency of the current recycling program.
Tarbro Filter Recycling	$36,500	To purchase a 2004 cargo van and water evacuator to assist in expanding service area in high volume industrial areas.

2004 DNR RECYCLING GRANTS (continued)

APPLICANT	AMOUNT	PROJECT
United Disposal Service	$50,000	Purchase ten roll-offs and a Bobcat in order to expand program and increase volume.
Vance Recycling	$36,500	Purchase above ground hopper/conveyor, baler and assist with freight costs to add equipment to current operation.
WV Cashin' Recyclables	$21,942	Purchase two recycling containers, eight 1.5-yd. Hoppers, two 3-yd. Hoppers, and concrete to complete appliance yard and public drop-off center.

2003 DNR RECYCLING GRANTS

APPLICANT	AMOUNT	PROJECT
Berkeley County Solid Waste Authority	$39,805	Assist in the relocation of barriers, purchase gates and pre-cast walls, fund mulching activities, Freon extraction events, purchase bins and repairs.
Braxton County Solid Waste Authority	$54,885	Personnel costs, conference attendance, purchase of bins, trailers, promotional items, vehicle expenses and utilities.
Harrison County Solid Waste Authority	$100,000	Steel compactors, wood chipper, storage sheds, and to cover costs associated with advertising and promotion.
Kanawha County Solid Waste Authority	$50,180	Assist in personnel, maintenance cost and purchase of a glass crusher.
Lincoln County Solid Waste Authority	$32,000	Provide for personnel costs, vehicle expenses, purchase recycling bins and educational materials.
Mercer County Solid Waste Authority	$26,250	Assist with personnel costs, miscellaneous materials and maintenance, promotional items and utilities for facility.
Morgan County Solid Waste Authority	$20,000	Providing funding for personnel costs, vehicle maintenance, material transportation, purchase of containers and promotional items.
Pocahontas County Solid Waste Authority	$52,600	Recycling trailers storage, a baler, recycling bags, strapping wire and vehicle expenses.
Raleigh County Solid Waste Authority	$100,000	Assist in the purchase of a high volume baler to be used at the regional recycling facility.
Taylor County Solid Waste Authority	$36,014	Assistance with personnel costs, purchase of recycling bin, miscellaneous supplies, maintenance and advertising.
Upshur County Solid Waste Authority	$31,162	Assist in the costs associated with intern program, supplies, maintenance, purchase of container and promotional materials.
Webster County Solid Waste Authority	$52,470	To assist in site preparation, vehicle expenses, personnel costs and miscellaneous supplies.
Putnam County Solid Waste Authority / Putnam County Commission	$82,920	Purchase roll-off boxes, site improvements, build Nitro warehouse, recycling buildings and assist with mobile home recycling.
Boone County Commission	$56,100	To purchase a baler, construct a storage addition, personnel costs and safety equipment.
Jackson County Commission	$43,000	Purchase a horizontal baler.
Wyoming County Commission	$99,977	Salary, purchase a trailer, cage, shears, assist with a building addition, site improvements and advertising.
Highland Institute – Wesleyan College	$14,406	Coordinator's salary, purchase bins, office supplies, a hand truck, promotional materials and costs associated with holding an ecology workshop.

2003 DNR RECYCLING GRANTS (continued)

APPLICANT	AMOUNT	PROJECT
City of Belle	$2,500	Purchase of recycling bags.
City of Charles Town	$33,000	Purchase a dump truck.
City of Charleston	$80,000	Purchase a tub grinder.
City of Nitro	$2,500	Purchase recycling bags.
City of St. Marys	$50,000	Purchase recycling bags, strapping wire, a baler and assist with fuel costs.
City of Terra Alta	$50,000	Recycling building.
Enterprise Sanitation	$27,500	Purchase a skid loader.
Harrison Recycling Center	$46,530	Purchase a scale system and help with site improvements.
Jack's Septic	$25,000	Building addition.
James H. Evans, II	$39,500	Purchase a baler and skid loader.
Jerry's Salvage	$50,000	Purchase an appliance logger.
Mountaineer Habitat for Humanity	$14,240	Purchase a fork truck, pallet jack, gondola shelving, paint shaker and pallet scale.
Northern Mountain State Metals	$35,300	Purchase a forklift.
P & M Pallets	$30,000	Purchase a flatbed truck.
Pocahontas Recycling	$50,000	Purchase a skid loader, hydraulic shears, building and small tools.
RRHAMCO	$49,159	Purchase a skid loader.
Rt. 2 Recycling	$50,000	Purchase an industrial shredder.
Russell Moore	$17,500	Purchase a skid loader.
Sunrise Sanitation	$20,000	Purchase a skid loader.
Tygart Valley Sanitation	$38,000	Purchase a horizontal baler.

2002 DNR RECYCLING GRANTS

APPLICANT	AMOUNT	PROJECT
Barbour County Solid Waste Authority	$15,100	Operational expenses.
Braxton County Commission	$33,200	Operational and personnel expenses.
Brooke County Solid Waste Authority	$54,956	Funding to purchase conveyor, baler, paper shredder, miscellaneous equipment and advertising purposes.
Calhoun County Solid Waste Authority	$78,000	Assistance with personnel costs and purchase a fork lift and trailer.
Jackson County Solid Waste Authority	$95,900	Operational expenses and purchase of small equipment to be used in recycling operations.
Jefferson County Solid Waste Authority	$35,271	Purchase additional equipment for a tub grinder, site improvements, employee training and advertising expenses.
Kanawha County Commission	$55,000	Assistance in personnel expenses, maintenance and repairs to existing equipment.
Mason County Solid Waste Authority	$65,273	Purchase a baler and supporting equipment, a fork lift, pole building to house operations and additional site improvements of facility.
Pleasants County Solid Waste Authority	$51,500	Building renovations, site improvements and personnel expenses.
Randolph County Solid Waste Authority	$20,000	Assistance with personnel costs to continue operations.
Wetzel County Solid Waste Authority	$30,000	Assistance in personnel costs and equipment maintenance.
Marion County Commission	$40,057	Purchase equipment to assist Northern Mountain State Metals to improve the county's recycling operations.
Monongalia County Commission	$60,500	Purchase recycling containers, assist with site preparations, provide funding for internship program and advertising expenses.
Wyoming County Commission	$50,000	Assistance with operational and personnel expenses, site improvements, purchase of alligator shears and trailer for recycling operations.
City of Beckley	$81,000	Purchase a four compartment truck to source separate recyclables.
City of Buckhannon	$23,981	Purchase a loader, replace signage on recycling bins and assist with equipment maintenance.
City of Clarksburg	$85,000	Replace a packer truck used for composting operations.
City of Dunbar	$50,000	Purchase a compartment truck to handle increased amount of recyclables.
City of Martinsburg	$85,000	Repairs to their current building used to house recycling operations and recyclables.

2002 DNR RECYCLING GRANTS (continued)

APPLICANT	AMOUNT	PROJECT
City of South Charleston	$96,290	Purchase a horizontal baler.
Harrison County Schools	$14,620	Purchase recycling bins, educational materials and supplies to be used in a countywide school system recycling program.
Eco-First, Inc.	$20,000	Purchase an automatic handler, a drum dumper and crusher to expand the current program.
Goodwill Industries of KYOWVA	$50,000	Purchase equipment to expand the current paper shredding/baling services.
Midway Scrap & Recycling, Inc.	$23,876	Purchase a vertical baler, platform scales and alligator shears for recyclables.
North Central West Virginia Recycling Cooperative	$23,935	Purchase promotional items and assist in current recycling operations.
Northwestern Landfill, Inc.	$50,000	Construct a building to house recyclables on site.
PKC Environmental Systems, Inc.	$50,000	Partial funding provided for the purchase of a stationary tire chipper.
Pocahontas Recycling	$26,522	Purchase a truck to collect and transport recyclables.
Refuse Control Systems, Inc.	$41,260	Assistance in repairs to skid loader, purchase a truck and miscellaneous supplies needed for existing operation.
Seneca Way	$20,500	Purchase a bagger and sealer system to market compost.
Tarbro Filter Recycling	$25,000	Purchase a mobile recycling unit to expand filter-recycling program.
Taylor County Workshop	$44,170	Purchase a bagger and sealer system to market compost.
WV Cashin Recyclables	$22,000	Purchase a forklift for recycling operations.
Wadestown Community Resource Center	$41,170	Purchase a forklift, baler, yard ramp, platform scales and a three-phase converter.
Weston Transfer, Inc.	$25,000	Building addition to current facility.

2001 DNR RECYCLING GRANTS

APPLICANT	AMOUNT	PROJECT
Berkeley County Solid Waste Authority	$31,500	Purchase six roll-off containers to assist in current recycling operations.
Braxton County Solid Waste Authority	$35,000	Assistance with the expenses of personnel, operational, advertising and the purchase of two recycling bins.
Brooke County Solid Waste Authority	$81,406	Purchase and erect a building to store and sort recyclables and purchase additional trailers, boxes and shredders.
Kanawha County Solid Waste Authority	$45,000	Various operational costs and assist with equipment maintenance.
Lincoln County Solid Waste Authority	$32,350	Assistance in salary costs.
Marion County Solid Waste Authority	$30,837	Purchase of containers, assist with personnel and equipment expenses.
Mercer County Solid Waste Authority	$38,275	Personnel, advertising, supplies and a storage shed for recycling services.
Monongalia County Solid Waste Authority	$71,800	Purchase of containers, roll-off boxes, personnel and the white goods disposal program.
Morgan County Solid Waste Authority	$37,071	Personnel, maintenance and the purchase of recycling containers.
Pocahontas County Solid Waste Authority	$20,000	Purchase of equipment and assist in a new public educational program.
Ritchie County Solid Waste Authority	$10,000	Assistance in personnel wages.
Taylor County Solid Waste Authority	$44,829	Purchase recycling containers, supplies and assist with personnel cost.
Tucker County Solid Waste Authority	$31,670	Purchase a concrete pad for the inside of a new recycling facility.
Upshur County Solid Waste Authority	$24,296	Assistance with personnel wages and supplies.
Wirt County Solid Waste Authority	$17,500	Assistance in the purchase of a heavy duty vertical baler to be used in current recycling operations.
Jackson County Commission	$20,000	Purchase a trailer and recycling collection containers to aid in the county's current recycling operation.
City of Charles Town	$17,195	Purchase of a tractor to be used in recycling operations.
City of Charleston	$85,000	Purchase one yardwaste collection vehicle.
City of Grafton	$8,999	Purchase of a chipper to expand a current recycling operation.

2001 DNR RECYCLING GRANTS (continued)

APPLICANT	AMOUNT	PROJECT
City of St. Marys	$25,000	Personnel and recycling supplies.
Corporation of Shepherdstown	$23,065	Personnel and recycling supplies.
Town of Jane Lew	$4,000	Purchase of a concrete pad and fencing to improve current drop-off site for public use.
Town of Star City	$41,614	Purchase a packer to replace the one on current cardboard collection vehicle to be used in current recycling operations.
Town of Terra Alta	$5,500	Maintenance on recycling truck and fork lift used in recycling operations.
Hardy County Board of Education	$15,525	Purchase dumpsters and recycling containers to assist in the current recycling program.
Stonewall Jackson Lake State Park	$30,700	Purchase a fish composting unit and recycling containers to be placed throughout the park to promote recycling.
Ashley's Fur, Root & Recycling	$50,000	Purchase of a baler to assist in recycling operations.
Beckley Waste Paper	$30,000	Purchase of a building to house a larger volume of recyclables.
FMW Composite Systems, Inc.	$50,000	Assistance in the production of a highway barrier system made out of scrap tires.
Fibertec of West Virginia	$35,500	Purchase of a chopper to increase the amount of fiberglass material recycled.
Harold's Refuse Removal	$36,571	Purchase a tractor, hook lift system and roll-off containers to expand current recycling operations.
JR's Recycling Company	$31,510	Purchase of a fork truck and alligator shears to assist in current recycling operations.
Jerry's Salvage	$49,468	Purchase of a set of truck scales, fork truck and additional equipment.
Mon Recycle, Inc.	$34,025	Purchase of a skid loader and containers.
North Marion Tire Recycling, Inc.	$35,180	Purchase of a classifying system to shred tire chips into a more readily marketable product.
Preston County Sheltered Workshop	$50,000	Purchase and erect a pole building to house recycling operations.
RRHAMCO, Inc.	$50,000	Purchase and erect a building to house recyclables.
Shepherd Environmental Organization	$5,418	Promotion of environmental activities.
United Disposal Service	$50,000	Purchase of a truck and hook lift hoist to be used in current recycling operations.

2000 DNR RECYCLING GRANTS

APPLICANT	AMOUNT	PROJECT
Barbour County SWA	$27,324	Upgrade current equipment at the county recycling center.
Cabell County SWA	$29,774	Purchase equipment to expand current compost operation.
Calhoun County SWA	$49,649	Assist in the purchase of equipment and funding of personnel to expand current recycling program.
Greenbrier County SWA	$74,180	Purchase equipment to be used in the baling and recycling of textiles.
Jackson County SWA	$55,827	Aid in the cost of operating recycling facility.
Jefferson County SWA	$63,271	Upgrade current programs through expansion of facility.
Lewis-Gilmer SWA	$24,000	Assist in the costs of tire collection and educational materials.
Morgan County SWA	$9,600	Fund a recycling coordinator and assist with promotional items and office.
Pleasants County SWA	$74,436	Purchase equipment to expand sorting and processing capacity.
Randolph County SWA	$63,271	Facilitate the construction of a permanent processing center.
Roane County SWA	$24,000	Purchase equipment for expansion of current recycling program.
Wetzel County SWA	$52,451	Purchase a box truck and assist with the funding or personnel to continue current recycling efforts.
Braxton County Commission	$31,293	Assist with the costs and funding of continuing recycling efforts.
Kanawha County Commission	$84,361	Fund repairs, transportation and personnel for current operation.
Monongalia County Commission	$31,759	Assist in the purchase of equipment for recycling projects.
City of Cedar Grove	$31,759	Enable introduction of textiles into the current program and assist with educational materials.
City of Clarksburg	$84,361	Purchase screening equipment and expand composting facility's surface.
City of Marmet	$24,000	Expand curbside program to include textiles.
City of Montgomery	$34,935	Aid in funding of personnel and purchase of equipment for current curbside program.
City of Roncerverte	$4,500	Assist with promoting recycling.
City of Sutton	$35,110	Purchase a truck to expand current curbside program.

2000 DNR RECYCLING GRANTS (continued)

APPLICANT	AMOUNT	PROJECT
City of Westover	$33,496	Purchase a truck and educational material for a citywide recycling project.
Association of WV Solid Waste Authorities	$1,000	Assist in the funding of educational conferences on recycling.
Eco-First, Inc.	$39,699	Purchase a truck and trailer to be used in hauling bulbs for a statewide recycling project.
Harrison Recycling Center	$27,739	Purchase equipment to enhance current aluminum recycling project.
LeMasters Contracting	$36,814	Purchase equipment to increase the current quantities of recyclables.
NCWVRC	$2,400	Assist with funding of personnel in current recycling program.
Northern Mountain State Metals, Inc.	$36,999	Purchase a baler to be used in the processing of recyclable materials.
Pocahontas Recycling	$20,000	Purchase equipment and start a new public education program.
Refuse Control Systems, Inc.	$30,699	Assist with the cost of erecting a building to store recyclable material.
Seneca Way, Inc.	$27,139	Purchase equipment to be used in a new compost facility in Preston County.
Smith's Recycling	$37,189	Assist in the purchase of equipment for legal document shredding.
Stewart Sanitation	$16,900	Purchase equipment to allow the expansion of current recycling programs into county schools.
Sunrise Sanitation	$37,218	Purchase a truck to be used for curbside collection of recyclables.
Taylor County Workshop	$39,699	Assist in the cost of erecting a building to store wood waste to be recycled.
Vance Recycling	$24,000	Purchase equipment to expand current recycling capacity.
Wells Home Furnishings	$8,628	Purchase a baler to be used for cardboard and plastics.
West Virginia Cashin Recyclables, Inc.	$24,000	Purchase a skid loader to be used for recycling.
Weston Transfer	$35,726	Purchase a skid loader and baler to be used in current operation.
Willow Creek Glass, Inc.	$39,699	Aid in the expansion and education of other glass recycling programs.
Wilmink, Inc.	$23,876	Develop compost manual for large scale composting in West Virginia.
Wood County Waste	$36,619	Purchase a truck to increase curbside collection of recyclables.
Wood County Waste	$36,619	Purchase a truck to increase curbside collection of recyclables.

1999 DNR RECYCLING GRANTS

APPLICANT	AMOUNT	PROJECT
Berkeley County SWA	$38,433	Purchase two self-dumping compacting units.
Braxton County SWA	$35,136	Purchase scales and assist in maintenance cost of recycling program.
Kanawha County SWA	$63,647	Purchase equipment to help with the amount of goods handled.
Lincoln County SWA	$54,000	Expand and improve dropoff and collection programs.
Mercer County SWA	$40,950	Purchase equipment to expand recycling programs.
Monongalia County SWA	$50,283	Assist with supplies for recycling projects in county schools, residence halls and on WVU game day clean up.
Monroe County SWA	$11,700	Assist with expenses for supervisor and public education.
Putnam County SWA	$37,500	Purchase equipment to upgrade current recycling programs.
Region Eight SWA	$48,330	Tire removal, education and transportation.
Taylor County SWA	$22,684	Purchase equipment to upgrade current recycling programs.
Tyler County SWA	$75,000	Assist in purchase of a powerscreen trommell.
Tucker County SWA	$26,640	Purchase a forklift and help with other operating expenses.
Upshur County SWA/ City of Buckhannon	$75,000	Addition to recycling building.
Hampshire County Commission	$75,000	Purchase equipment for use in recycling center.
Putnam County Commission	$37,500	Purchase equipment to upgrade recycling efforts.
Wyoming County Commission	$50,000	Replace truck and purchase other equipment needed to further recycling projects.
City of Charleston	$60,000	Implement more recycling programs and backyard composting projects for the city.
City of Man	$45,000	Purchase equipment to upgrade recycling program.
City of Nutter Fort	$45,000	Purchase a truck to be used in current recycling program.
Hampshire County Development Authority	$3,500	Establish a three-phase power upgrade to recycling site.

1999 DNR RECYCLING GRANTS (continued)

APPLICANT	AMOUNT	PROJECT
WV Association of Waste Haulers and Recyclers	$14,000	Hold state conferences on implementing rural recycling programs.
Southern WV Community and Technical College	$35,000	Implement a community recycling program and educate students on the importance of recycling.
All American Recycling	$14,500	Purchase scales and a baler to increase amount of materials accepted.
Archive Services, Inc.	$16,000	Purchase containers to expand an office waste recycling program.
Bakers Acres	$16,000	Purchase tire splitter to aid in the process of recycling used tires.
Borderline LLC	$16,000	Purchase equipment to use in the process of changing recyclable materials into fertilizer.
D & W Construction Co.	$12,000	Purchase a tire grinder to help with the shredding of used tires for the production of rubber mats.
Fruth Pharmacy	$16,000	Purchase balers to use in the recycling of cardboard.
Harold's Refuse Removal	$16,000	Purchase a truck to be used in curbside recycling program.
Jack's Septic Service	$4,000	Purchase a magnetic separator to assist in recycling efforts.
Mannington Refuse LLC	$15,000	Purchase a recycling trailer to provide more frequent drop-off service.
Quality Sanitation Service	$16,000	Purchase a truck for use in curbside recycling program.
Recycling USA, Inc.	$16,000	Purchase a shredder to expand recycling abilities.
RRHAMCO, Inc.	$16,000	Purchase a forklift truck to allow for more steel recycling.
Salvin Lumber Company	$16,000	Purchase a conveyor and grinder to assist in loading and bagging mulch from lumber waste.
General Refuse Service, Inc.*	$13,333	Purchase equipment to aid in expansion of service.
L & S Sanitation Service – Lincoln County	$13,333	Purchase equipment to aid in expansion of service.
General Refuse Service of Mason County*	$13,000	Purchase equipment to aid in expansion of service.

1998 DNR RECYCLING GRANTS

APPLICANT	AMOUNT	PROJECT
Brooke County SWA	$25,000	Expand existing program to include a book recycling project.
Calhoun County SWA	$100,000	Purchase pickup truck and can densifier and replace roof.
Fayette County SWA	$15,000	Perform a feasibility study.
Greenbrier County SWA	$43,867	Purchase truck and sludge spreader.
Jackson County SWA	$50,000	Purchase recycling trailers, increase collections, refurbish a packer truck and initiate a comprehensive education project.
Jefferson County SWA	$53, 425	Purchase dropoff collection containers and upgrade composting facilities.
Logan County SWA	$62,400	Initiate a white goods project to include bulky items such as household furniture.
Morgan County SWA	$66,500	Start recycling program in Bath to include aluminum, metal and glass and start a paper/cardboard recycling program for businesses.
Pocahontas County SWA	$23,700	Continue collecting tires and enhance recycling program with the purchase of a glass crusher and drum dumper.
Preston County SWA	$61,788	Purchase equipment for Joy Recycling in Kingwood.
Randolph County SWA	$79,000	Manage yard and leaf waste from public areas.
Ritchie County SWA	$64,050	Purchase a fork truck and gravel the lot to the facility.
Roane County SWA	$38,000	Continue operations of recycling center and expand program to include county residents outside the Spencer area.
Summers County SWA	$7,037	Purchase composting units.
Wirt County SWA	$75,000	Purchase a building for recycling efforts.
Monongalia County Commission	$48,400	Continue Saturday dropoff program, promote backyard composting and develop a mulching program.
Taylor County Commission	$11,300	Initiate a paper collection drive and develop a composting program.
City of Charles Town	$40,402	Expand program to include yardwaste and increase collections twice a week.

1998 DNR RECYCLING GRANTS (continued)

APPLICANT	AMOUNT	PROJECT
City of Clarksburg	$97,000	Purchase stone and blacktop for composting facility.
City of Glenville	$25,000	Maintain and expand the management of the dropoff bins provided by NCWVRC, increase promotion and develop a composting program.
City of Madison	$40,600	Initiate a curbside and dropoff program.
City of Morgantown	$42,500	Initiate composting and yardwaste project.
City of Petersburg	$19,250	Promote recycling and purchase recycling bins.
City of Philippi	$50,000	Start a composting program.
City of St. Albans	$83,200	Establish a composting program.
City of Star City	$20,000	Purchase an engine for recycling truck.
City of Sutton	$29,950	Expand program to include dropoff bins and expand composting by purchasing a wood chipper.
City of Terra Alta	$27,144	Implement education program to the school and Preston County.
Association of West Virginia SWAs	$18,900	Sponsor a program entitled “Yardwaste Composting Certification Course.”
B & B Resources Co.	$20,000	Start an on-site antifreeze recycling program.
Babcok Lumber Co.	$20,000	Construct a sawdust loading facility to gain access to the market for clean, high quality wet sawdust.
K.I.P. Supply	$3,700	Expand commercial textile recycling company by purchasing scales, an industrial washer and dryer and trailer.
MON Recycle	$12,500	Purchase containers and a de-binder to expand program to include hardcover books.
P & M Pallet	$2,500	Purchase a floor jack.

1997 DNR RECYCLING GRANTS

APPLICANT	AMOUNT	PROJECT
Barbour County SWA	$61,400	Purchase equipment to improve efficiency in collecting and processing recyclables.
Berkeley County SWA	$23,000	Purchase equipment to expand program and initiate a feasibility study.
Clay County SWA	$37,075	Continue the operation of their current recycling project and sponsor Appliance Days.
Kanawha County SWA	$80,000	Continue the operation of current recycling project and purchase a van.
Kanawha County SWA	$20,000	Feasibility study to determine where the best location is for a recycling center.
Lincoln County SWA	$63,353	Continue recycling program and expand to include composting and tire disposal.
Mingo County SWA	$64,000	Expand program from part-time to full-time recycling and increase the number of collection sites.
Monongalia County SWA	$78,100	Working with Star City and Westover to expand recycling efforts. Equipment for processing recyclables and waste oil collection.
Monroe County SWA	$33,424	Purchase equipment to expand current program and hire a recycling coordinator.
Putnam County SWA	$40,000	Assist the City of Buffalo with cleanup project and initiate a tire program.
Taylor County SWA	$53,300	Expand the commercial cardboard recycling program.
Upshur County/City of Buckhannon	$150,000	Expand recycling program to include rural customers in Upshur County.
Lewis County Commission	$85,250	Purchase equipment to enhance the collection and processing of recyclables in the Lewis and Gilmer County areas. This is a cooperative effort between the counties and a private hauler.
City of Cedar Grove	$3,000	Initiate a source-separated curbside recycling program.
City of Dunbar	$50,000	Purchase a recycling truck for program.
City of Fayetteville	$32,899	Purchase a chipper and hire one full-time employee.
City of Lewisburg	$24,348	Purchase a chipper, hire a recycling coordinator and laborers.
City of Montgomery	$8,000	Initiate a source separated curbside recycling program.
City of Princeton	$28,086	Overhaul an old brush chipper and purchase chainsaws.

1997 DNR RECYCLING GRANTS (continued)

APPLICANT	AMOUNT	PROJECT
Corp. of Shepherdstown	$29,075	Purchase a dump truck and a chain saw for yardwaste program.
City of Smithers	$5,923	Implement a voluntary curbside recycling program.
Region VI Planning and Development Council	$50,000	Pay labor and transportation costs for a project using ash material as a paving material for the “Rails to Trails” pathway in Marion County.
Taylor County Workshop	$16,030	Purchase small equipment, recycling bags and salary of a marketer.
WV DNR Adopt-A-Highway	$50,000	Advertising and promotional efforts for recycling with the Adopt-A-Highway Program.
Dick’s Recycling	$20,000	Purchase a cable stripper, hydraulic shears and portable loading dock.
Katuah Recyclers, Inc.	$20,000	Purchase a stacker, truck and a gooseneck trailer.
Preston Tire and Recycling	$20,000	Purchase two buffers.
Talbott Lumber Co.	$20,000	Purchase a wood grinder.
Wadestown Community Resources	$46,140	Purchase a recycling truck, outdoor storage unit, other equipment and pay for transportation costs.
Ware Sawmill, Inc.	$19,500	Purchase a wood grinder.

1996 DNR RECYCLING GRANTS

APPLICANT	AMOUNT	PROJECT
Calhoun County SWA	$50,000	Assist in establishing Calhoun Reuse and Materials Exchange Center.
Fayette County SWA	$30,000	Promote curbside recycling.
Greenbrier County SWA	$75,000	Assist with construction of a recycling center at landfill.
Jackson County SWA	$90,000	Expand recycling program and initiate high grade office paper recovery.
Marion County SWA	$10,000	Expand recycling program.
Mason County SWA	$35,000	Expand recycling program to include cardboard.
Mercer County SWA	$90,000	Establish three recycling centers.
Pleasants County SWA	$30,000	Purchase equipment to efficiently operate intermediate processing center.
Pocahontas County SWA	$30,000	Expand recycling program to include plastics, steel and bi-metal cans.
Preston County SWA	$50,410	Purchase equipment to expand curbside recycling program.
Region Eight SWA	$75,000	Implement regional recycling program.
Ritchie County SWA	$20,000	Aid in keeping recycling center open.
Roane County SWA	$24,000	Expansion of recycling program to include cardboard, steel, bi-metal cans, #1 and #2 plastics.
Webster County SWA	$49,160	Purchase building to be placed at landfill for storing recyclables.
Wood County SWA	$100,000	Equipment needed to expand Wood County program to accommodate collection from all counties in Wasteshed C.
Brooke County SWA / Brooke Opportunity Council	$90,000	Expand recycling program with a public/private-processing center.
Cabell County SWA/ Wayne County SWA/ City of Huntington	$265,000	Expand recycling to include compost operation.
Boone County Commission	$69,800	Implement county-wide recycling program.
Monongalia County Commission	$18,500	Continue school grant program established by SWA and the Saturday drop-off program.

1996 DNR RECYCLING GRANTS (continued)

APPLICANT	AMOUNT	PROJECT
PAL/Randolph County Commission	$20,000	Equipment necessary to expand major appliances, automobile and can recycling project.
Taylor County Commission	$47,200	Equipment necessary to increase collection of recyclables.
Wyoming County Commission	$70,000	Expand recycling program to include corrugated paper, plastics and bi-metal cans.
City of Charles Town	$18,000	Expand curbside recycling program to include yardwaste.
City of Clarksburg	$100,000	Purchase equipment for use in the City's existing yardwaste composting program.
City of Grafton	$29,500	Expand curbside recycling program to include office paper, cardboard and additional plastics.
City of Marmet	$30,000	Implement curbside recycling.
City of New Martinsville	$28,000	Expand curbside recycling program to include cardboard and newsprint.
City of Petersburg	$25,000	Implement curbside recycling.
City of Philippi	$50,000	Implement voluntary recycling program.
City of Ravenswood	$50,000	Construct a recycling facility for Jackson County.
City of Star City	$33,000	Purchase equipment necessary to increase recycling collections.
City of Sutton	$26,152	Expand program to include metal cans and yardwaste.
City of Terra Alta	$39,282	Implement recycling program.
City of War	$22,000	Implement curbside recycling.
City of Westover	$23,400	Expand program by recycling wood waste.
City of Wheeling	$40,000	Purchase equipment necessary to expand recycling program.
Divide Elementary School	$5,935	Implement a school aluminum recycling project.
Kanawha County Board of Education	$43,600	Implement recycling programs at ten Kanawha County schools.
B.O.L.T. – Hancock County	$12,020	Establish three plastic recycling drop-off centers to serve the City of Weirton.
Elkins Iron and Metal Co., Inc.	$20,000	Assist with purchase of equipment to increase capacity to handle additional recyclables.

1996 DNR RECYCLING GRANTS (continued)

APPLICANT	AMOUNT	PROJECT
Jank's Recycling	$20,000	Purchase equipment necessary to increase efficiency and quality of non-ferrous metal for market.
J.R.'s Recycling	$12,500	Equipment to process non-ferrous recyclables.
Keystone Recycling Center	$13,000	Implement a curbside recycling program in the City of Keystone.
Lee's Oil Filter Recycling	$20,000	Purchase equipment to recycle used oil filters.
LeMasters Contracting	$20,000	Equipment necessary to recycle used tires.
Pallet Recyclers	$3,500	Implement recycling program for used wooden pallets.
Park Haven Motor Lodge	$18,564	Implement recycling program which will be offered to all businesses in the area.
Peerless Block & Brick, Co.	$16,000	Purchase equipment necessary to produce a concrete masonry unit made from recycled polystyrene.
Pioneer Press	$10,600	Establish a facility for the preparation of waste paper for recycling.
Pocahontas County Recycling	$19,943	Purchase equipment necessary to assist Pocahontas SWA with collecting, processing, storing and transporting recyclables to a larger processor.
Smith's Recycling & Wrecker Service	$20,000	Purchase equipment necessary to recycle autos, white goods and other metals.
Snowshoe Mt. Resort	$5,160	Purchase equipment necessary to expand recycling program to include glass.
Sunrise Sanitation Services	$40,000	Implement drop-off recycling program.
Tarbro Filter Recycling	$10,000	Expand air filter recycling operation to include manufacturing industries.
WV Can Recycling	$10,000	Purchase equipment necessary to enhance the efficiency of preparation recyclables for market.
WV Petroleum Recyclers, Inc.	$20,000	Implement used oil filter recycling program throughout state.

1995 DNR RECYCLING GRANTS

APPLICANT	AMOUNT	PROJECT
Braxton County SWA	$4,196	Establish a sub-station for collection of recyclables in Burnsville.
Clay County SWA	$91,000	Pay a recycling coordinator and crew, purchase equipment, conduct public education, develop composting and recycling programs.
Doddridge County SWA	$25,000	Tire collection program during spring and fall.
Jefferson County SWA	$100,000	Expand wood and yardwaste program by purchasing trammel/auger screen equipment with conveyors.
Kanawha County SWA	$80,000	Purchase processing equipment.
Monongalia County SWA	$98,063	Expand and implement countywide recycling, purchase of equipment.
Monroe/Summers County SWA	$63,566	Expand their recycling operation with the purchase of equipment.
Morgan County SWA	$100,000	Implement a curbside recycling program.
Randolph County SWA	$52,500	Purchase forklift, lease of building.
Ritchie County SWA	$14,700	Construct a loading dock and floor to complete their storage building.
Taylor County SWA	$33,550	Purchase a baler, fork truck and the services to accommodate their increased recycling activity.
Upshur County SWA	$20,000	Secure the services of a recycling coordinator and purchase a can and glass crusher.
City of Beckley	$29,000	Purchase a vertical baler, platform scales and sorter separator.
City of Buckhannon	$33,748	Purchase horizontal baler to be used at the transfer station.
City of Charleston	$60,000	Purchase yardwaste bags, recycling bins and a chipper.
City of Martinsburg	$100,000	Purchase equipment, advertising, education materials and recycling bins.
City of Princeton	$27,347	Implement a voluntary curbside recycling program.
City of Weirton	$43,800	Install waste oil furnace systems.
City of Welch	$25,740	Purchase and lease equipment for recycling program.
Brooke County Board of Education	$18,000	Establish recycling programs in 14 schools.

1995 DNR RECYCLING GRANTS (continued)

APPLICANT	AMOUNT	PROJECT
North Central WV Recycling Cooperative	$100,950	Supplement marketing and public information of existing program.
WVU Extension Service	$20,000	Research use of newspaper for mulch in growing of fruits and vegetables.
American Recycling	$20,000	Purchase a can densifier.

1994 DNR RECYCLING GRANTS

APPLICANT	AMOUNT	PROJECT
Barbour County SWA	$50,000	Comprehensive recycling program: composting, coordination with haulers for transportation of recyclables within the county and to NCWVRC collection points.
Berkeley County SWA	$57,150	Recycling program: residential, commercial, bulk wastes. Grant money to be used to pay for a recycling coordinator, purchase bins, bags, oil collection tanks, signage and halogen leak detectors, battery collection sheds, antifreeze collection tanks and signage and educational/promotional programs.
Braxton County SWA	$58,300	BCSWA Mountain Recycling Processing Center Equipment (two glass crushers, floor jack, econoline van, sorting belt, can flattener, storage trailers, transport trailers and a paper machine), maintenance, facility improvements, promotion of City of Sutton recycling program and a new tire disposal program.
Brooke County SWA	$62,000	Source reduction program to target residential and commercial sources of yard waste, paper products and disposable household products. Grant money to pay for a recycling coordinator, purchase collection bags and bins, purchase drop-off boxes and transportation equipment, educational materials and professional services to assist in implementation of recycling projects.
Cabell County SWA	$79,000	Curbside collection to be expanded to the entire county. Grant to hire a recycling coordinator, purchase plastic containers and promote recycling.
Jackson County SWA	$83,700	Expansion of recycling program. Purchase five roll-off collection bins to be placed in rural communities of Sherman, Sandyville, Millwood, Cottageville and Kenna. Purchase mobile horizontal shredder/baler for newsprint and plastics.
Lincoln County SWA	$50,000	Contract with L & S Sanitation, Inc. to collect and process recyclables, including composting materials. Implement school and office paper recycling program.
Marshall County SWA	$65,000	Recycling program which will coordinate the actions of Marshall and Ohio counties and cities of Moundsville and Wheeling. Grant to pay collection personnel wages, fuel, maintenance of recycling vehicle, purchase processing equipment, collection bins and educational materials.

1994 DNR RECYCLING GRANTS (continued)

APPLICANT	AMOUNT	PROJECT
Mingo County SWA	$70,000	Continuation and expansion of recycling program. Purchase of baler, pilot project for households, additional containers for recycling vehicles and employee salaries.
Monongalia County SWA	$61,650	NCWVRC/Monongalia Co. continuation of funds, assistance for small cities under 10,000, assistance to interested county haulers, educational program for recycling and waste reduction.
Monroe and Summers County SWAs	$55,750	Establishment of county wide drop-off recycling program in Monroe County and expansion of program in Summers County. Grant funds to be used to hire two full-time laborers, pay transportation costs, and purchase equipment.
Nicholas County SWA	$50,000	Implementation of recycling program. Purchase recycling equipment and provide educational materials to the public.
Putnam County SWA	$36,312	Curbside collection program. Working with hauler on pilot project to reduce recycling expenditures at SWA drop-off center. Funds to purchase recycling bins.
Raleigh County SWA	$88,000	Funds awarded to purchase dye, pay utilities, pay for legal and accounting services and equipment maintenance.
Ritchie County SWA	$85,300	Continuation of Ritchie County Recycling Center program including salary expenses, transportation costs, facility equipment and promotional costs.
Roane County SWA	$75,000	Establishment of a main transfer station in cooperation with the City of Spencer. Grant funds to be used to purchase equipment for the building and to hire a recycling coordinator.
Taylor County SWA	$25,720	Expansion and completion of recycling program. Money to be used to hire a part-time recycling coordinator and purchase recycling containers to implement a school recycling program, transportation costs, incentive programs and publications.
Tyler/Wetzel County SWAs	$45,000	Continuation and expansion of recycling collection routes to encompass all communities in Tyler and Wetzel Counties. Grant to purchase recycling equipment supplies and operating expenses.

1994 DNR RECYCLING GRANTS (continued)

APPLICANT	AMOUNT	PROJECT
Wayne County SWA	$40,000	Implementation of a county wide source separation program for 1994. Funds will lease processing equipment, hire recycling coordinator, purchase plastic bags, printing of educational materials and promotional items.
Webster County SWA	$50,000	Construction of transfer station and small scale recycling center. Grants for purchase of recycling equipment, including 2 balers, loader, chipper, and conveyor system.
City of Barboursville	$13,045	Weekly curbside collection of aluminum cans and clear glass. Funds will go for bags for yard waste, equipment to pick up the material curbside, pay collection employees and a recycling coordinator.
City of Huntington	$44,000	Implementation of a commingled curbside recycling program and establish a recycling fleet.
North Central WV Recycling Cooperative	$160,694	Continue Cooperative's program of rotating drop-off bins in 20 different sites. Grant funds to be used for education and public awareness, processing of recyclables, transportation to the processor and recycling coordinator's salary.
Upper Kanawha Valley Mayor's Association	$50,879	Centralized supervised drop-off center for towns of Montgomery, East Bank, Marmet, Pratt, Cedar Grove, Chesapeake and Belle.

1993 DNR RECYCLING GRANTS

APPLICANT	AMOUNT	PROJECT
Greenbrier County SWA	$53,000	Renovation of old Coca-Cola building in Ronceverte. Funds to replace windows, repair roof, remove asbestos from building. Building is now being leased to DCR Recycling who uses the facility to make fence posts and pallets from old tires and plastic.
Jefferson County SWA	$100,000	Jefferson County SWA wants to use their grant money to put in a paper recycling facility. They currently have a building and would use the grant money to purchase processing equipment for the facility. Waste Management Services currently collects the recyclables throughout the county, and the SWA is trying to work out a contract with WMS to bring the paper they collect to the new facility.
Kanawha County SWA	$100,000	Kanawha County SWA has entered into an agreement with Ed's Disposal. They are to lease recycling equipment with grant money awarded to Ed Snodgrass for a term of five years. Title to equipment will remain with KCSWA. The agreement covers costs for the office and a meeting place for KCSWA.
Summers County SWA	$9,960	Drop-off bins have been placed throughout the county which are collected regularly and brought back to Hinton for processing. They have purchased a baling machine to help process and market their material.
Wood County SWA	$170,000	Wood County SWA was originally supposed to work with the City of Parkersburg to build a regional MRF.
Harrison County Commission	$100,000	Curbside recycling program implemented on June 1, 1993 throughout the county. Educational program is ongoing including printed brochures, television, radio promotional spots and public speaking opportunities.
City of Beckley	$93,730	Implementation of program. Purchase recycling truck and use of blue bag system.
City of Bluefield	$93,760	Implementation of program. Purchase recycling truck and bags, educational program, recycling coordinator.
City of Charleston	$96,882	Implementation of program. Plans for a composting facility. White goods and paint recycling programs.
City of Huntington	$59,200	Pilot curbside recycling program. Funds for bins and recycling coordinator.
City of Martinsburg	$100,000	Implementation of program. Purchase recycling truck and educational material.

1993 DNR RECYCLING GRANTS (continued)

APPLICANT	AMOUNT	PROJECT
City of Morgantown	$90,000	Continuation of city-wide program. Purchase equipment to be leased to Mon Recycle. Funds set aside to pay Mon Recycling processing fee and market of recyclables.
City of Moundsville	$96,360	Implementation of program.
City of Parkersburg	$100,000	Continuation of city wide program.
City of South Charleston	$93,360	Continuation of city wide program.
City of St. Albans	$71,900	Implementation of program.
City of Vienna	$67,500	Implementation of program.
City of Weirton	$100,000	Implementation of program.
City of Wheeling	$91,000	Implementation of program.
North Central WV Recycling Cooperative	$117,580	Implementation of a drop-off recycling program. Purchase of recycling bins/equipment.

APPENDIX D

SWA Updated Plan Abstracts

BARBOUR COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

Barbour County is presently utilizing the Randolph County Landfill and Meadowfill Landfill in Harrison County for solid waste disposal. A transfer station operated by the City of Philippi accepts waste which is transported to Meadowfill. Because Barbour County produces less than 1,000 tons of municipal solid waste per month, the authority views the present disposal system as adequately serving the needs of the county. No additional facilities are recommended for the future.

SOLID WASTE COLLECTION

One commercial hauler and two municipalities are presently serving Barbour County. Stewart's Sanitation serves 2,234 households, 121 businesses and 9 schools within the county. The City of Philippi provides services to 1,037 households, 143 businesses and 2 schools within the city limits and the Town of Junior serves 450 households and 3 businesses. With the present structure all residents of Barbour County have access to waste collection service.

OPEN DUMPS

The authority plans to continue to work with the Department of Environmental Protection's Pollution Prevention and Open Dumps (PPOD) Program identifying and prioritizing open dumps within the county. An aggressive public education program informing residents of the laws and penalties associated with open dumping is also planned. Volunteer and prison labor will also be utilized for cleanups. Since the program inception in 1989, 48 dumps have been eliminated.

MANDATORY COLLECTION

The authority will continue to inform the public of the mandatory disposal laws and penalties for not complying with these laws. They have adopted a county ordinance that addresses this issue. Enforcement will be achieved through continued work with the Division of Natural Resources. The authority also intends to send a "self assessment form" to residents requesting information on their present means of disposal.

RECYCLING

The Town of Philippi and Stewart Sanitation currently offer curbside recycling. There are drop-off locations in Philippi and at the Barbour County SWA Recycling Center. Items presently being source separated include glass, aluminum and metal cans, newspaper and magazines, office paper and plastic soda bottles. Public education activities include newspaper ads, radio promotion and contacts with area schools. In an effort to increase public awareness the authority is considering implementing a "Recycler of the Month" award. All county residents and groups would be considered eligible to win.

BARBOUR COUNTY SITING PLAN
ABSTRACT

Existing Facilities

City of Philippi Transfer Station
Barbour County Solid Waste Authority Recycling Center

Facility Zones

1.) Class A, B and C Landfills:
Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. The remainder of the county is Tentatively Prohibited. Authorized: none.

2.) Class D Landfills:
Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. The remainder of the county is Tentatively Prohibited.

3.) Solid Waste Transfer Stations:
Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. Authorized at the present location of the Philippi Transfer Station. The remainder of the county is Tentatively Prohibited.

4.) Recycling Facilities:
Authorized at the present location of the Barbour County Solid Waste Authority Recycling Center. Tentatively Prohibited in all areas of the county except where clearly designated as Prohibited.

5.) Energy Recovery Facilities
Prohibited county-wide in accordance with W. Va. Code §22-15-19.

6.) Materials Recovery Facilities:
Authorized only in areas Authorized for landfills. Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. The remainder of the county is Tentatively Prohibited.

7.) Commercial Composting Facilities:
Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. Tentatively Prohibited in all other areas.

BERKELEY COUNTY
COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

There is one Class B Commercial Solid Waste Facility located in Berkeley County, LCS Services Landfill, which accepts the majority of Berkeley County's waste. The landfill has 67 permitted acres and an anticipated life span of 70 years. The Mountain View Reclamation Landfill near Upton, Pennsylvania also accepts waste from Berkeley County and the region. The Mountain View Reclamation Landfill has an anticipated 30 years of airspace remaining.

SOLID WASTE COLLECTION

The City of Martinsburg is the only municipality within the county providing collection services to their residents. The rest of the county is served by Waste Management of the Shenandoah Valley. In some instances special arrangements are made with Waste Management to collect on private roads or arrange for collections at the nearest available location on roads which are inaccessible to collection vehicles. All residents of the county have access to collection services. This flexibility insures that all residents have access to proper disposal services.

OPEN DUMPS

From 1989 - 2000 Berkeley County has worked with the Department of Environmental Protection's Pollution Prevention Open Dump Program to clean up 31 dumps and reclaimed 9.5 acres within the county. The authority currently has a list of 8 of the "significant" dumps within the county which it will work to clean up with the help of volunteers and state agencies. The authority also operates two groundhog cameras in the county. Within the first 12 months of operation, 8 individuals were recorded dumping and as a result pleaded guilty to the charges. Although there has been success, limited financial and human resources continue to limit the program.

MANDATORY COLLECTION

The Berkeley County Solid Waste Authority supports the mandatory disposal regulations as they are presented in W. Va. Code §22C-4-14 and Department of Environmental Protection Rule 33CSR7. Convinced that education plays an important role in addressing the problem of violators, the Authority will extend its education efforts to notify all residents by public notice in local news media about the provisions within the law and the penalties associated with noncompliance.

RECYCLING

The Berkeley County Solid Waste Authority operates four recycling drop-off locations at Inwood, Hedgesville, Marlow and Grapevine Road. Recyclables accepted include: mixed paper, cardboard, newspaper, paperboard, glass, aluminum cans, and #1 PET and # 2HDPE. There are also a number of private recyclers within the county. In an effort to educate the public on recycling and to help the state reach it's recycling goal of 50% by 2010 the Authority prints approximately 45,000 informational flyers and distributes them through mass mailings to every resident and business within the county. Future plans include an internet web site on recycling within the county and integration of a recycling curriculum into the schools.

BERKELEY COUNTY SITING PLAN ABSTRACT

Existing Facilities

Class B Facility - North Mountain Sanitary Landfill

Facility Zones

1.) Class A Landfill:
Prohibited: County wide.
Tentatively Prohibited: None.
Authorized: None.

Class B Landfill:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.
Permitted at the present site of North Mountain Sanitary Landfill.

Class C Landfill:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

2.) Class D Landfill:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

3.) Solid Waste Transfer Stations:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

4.) Recycling Facilities:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

5.) Energy Recovery Facilities/Incinerators
Prohibited: County-wide in accordance with W. Va. Code §22-15-19.

6.) Materials Recovery Facilities:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

7.) Commercial Composting Facilities:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited**:** All other areas of the county.
Authorized: None.

BOONE COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

The Boone County Commission owns and operates two solid waste transfer stations in the county. Solid waste from these facilities is transported to Sycamore Landfill in Putnam County. Since 90.5% of the county has a slope of over 25% and large areas of the county are extensively undermined, it is unlikely that a landfill will be located in the county. The plan recommends increased recycling activity.

SOLID WASTE COLLECTION

All residents have access to free garbage service provided they bring their garbage to either transfer station. The transfer stations are funded by coal severance taxes generated in the county. Boone County is also served by two (2) private commercial solid waste collection companies. Residents of Whitesville, Sylvester and Madison are on municipal collection service.

OPEN DUMPS

Illegal open dumps within Boone County have been surveyed and documented. This is a continuing effort on the part of the County Commission, and a concerned real estate appraiser, who notifies the Commission of any new illegal dump sites encountered. Open dumps are cleaned as Commission funds and funding by Pollution Prevention and Open Dump (PPOD) become available.

MANDATORY COLLECTION

Those county residents using the transfer station will be required to sign a ledger showing they have properly disposed of their solid waste. The Commission staff will check the list of customers of the municipalities and disposal collection services in the county.

RECYCLING

The Boone County Commission is developing a recycling center at the"old" Foster Grade School building. This facility will increase the working space to bale and store recyclable materials. The Commission has open top containers designated for the collection of ferrous metals at the two transfer stations. The scrap metal collected is transported to a local private salvage yard. This has generated revenue and reduced landfill costs by approximately $80,000 over the past three years. Office paper is being collected from the courthouse, Department of Human Resources and Boone Memorial Hospital. According to the Data Survey Collection forms, several businesses within the county are recycling corrugated cardboard, motor oil, parts cleaner and tires.

BOONE COUNTY SITING PLAN
ABSTRACT

Existing Facilities

Boone County Commission Recycling Center at Foster
Boone County Commission Transfer Stations at Fosterville and Rock Creek

Facility Zones

1.) **Class A, B and C Landfills -** Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3.

2.) **Class D Landfills** - Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3. The remainder of the county is Tentatively Prohibited.

3.) **Solid Waste Transfer Stations** - Authorized zones are those areas in which transfer stations are in existence and operational by the County Commission. The remainder of the county is Tentatively Prohibited.

4.) **Recycling Facilities** - Tentatively Prohibited within the city limits of Danville, Madison, Sylvester and Whitesville. The remainder of the county is Authorized.

5.) **Energy Recovery Facilities** - Prohibited County-wide according to W.Va. Code § 22-15-19.

6.) **Materials Recovery Facilities** - Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3.

7.) **Composting Facilities** - Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3. The remainder of the county is Tentatively Prohibited.

Approximately 90.5% of Boone County has a slope in excess of 25%, leaving little real property for development and further prohibiting is the large percentage of deep mining and strip mining within the county. Additionally, the valleys have either been developed or are in a floodplain and there is little or no land available to operate a solid waste facility in such a manner to protect the environment, public health and safety.

BRAXTON COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

There are currently no approved permanent landfill sites in Braxton County. All waste is being transported to Clarksburg and deposited in the S&S Landfill. S&S has 30 years of life remaining in the landfill, which is sufficient to meeting the solid waste disposal needs of Braxton County. With the population of Braxton County remaining fairly consistent the SWA anticipates S & S will continue to meet their disposal needs and they have no immediate plans to consider additional solid waste facilities within the county.

SOLID WASTE COLLECTION

Presently two solid waste haulers provide service to all residents of Braxton County. The Town of Sutton provides service for its residents. Haulers serve 3,377 customers, consisting of 273 businesses and 3,104 residents. The Town of Sutton serves 613 customers collecting an average of 50 tons per month. Jack's Septic Service serves 130 residents in the Burnsville area and collects an average of 7 tons per month. Waste Management provides service for the remainder of the county, consisting of 2,634 residents and they collect approximately 150 tons per month.

All haulers offer weekly or bi-weekly collection services, but none provide recycling services in Braxton County. Although problems with collecting fees is an issue the haulers see the cost involved in legal enforcement as more than outweighing the monies lost to delinquent fees. Transportation costs and poorly developed and maintained roads often force residents to transport their waste to the mouth of their roads during "bad" weather.

OPEN DUMPS

The Braxton County Solid Waste Authority (BCSWA) has identified 6 open dumps within the county 1) Carpenter Fork 2) Mill Creek 3) O'Brien 4) Copen Road 5) Barbecue Run and 6) Cutlips Fork. These dumps are in various stages of clean-up.

It is the goal of the BCSWA to remove all illegal roadside dumps within the 20 year scope of their plan through engaging the volunteer help of citizens and civic groups and by working toward stronger enforcement. Assistance from the DEP Open Dumps Program has been a great help to the BCSWA in removing open dumps.

MANDATORY COLLECTION

The SWA will encourage the public to subscribe to trash collection service. Haulers are presently using alternative methods of pickup in rural and hard to access areas. As stated previously, the ability to enforce the present mandatory disposal laws easily and inexpensively and increasing the number of residents subscribing to service will continue to be slow.

RECYCLING

The Braxton County SWA is committed to the recycling efforts of Mountain Recycling (MR) and the expansion of their services throughout Braxton County. MR operates a drop-off recycling center which is open 5 days a week. Sutton operates a curbside recycling program for residents and delivers the collected materials to MR.

Materials are marketed through North Central West Virginia Recycling Cooperative, Inc. MR accepts cardboard, office paper and aluminum. They also accept glass, newsprint, #1 and #2 plastic, tin cans and scrap metal.

MR plans an aggressive public education program. The focus will be on the education of children and developing relationships with area schools. Newspaper and radio ads will also be part of the educational program. The SWA plans to implement a series of reduce, reuse and recycle programs within the county. Areas of these programs include education within the school systems on source reduction and programs to educate seniors.

The BCSWA offers cardboard pick-up to county businesses once a week, although not all businesses participate. Education is planned to encourage participation. These planned programs will be dependent on grant funding.

BRAXTON COUNTY SITING PLAN
ABSTRACT

Existing Facilities

None

Facility Zones

1.) Class A, B and C Landfills:
Prohibited in areas where of one or more of the criteria established in 54CSR4 Section 5.3 exists. The remainder of the county is Tentatively Prohibited. Authorized: none.

2.) Class D Landfills:
Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. Authorized in areas having an acceptable base as sited in the geological survey (Braxton County Facility Siting Plan Map III). The remainder of the county is Tentatively Prohibited.

3.) Solid Waste Transfer Stations:
Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. Authorized in areas designated as Authorized on the Braxton County Facility Siting Plan Map IV. The remainder of the county is Tentatively Prohibited.

4.) Recycling Facilities:
Authorized in all areas of the county except residential areas. Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. Tentatively Prohibited in all areas where they are not clearly designated as authorized or prohibited.

5.) Energy Recovery Facilities
Prohibited county-wide in accordance with W. Va. Code §22-15-19.

6.) Materials Recovery Facilities:
Authorized only in areas Authorized for landfills. Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. The remainder of the county is Tentatively Prohibited.

7.) Commercial Composting Facilities:
Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. Authorized in non populated areas as designated on the Braxton County Facility Siting Plan, Map VI. Tentatively Prohibited in all other areas.

BROOKE COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

The majority of waste generated in the county is disposed of in the Brooke/Valero Landfill. The projected life span of the Brooke/Valero Landfill is estimated to be 50 years. Short Creek Landfill in Ohio County, directly south of Brooke county, has a projected life span of 30 years. There is also a landfill located in Wetzel county with a tonnage limit of 9,999 per month. The SWA has determined that the permitted landfill capacity within the area is more than adequate to accommodate the estimated 1,504 tons per month generated in Brooke County for the duration of the planning period.

SOLID WASTE COLLECTION

Solid waste disposal services in Brooke County is provided by the municipalities of Weirton and Follansbee and by four private haulers. American Disposal Services of WV serves the lower portion of the county. Solid Waste Services of WV serves the central part of the county and NC Sanitation serves a very small portion in the northern part of the county. Jacob Jochum is certified to haul within the county, but at the present time has no customer base. The city of Weirton collects recyclables at the curbside. Approximately 38% of county residents subscribe to service. However, the authority has determined that the existing solid waste collection infrastructure provides all county residents with access to service.

OPEN DUMPS

The SWA has developed a program to identify and prioritize open dumps within the county. Through effectively working with the WV Department of Environmental Protection's Pollution Prevention and Open Dump (PPOD) Program and other groups the SWA has been able to clean up 58 open dumps, removing 1,852 tons of waste material and reclaiming 65 acres of land. In doing so, 725 tons of steel and 1,130 appliances were collected and recycling. In addition approximately 5,000 tires were removed and placed in approved facilities. The SWA intends to continue their efforts though the planning period.

MANDATORY COLLECTION

The Brooke County SWA supports and complies with all laws requiring residents to provide proof of proper disposal. The SWA estimates that between 800 and 3,000 residents are not subscribers to licensed solid waste collection service. The SWA approved a mandatory disposal program in 1999. The program includes requirements for providing proof of proper disposal, maintenance of customer lists and enforcement actions to be taken.

RECYCLING

The SWA currently operates a drop off recycling program which recovers approximately 70,000 pounds of paper, aluminum, steel, ferrous and nonferrous metal a month. The City of Weirton operates a curbside recycling program, the board of education has a paper recycling program and the Brooke County Opportunity Center collects aluminum cans. The SWA has a joint venture with All American Recycling. The authority is responsible for collection and All American is responsible for processing and marketing materials. The SWA works within the schools on recycling education.

BROOKE COUNTY SITING PLAN
ABSTRACT

Existing Facilities

Class A Facility - Brooke/Valero Landfill
Recycling - Weirton Recycling Center, All American Recycling and Wellsburg Auto Sales and Salvage.

Facility Zones

1.) Class A, B and C Landfill:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: Brooke/Valero Landfill.

2.) Class D Landfills:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: none.

3.) Solid Waste Transfer Stations:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: none.

4.) Recycling Facilities:
Prohibited: none.
Tentatively Prohibited: none.
Authorized: county wide.

5.) Energy Recovery Facilities/Incinerators
Prohibited: county-wide in accordance with W. Va. Code §22-15-19.

6.) Materials Recovery Facilities:
Prohibited: none.
Tentatively Prohibited: county-wide.
Authorized: none.

7.) Commercial Composting Facilities:
Prohibited: areas within a 100 year flood plan or within 500 feet of urban and residential areas.
Tentatively Prohibited**:** county-side except where prohibited.
Authorized: none.

CALHOUN COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

There are currently no permitted solid waste disposal facilities in the county. All county waste is deposited in the Northwestern Landfill in Wood County which is permitted at 30,000 tons per month and has a projected life span of six years. The county's population of 7,374 produces approximately 449 tons of waste per month. Little growth in population is anticipated over the next 20 years and the present system is serving the disposal needs of the county.

SOLID WASTE COLLECTION

The county is served by two waste haulers. The town of Grantsville provides service for 225 households and 120 commercial waste generators within the city limits, collecting approximately 68 tons per month. Waste Management serves the remaining 1,017 residences and 93 commercial customers throughout the county. All residents and commercial customers throughout the county have access to collection services

OPENS DUMPS

The authority has developed a list of priorities to deal with open dumps, including: development of permitted facilities, implementation of county plans, developing an open dump closure task force, open dump clean-up, closure, posting and enforcement. The largest dump in the county was reclaimed under the Division of Natural Resources' Worst Open Dump" program. The authority will continue to work with the Department of Environmental Protection's Pollution Prevention and Open Dump Program which has successfully removed 524.03 tons from open dumps, reclaiming 7.75 acres since the programs inception.

MANDATORY COLLECTION

The town of Grantsville has the largest concentration of waste generators in the county. Town ordinances mandate solid waste collection within the town. The authority's regulations concerning proof of proper disposal are in agreement with 33CSR7. Continuing public education on solid waste management practices, regulations and laws concerning proper disposal will be focused on by the authority.

RECYCLING

The authority has identified non-ferrous metal, aluminum cans, auto batteries, cardboard, steel cans, plastic bottles #1 and #2, paper, household batteries and large household appliances as items that can be source separated. The Cabot Recycling Station is currently handling all these materials. Non-ferrous material is sent to the Kanawha County Solid Waste Authority and buyback materials are marketed to Ashley's Recycling in Mineral Wells. Educational information on recycling is available to county residents. The authority participates in America Recycles Day through an open house event at Cabot Recycling Station to educate the public about recycling.

CALHOUN COUNTY SITING PLAN
ABSTRACT

Existing Facilities

Cabot Recycling Center

Facility Zones

1.) Class A and B Landfills:
Prohibited: County-wide.
Tentatively Prohibited: None.
Authorized: None.

2.) Class C Landfill:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

3.) Class D Landfill:
Prohibited: County-wide for facilities serving over 40,000 persons.
Tentatively Prohibited: Facilities serving less than 40,000 persons.
Authorized: None.

4.) Solid Waste Transfer Stations:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

5.) Recycling Facilities:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: None.
Authorized: All other areas of the county for facilities not involving hazardous wastes or contaminated materials.

6.) Energy Recovery Facilities/Incinerators
Prohibited: County-wide in accordance with W. Va. Code §22-15-19.

7.) Materials Recovery Facilities:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

8.) Commercial Composting Facilities:
Prohibited: County-wide for mixed waste composting facilities.
Tentatively Prohibited**:** All other areas of the county for sewage sludge processing facilities or facilities that include sludge.
Authorized: County-wide for separated pure organic materials.

CLAY COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

At the present time there are no landfills or transfer stations in Clay County. There are adequate facilities in contiguous counties which are able to accommodate the county's solid waste disposal needs. The City of Charleston's landfill, a Class A facility, has an estimated life span of at least 20 years and the Nicholas County Landfill, a Class B facility, has a projected life span of over 40 years. With population projections showing a decline over the next 20 years in the county it has been determined that the county's solid waste disposal needs can continue to be met through the existing structure.

SOLID WASTE COLLECTION

Waste Management is the only private hauler certificated by the Public Service Commission to provide collection services in Clay County. All residents have access to service. The number of Clay county residents subscribing to service has increase from 188, in 1989 to 2,107 today.

OPEN DUMPS

The SWA is actively working with the Division of Natural Resources and Department of Environmental Protection's P.P.O.D Program to clean up open dumps within the county. By holding public hearings and running newspaper articles on illegal dumping the SWA was able to compile, map and prioritize a list of open dumps for clean-up. Through these efforts a number of open dumps have been eliminated. The program is ongoing.

MANDATORY COLLECTION

The SWA is implementing an educational program to explain the mandatory disposal laws to their residents. The authority will use newspaper and radio to educate county residents. Although subscription rates to the county's commercial hauler are low, the authority will work to make residents aware of their legal obligation of proper disposal and retaining proof of proper disposal in an effort to increase subscribers.

RECYCLING

The authority is working with the county's private hauler to encourage them to provide recycling services for their subscribers, concentrating on glass, plastic and aluminum cans. The rural nature and the geography of Clay County makes the implementation of a mandatory recycling program within the county difficult. Educating the public through the use of newspaper and radio ads and participation in local fairs and festivals and national events such as America Recycles Day is part of the authorities outreach program. The authority also works with the school system to educate and encourage students to recycle.

CLAY COUNTY SITING PLAN
ABSTRACT

Existing Facilities

None

Facility Zones

1.) Class A, B and C Landfill:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: none.

2.) Class D Landfills:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: none.

3.) Solid Waste Transfer Stations:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: none.

4.) Recycling Facilities:
Prohibited: in areas that include solely residential areas, wetlands and perennial streams, surface waters, public parks, recreation areas, yard waste composting facilities and any other area where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: none.

5.) Energy Recovery Facilities
Prohibited: county-wide in accordance with W. Va. Code §22-15-19.

6.) Materials Recovery Facilities:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: none.

7.) Commercial Composting Facilities:
Prohibited: in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited**:** all other area of the county.
Authorized: none

Clay County Solid Waste Authority promotes backyard composting

DODDRIDGE COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

There are no permitted solid waste facilities in Doddridge County. The population of 7,403 produces approximately 450 tons of waste per month which is transported by two licensed haulers, Waste Management and N&N to licences landfills in Harrison County, S&S Grading and Meadowfill. Because of the low population and projected limited growth the authority feels the present system is serving their needs and that there is no additional solid waste facilities needed in the county at this time.

SOLID WASTE COLLECTION

The county is served by two haulers, Waste Management and N&N. The subscription rate to hauling service is approximately 75% of the 2,845 households, or 2,137 subscribers. Hauling service is available to all county residents at the site of generation.

OPENS DUMPS

Open dumps remain a problem within the county. However, the county has worked with the Department of Environmental Protection's Pollution Prevention and Open Dump Program to successfully clean up 30 dumps since 1998. The authority will work to establish a program encouraging county resident to report open dumps. A program to identify, categorize and eliminate dumps will be on going.

MANDATORY COLLECTION

The SWA is addressing as forcefully as possible the need for mandatory disposal. They recognize and endorse the provisions of the Department of Environmental Protection Rule Title 33 Series 7, Proof of Proper Solid Waste Disposal and will work to support it through out the county.

RECYCLING

The SWA has determined that the rural nature and low population of the county does not make curbside recycling countywide a viable option. The authority plans to promote the placement of drop-off boxes in schools and fire stations. They have designated glass, aluminum and ferrous metals to be recycled. These three items can be sold to the Nicholson Auto & Salvage. The authority plans to promote recycling at community events, generate newspaper articles to inform the public about recycling and its benefits and maintain a library of information on recyclable materials.

DODDRIDGE COUNTY SITING PLAN
ABSTRACT

Existing Facilities

None

Facility Zones

1.) Class A, B, C and D Landfills - Prohibited county-wide due to the amount of oil and gas wells (4,390) and the areas within the 100 year floodplain.

2.) Solid Waste Transfer Stations - Tentatively Prohibited except for those areas Prohibited because of one or more of the criteria established in 54CSR4 Section 5.3.

3.) Recycling Facilities - Authorized except for those areas Prohibited because of one or more of the criteria established in 54CSR4 Section 5.3.

4.) Energy Recovery Facilities - Prohibited county-wide according to W.Va. Code § 22-15-19.

5.) Materials Recovery Facilities -Prohibited county-wide due to the amount of oil and gas wells (4,390) and the areas within the 100 year floodplain.

6.) Composting Facilities - Tentatively Prohibited except for those areas Prohibited because of one or more of the criteria established in 54CSR4 Section 5.3.

FAYETTE COUNTY SITING PLAN
ABSTRACT

Existing Facilities

No existing facilities listed in plan

Facility Zones

1.) **Class A, B, C, D Landfills** - The western portion of the county is Prohibited for landfills because of one or more of the criteria established in 54CSR4 Section 5.3. The eastern portion of the county is Tentatively Prohibited.

2.) **Solid Waste Transfer Stations** - Transfer stations are Tentatively Prohibited because of one or more of the criteria established in 54CSR4 Section 5.3.

3.) **Recycling Facilities** - Authorized county-wide except certain areas of the county where such facilities are Prohibited because of one or more of the criteria established in 54CSR4 Section 5.3.

4.) **Energy Recovery Facilities** - Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3.

5.) **Materials Recovery Facilities** - Authorized county-wide except certain areas of the county where such facilities are Prohibited because of one or more of the criteria established in 54CSR4 Section 5.3.

6.) **Composting Facilities** - Authorized county-wide except certain areas of the county where such facilities are Prohibited because of one or more of the criteria established in 54CSR4 Section 5.3.

GREENBRIER COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

Greenbrier County's solid waste disposal needs are currently being met by the Greenbrier County Sanitary Landfill, a Class B Commercial Solid Waste Facility, operated by the Greenbrier County Solid Waste Authority (SWA) and located on 140 acres in close proximity to Lewisburg, WV. Because the population and tonnage projections show a slight decrease over the next 20 years the SWA concludes that the disposal needs of the county can be met by the existing facility.

SOLID WASTE COLLECTION

Four commercial haulers and four municipalities are presently serving businesses and residents in Greenbrier County. The cities of Lewisburg, Rainell, Ronceverte and White Sulphur Springs provide services to residents within their city limits and Greenbrier Valley Sanitation, Western Greenbrier Disposal Service, Lusk Disposal Service and Nicholas Sanitation are certificated to serve the remainder of the county. Under the present structure it is determined that all residents within the county have access to waste collection services.

OPEN DUMPS

The SWA has worked effectively with the Department of Environmental Protection's Pollution Prevention and Open Dump Program and various volunteer groups such as Adopt-A-Highway and Make-It-Shine to clean up open dumps and litter in the county. In 2002, 96.99 tons of waste was cleaned up across the county through these efforts. Work with these groups will continue throughout the next planning cycle.

MANDATORY COLLECTION

The SWA will continue to educate the public on the mandatory disposal laws and the proper ways to dispose of their solid waste. Working with local law enforcement and certificated haulers they will continue to gather information on those disposing of their waste properly and improperly. It is estimated that approximately 80% of county residents are currently in compliance with mandatory disposal.

RECYCLING

The Greenbrier Recycling Center (GRC) located in Fairlea is operated by the SWA. Material accepted at the drop-off center include: aluminum cans and foil, steel cans, #1 and #2 plastic, magazines, computer paper, mixed office paper, cardboard, newspaper, lead acid batteries, Ni-Cd batteries, fluorescent bulbs, brass, radiators, scrap aluminum and copper. A second facility operates at the landfill and accepts cardboard, steel cans, newspaper, magazines, white goods and Christmas trees. Outreach programs include educating businesses and schools about recycling and conducting and aluminum can recycling contest with local schools and awarding cash prizes to the winning schools. A third, private recycler, Daily Recycling, also operates within the county. Daily accepts lead acid batteries, junk mail, #1 and #2 plastics, aluminum cans and foil, steel cans, office paper, magazines, cardboard, newspaper, copper, brass, radiators and scrap aluminum.

GREENBRIER COUNTY SITING PLAN
ABSTRACT

Existing Facilities

Class B Landfill - Greenbrier County Landfill on Harper Road
Greenbrier Recycling Center - Lewisburg

Facility Zones

1.) Class A Landfill:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: areas of the county which are neither prohibited or authorized.
Authorized: western part of the county where the criteria established in 54CSR4 Section 5.3 does not expressly prohibit the facility.

2.) Class B and C Landfills:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: areas of the county which are neither prohibited or authorized.
Authorized: the present site of the of the Greenbrier County Landfill and the authorized area for a Class A facility.

3.) Class D Landfills:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: areas of the county which are neither prohibited or authorized.
Authorized: the present site of the of the Greenbrier County Landfill and the authorized area for a Class A facility.

4.) Solid Waste Transfer Stations:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: area of the county which are neither prohibited or authorized.
Authorized: areas authorized for landfills.

5.) Recycling Facilities:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists and solely residential areas.
Tentatively Prohibited: areas of the county which are neither prohibited or authorized.
Authorized: at the present site of the Greenbrier Recycling Center.

6.) Energy Recovery Facilities
Prohibited: county-wide in accordance with W. Va. Code §22-15-19.

7.) Materials Recovery Facilities:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: areas of the county which are neither prohibited or authorized.
Authorized: at the site of the present landfill.

8.) Commercial Composting Facilities:
Prohibited: in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited**:** areas of the county which are neither prohibited or authorized.
Authorized: at the site of the present landfill**.**

HARRISON COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

There are two permitted landfills operating in Harrison County. S&S Landfill, a Class B facility, and Meadowfill Landfill, a Class A facility, are both owned by Waste Management of WV, Inc. The two landfills are more than adequately accommodating the county's disposal needs. Projections through 2025 indicate that the population in Harrison County will decline by approximately 4.1% over the next 20 years. Based on these projections the present system of disposal will continue to serve the county into the foreseeable future.

SOLID WASTE COLLECTION

County residents and commercial establishments are serviced by three private haulers; Enterprise Sanitation, Inc., Waste Management of WV Inc., and Weston Transfer, Inc. Six municipalities, Anmoore, Nutter Fort, Stonewood, West Milford, Salem and Lumberport provide service for their residents. All residents of the county have access to solid waste disposal services.

OPEN DUMPS

The Harrison County SWA has worked very closely with the WV Department of Environmental Protection's Pollution Prevention & Open Dump program (PPOD), Division of Natural Resources conservation officers, the sheriff and local 4-H Clubs to identify and map open dumps in the county. Since 2003 Over 60 illegal dumps have been cleaned up by inmates from Pruntytown, local contractors and PPOD. Since the inception of the PPOD Program in 1989, 434 illegal open dumps have been removed, 5,120 tons of debris removed and 185 acres of land reclaimed.

MANDATORY COLLECTION

Harrison County supports DEP's Rule 33CSR7, Proof of Proper Solid Waste Disposal. The authority has begun to educate the public of the law. Local media has supported the education efforts. Subscribers to service has increased in the past year, with one hauler reporting an increase of 400 customers.

RECYCLING

Harrison County passed a Recycling Ordinance in 1992. Residents, businesses and industry began recycling metal beverage and food cans, #1 and #2 plastic containers and newspapers in accordance with that ordinance. The authority plans to work with the county commission to revise the ordinance to require haulers to pick up recyclable materials at least once every two weeks. A combination of curbside collection and drop off programs conducted by municipalities and private businesses make up the recycling network in the county. The authority has an aggressive public education program utilizing newspapers, television and radio. They have a weekly environmental spot in both the Clarksburg Exponent Telegram and the Shinnston News and Journal and work closely with local schools, environmental organizations, the Meadowbrook Mall, local churches and 4-H groups to promote recycling activities.

HARRISON COUNTY SITING PLAN
ABSTRACT

Existing Facilities

Class A Facility - Meadowfill Landfill
Class B Facility - S & S Landfill
City of Clarksburg Commercial Yardwaste Composting Facility

Facility Zones

1.) Class A Landfill:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: Present site of Meadowfill Landfill.

2.) Class B Landfill:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: Present site of S & S Landfill.

3.) Class C Landfill:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

4.) Class D Landfill:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: Present site of S & S and Meadowfill Landfills.

5.)Solid Waste Transfer Stations:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

6.) Recycling Facilities:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

7.) Energy Recovery Facilities/Incinerators
Prohibited: County-wide in accordance with W. Va. Code §22-15-19.

8.) Materials Recovery Facilities:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

9.) Commercial Composting Facilities:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited**:** All other areas of the county.
Authorized: City of Clarksburg Commercial Yardwaste Composting Facility.

JACKSON COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

There are currently no permitted solid waste disposal facilities in the county. All county waste is deposited in the Athens Hocking Landfill in Ohio. The county presently produces approximately 500 tons of municipal solid waste per month. Although the counties population is projected to increase over the twenty year planning period the current means of disposing of solid waste will adequately serve their needs for near future.

SOLID WASTE COLLECTION

The municipalities of Ripley and Ravenswood operate collection services for residents within the city limits. The remainder of the county is served by Waste Management of West Virginia, Inc. All residents and commercial customers throughout the county have access to collection services

OPENS DUMPS

In recent years the authority has identified and cleaned up several open dumps with the help of the West Virginia Contractors Association. In addition, each year the Department of Environmental Protection has targeted and cleaned up open dumps within the county. In the future the authority plans to identify and prioritize all open dumps countywide. They also intent to use legal means to force dumpers, when they can be identified, to clean up their own dumps. Education will be used to inform the public of the consequences of dumping and an adopt-a-dump program will be established to help deal with the problem.

MANDATORY COLLECTION

The authority supports the mandatory disposal laws of the state. The authority plans to educate the public about the laws through newspaper advertisements and articles, letters from the authority and the county commission and by holding public forums to explain the laws. They also plan to explore the use of annual fees paid by all property owners to ensure subscription to service.

RECYCLING

The authority operates a recycling center in Cottageville and provides eight drop-off collection trailers through out the county. Materials identified for recycling include glass, plastic, newsprint and aluminum cans. Cardboard is picked up at businesses throughout the county. It is the short term goal of the authority to hire a recycling coordinator to help with educational efforts. Establishing a working relationship with the media in order promote recycling and recycling activities is also a goal for the authority.

JACKSON COUNTY SITING PLAN
ABSTRACT

Existing Facilities

None

Facility Zones

1.) Class A Landfill:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

2.) Class B Landfill:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

3.) Class C Landfill:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

4.) Class D Landfill:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

5.)Solid Waste Transfer Stations:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

6.) Recycling Facilities:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: None.
Authorized: All areas of the county not stated as prohibited which comply with 54CSR4 and 33CSR1.

7.) Energy Recovery Facilities/Incinerators
Prohibited: County-wide in accordance with W. Va. Code §22-15-19.

8.) Materials Recovery Facilities:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

9.) Commercial Composting Facilities:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited**:** All other areas of the county.
Authorized: None.

JEFFERSON COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

There is currently no approved permanent landfill site in Jefferson County. At the present time Jefferson County solid waste is being disposed of at the LCS Landfill in Hedgesville, Berkeley County. The SWA will continue to explore long term waste disposal alternatives and aggressive management of the waste stream to help maintain the present 30 year life span of the LCS Landfill.

SOLID WASTE COLLECTION

Presently every resident of Jefferson has access to garbage service through the services of Waste Management of Shenandoah Valley (WMSV) and the cities of Ranson and Shepherdstown. WMSV serves 9,107 residential and 633 commercial and industrial customers, the city of Ranson serves 1,000 residents and 150 commercial customers within the city limits and the city of Shepherdstown serves 409 residents and 41commercial customers within the city.

OPEN DUMPS

The Jefferson County SWA in cooperation with Keep Jefferson Beautiful, Inc. maintains a record of open dumps within the county. The list is updated quarterly. Presently 6 open dumps are identified. The Department of Environmental Protection's (DEP) PPOD program has been an effective partner in the clean up of many of the open dumps initially identified within the county and the SWA intends to continue working with the DEP to eliminate present and future dumps.

MANDATORY COLLECTION

The Jefferson County SWA estimates the 83% of the households in Jefferson County subscribe to solid waste collection services. This does not take into account use of Free Day. There is the belief that there is some doubling up of service within the county which is not reflected in the 83%. The SWA is presently enforcing the mandatory solid waste disposal laws and plans to increase their efforts working with the Division of Natural Resources, local law enforcement and the Department of Environmental Protection.

RECYCLING

In 1992 Jefferson County passed an ordinance for the mandatory collection of recyclables. Waste Management of Shenandoah Valley offers curbside collection of commingled residential recyclables and white goods and the Leetown Transfer Station offers separate bins and containers for residential recyclables. Recycled items include newspaper, magazines, plastic and glass bottles and aluminum and bi-metal cans. To encourage recycling the SWA offers free consumer containers, newspaper, magazine and used oil recycling services.

JEFFERSON COUNTY SITING PLAN
ABSTRACT

Existing Facilities

Transfer Station located near Leetown.

Facility Zones

1.) Class A, B, and C Landfills - Prohibited in those areas where one or more of the criteria established in 54CSC4 is present. The remainder of the county is sited as Tentatively Prohibited.

2.) Class D Landfills - Prohibited in those areas where one or more of the criteria established in 54CSC4 is present. The remainder of the county is sited as Tentatively Prohibited.

3.) Solid Waste Transfer Stations - The site of the Leetown Transfer Station is Authorized. Transfer Stations are Prohibited in those areas where one or more of the criteria established in 54CSC4 is present. The remainder of the county is sited as Tentatively Prohibited.

4.) Recycling Facilities -Prohibited in those areas where one or more of the criteria established in 54CSC4 is present. Tentatively Prohibited in areas effected by county zoning restrictions. The remainder of the county is sited as Authorized.

5.) Energy Recovery Facilities - Prohibited County-wide

6.) Materials Recovery Facilities - Prohibited in those areas where one or more of the criteria established in 54CSC4 is present. The remainder of the county is Tentatively Prohibited.

7.) Composting Facilities - Authorized except in areas Prohibited by one or more of the criteria established in 54CSC4. Tentatively Prohibited areas include sites of historic or cultural resources, near faults, underlain lineaments, karst terrain and areas affected by county zoning restrictions.

KANAWHA COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

Kanawha County's solid waste disposal needs are currently being met mainly by the City of Charleston Sanitary Landfill, a Class A Commercial Solid Waste Facility. The life expectance of the landfill is approximately 25 years. Population and tonnage conclude that the disposal needs of the county can continue to be met by the existing system.

SOLID WASTE COLLECTION

Municipalities in Kanawha County that provide solid waste collection services include: Belle, Cedar Grove, Charleston, Chesapeake, Dunbar, Marmet, Nitro, Pratt, St. Albans and South Charleston. Private haulers involved in the collection of solid waste in Kanawha County include: Allied Waste, Commercial Disposal/Waste Management, Cummings Collection Service, Fugate Hauling, Hancock Garbage Service, Hizer Trucking Company and West Side Garbage Company. Commercial Disposal Service provides collection service for commercial customers only. Under the present structure it is determined that all residents within the county have access to waste collection services.

OPEN DUMPS

Each year the Authority reviews an extensive list of illegal dumps in Kanawha County and prioritizes them. Working with the Department of Environmental Protection's Pollution Prevention and Open Dump Program (PPOD) and with local and county organizations and volunteers the SWA reports that, for the period 1989 through 2002, a total of 252 illegal open dumps were cleaned up. In doing so, PPOD reclaimed 168 acres of land and removed 4,828 tons of waste including 14,281 tires and 1,326 appliances. In addition, at least 910 tons of the material was taken to an appropriate recycling facility.

MANDATORY COLLECTION

The Kanawha County Solid Waste Authority describes a plan that would create a workable mandatory disposal system for the county. It provides for creation of a waste management system that would bring the county in compliance with W.Va. Code 22C-4-10 (mandatory disposal) and provide for the promotion of that plan through speaking engagements, and through TV, radio and newspaper announcements. The Authority will work closely with solid waste haulers, the county commission and others to ensure that all residents understand the provisions of the proposed regulations.

RECYCLING

Recyclables in Kanawha County are collected using three principal methods; these include the use of mobile drop-off stations (Elkview / Clendenin and the Upper Kanawha Valley), the permanent drop-off site at Slack Street and source separated curbside collection by certain municipalities. Curbside collection of recyclables occurs in Charleston, South Charleston, St. Albans, Dunbar, Belle, Cedar Grove and Chesapeake. Fifty one percent of the counties population lives in these towns and cities. Recyclables from these municipalities are transported to Slack St. for processing (separation and baling). The Slack St. processing facility also accepts white goods and scrap metal. Items being recycled include aluminum, cardboard, file stock, glass, newspaper, plastics, steel cans and scrap metal.

KANAWHA COUNTY SITING PLAN
ABSTRACT

Existing Facilities

Class A Landfill - WV Waste - Charleston

Class D Facility - Rick's Auto - Elkview

Composting Facility - City of Charleston

Transfer Station - Chesapeake, Marmet & City of St. Albans

Recycling Center - Charleston

Facility Zones

1.) Class A, B, and C Landfills -The site of the WV Waste landfill in Charleston is designated as authorized for a Class A facility the remainder of the county is Prohibited or Tentatively Prohibited.

2.) Class D Landfills - The site of Rick's Auto is designated as authorized for a Class D facility. The remainder of the county is Prohibited or Tentatively Prohibited.

3.) Solid Waste Transfer Stations - Tentatively Prohibited county-wide.

4.) Recycling Facilities - Authorized county-wide.

5.) Energy Recovery Facilities - Prohibited county-wide.

6.) Materials Recovery Facilities - Tentatively Prohibited county-wide.

7.) Composting Facilities - Tentatively Prohibited county-wide.

LEWIS/GILMER REGIONAL COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

Lewis and Gilmer County are served by two landfills located in Harrison County. There is also a private individual seeking appropriate permits to construct a Class D landfill and tire collection and storage site. The Region will likely continue utilizing the two current landfills in Harrison County for disposal of MSW and industrial wastes.

SOLID WASTE COLLECTION

Two private haulers, Weston Transfer and Jack's Septic Service, provide curbside pickup for the two counties. These two haulers provide collection service to approximately 6,124 residential and 556 commercial customers in the region. Approximately 745 tons of residential waste and 300 tons of commercial waste are collected by these two haulers each month. Construction waste and industrial waste is also collected by BFI. Approximately, 64% of the households in Lewis County and 45% in Gilmer County currently subscribe to a collection service.

OPEN DUMPS

Large and small area dumps are scattered throughout the region. Most of the dumps identified in the original plan have been cleaned up with assistance of either the PPOD program, the Make It Shine program or the Adopt-A-Highway program. Many of these areas were cleaned up with assistance of local volunteers and civic organizations. Although progress has been made in the clean up of open dumps, these problems remain: (a) Monitoring these areas to insure that they do not become active again, (b) Securing funding and resources (labor, equipment, financing) to clean up sites that remain, (c) Prohibiting the "development" of future such sites. Cooperation and support from volunteers, civic organizations and state agencies has been essential to the dump clean up efforts and is expected to continue.

MANDATORY COLLECTION

The Lewis/Gilmer SWA will assist and support the WV Division of Natural Resources enforcement division, the State Police, the Lewis and Gilmer County Sheriff's offices, the Weston and Glenville City Police and any other law enforcement agencies with appropriate jurisdiction in enforcing the Mandatory Solid Waste disposal law. Assistance includes identifying all households who have not subscribed to a solid waste collection service or who are not on the customer list of any sanitary landfill servicing the region. The SWA will coordinate with the local haulers to obtain their customer routes and correspond ing customers. Any households flagged as "Not Subscribing" will be notified by letter to respond to the Authority with proof of proper disposal. When the SWA has a final list of apparent non-subscribers or non-responders, the proper enforcement agencies will be asked to assist.

RECYCLING

Weston Transfer and Jack's Septic initiated curbside collection of a limited list of recyclable materials on June 1, 1993. Pick-up occurs on a monthly schedule. The SWA supplied recycling containers to all residents. There is a $.95 recycling charge added to each subscriber's monthly invoice. The list of materials picked-up curbside are: plastic #1 and #2, metals, newspaper and aluminum. In 1995, the company began collecting cardboard. Newspaper and office paper is collected in both counties daily. Drop-off containers are provided for customers who do not have curbside service. Drop-off sites are also located in Jane Lew, Weston and Glenville. The SWA will work with existing recycling businesses to develop markets, improve collection and storage methods, advertising and promotions to increase the amount of recycling in the region.

LEWIS/GILMER REGIONAL SITING PLAN
ABSTRACT

Existing Facilities

None

Facility Zones

1.) Class A, B, C, and D Landfills - The site (Grass Run) for the PKC landfill is designated as authorized for a Class D landfill. The remainder of the county is Prohibited and Tentatively Prohibited.

2.) Solid Waste Transfer Stations - Prohibited and Tentatively Prohibited.

3.) Recycling Facilities - Prohibited and Tentatively Prohibited.

4.) Energy Recovery Facilities - Prohibited and Tentatively Prohibited.

5.) Materials Recovery Facilities - Prohibited and Tentatively Prohibited.

6.) Composting Facilities - Prohibited and Tentatively Prohibited.

The tentatively prohibited zones in Gilmer County are located in the southeastern corner of the county off of WV Route 5. The tentatively prohibited zones in Lewis County are located along I-79 and US Routes 119, 33 and 19 in the northeastern section of the county and along I-79 and US Route 19 south of Walkersville.

LINCOLN COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

Lincoln County has no Class A, B, C or D landfills. The Solid Waste Authority (SWA) feels that the volume of municipal solid waste produced in Lincoln County is not sufficient to support a landfill at this time. The Charleston Landfill, in Kanawha County, and Sycamore and Disposal Services landfills located in Putnam County are currently serving the needs of Lincoln County residents. Lincoln County has no transfer stations, material recovery or composting facilities.

SOLID WASTE COLLECTION

Presently every resident and business in Lincoln County has access to garbage service through BFI, the only certificated hauler in the county. BFI offers curbside collection to all county residents.

OPEN DUMPS

The Authority works closely with the Department of Environmental Protection's Pollution Prevention and Open Dump Program to clean up dumps within the county. Since the inception of the program 151 illegal dumps have been cleaned up. In addition, 76 acres of land have been reclaimed, a total of 1,665 tons of material have been removed, the majority of which was recycled. The Authority plans to continue aggressive open dump clean up.

MANDATORY COLLECTION

The Lincoln County SWA has adopted a plan and regulations to support mandatory disposal as per W. Va. Code §22C-4-10. The Authority will continue to promote the plan through informational flyers at special events, newspaper announcements and a direct mail campaigns when funds allow. The Authority will work closely with various law enforcement agencies to enforce the mandatory collection laws.

RECYCLING

Lincoln County operates a drop-off recycling program with four locations which diverts approximately 25 to 30 tons from the waste stream. BFI provides the Authority with recycling drop-off containers. The Authority has designated aluminum cans, plastic bottles and news paper as the items to be recycled. The Authority has an aggressive public education program in place. Working with the county commission the Authority has implemented a recycling education program within the school system to target youths. Materials collected through the schools are taken to the Recycler's Market in Huntington and proceeds are donated to the Ronald McDonald Houses in Huntington and Charleston.

LOGAN COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

There is one permitted transfer station operating in Logan County, Refuse Disposal, Inc. in Peck's Mill. County waste is sent from the transfer station to landfills in Putnam and Kanawha counties. Waste production in the county is projected to decrease along with population over the 20 year planning period by approximately 477 tons per month by 2025. Based on these projections the present system of disposal will continue to serve the county into the foreseeable future.

SOLID WASTE COLLECTION

Four of the five municipalities in the county provide collection services for their residents. This includes: Logan, Chapmanville, West Logan and Mitchell Heights. Waste Management of WV, Inc. provides service to Mann and the remainder of the county. All residents of the county have access to solid waste disposal services.

OPEN DUMPS

The Logan County SWA has worked successfully with the WV Department of Environmental Protection's Pollution Prevention & Open Dump program (PPOD) to clean up open dumps in the county. Approximately 30 to 40 open dumps remain in the county which the SWA and PPOD are targeting. Since the inception of the PPOD Program 75 dumps have been removed from the county, removing 1,633 tons of material and reclaiming 42 acres of land.

MANDATORY COLLECTION

The SWA has focused attention on the education and enforcement of mandatory disposal laws. They have employed a solid waste inspector whose primary function is to enforce mandatory disposal. He visits households and business seeking evidence of proper proof of disposal. The inspector is designated by the county commission as a "Conservator of the Peace" and has the power to issue citations. He works closely with DEP and other law enforcement officials in enforcement activities.

RECYCLING

The long term goals of the SWA include developing an initiative to encourage recycling within the county and entering into a cooperative program with the transfer station to sort marketable materials. Four commercial recyclers, Kelly Smith Recycling, Vance Recycling, Baisden Recycling and H&P Recycling operate in the county. Materials accepted at the commercial facilities include aluminum, copper, scrap metals and cardboard. The authority has determined that curbside collection of recyclables is not a feasible option. Drop off locations located throughout the county is the preferred collection option when a recycling program is implemented. The authority has designated aluminum, paper and plastic as the most economically recyclable items for source separation in a recycling program. The authority plans to develop a more aggressive recycling education program when funds become available. Presently materials are provided to schools, community groups and the general public upon request. Newspaper is also utilized for educational purposes.

LOGAN COUNTY SITING PLAN
ABSTRACT

Existing Facilities

Transfer Station: Refuse Disposal, Peck's Mill

Facility Zones

1.) Class A Landfills:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

2.) Class B Landfills:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

3.) Class C Landfills:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

4.) Class D Landfills:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: None.
Authorized: All areas not designated prohibited.

5.) Solid Waste Transfer Stations:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: None.
Authorized: Refuse Disposal, Inc., Peck's Mill**.**

6.) Recycling Facilities:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: None.
Authorized: All areas not designated as prohibited.

7.) Energy Recovery Facilities/Incinerators:
Prohibited: County-wide in accordance with W. Va. Code §22-15-19.

8.) Materials Recovery Facilities:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: None.
Authorized: All areas not designated as prohibited.

9.) Commercial Composting Facilities:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: None.
Authorized: All areas not designated prohibited.

MARION COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

Marion County has no Class A, B, C or D landfills. The Solid Waste Authority feels that the volume of municipal solid waste produced in Marion would not be sufficient to support a landfill at this time. Harrison County has two active landfills, Meadowfill and S & S Grading, that are currently serving the needs of Marion County residents. Meadowfill has a projected life expectance of 50 years and S & S Grading at least 30 years. Marion County has no transfer stations, material recovery or composting facilities.

SOLID WASTE COLLECTION

Presently every resident and business in Marion County has access to garbage service through the services of twelve haulers. The largest is BFI Waste Systems with approximately 7,500 customers in the Fairmont area. The cities of Rivesville and the Town of Monongah provide weekly pick up for their residents. All others are privately owned.

OPEN DUMPS

The Marion County SWA, at the time of this writing, has identified 22 open dumps within the county. Each year the Authority will update this list. A plan for utilizing alternative sentencing for prisoners for the purpose of open dump cleanup and litter control has been completed and approved by the Authority. The Authority has a tentative agreement with the Sheriff to provide such labor. The Authority will continue to work with volunteer groups participating in programs such as Adopt-A Dump and will utilize, where possible, state agencies, i.e. Department of Environmental Protection's Pollution Prevention and Open Dump Program, for enforcement and cleanup efforts to help elevate open dumps within the county.

MANDATORY COLLECTION

The Marion County SWA has adopted a plan and regulations to support mandatory disposal as per W. Va. Code §22C-4-10. The Authority will promote the plan through speaking engagements, informational flyers, radio and TV advertisements and newspaper announcements. The Authority will work closely with county haulers to identify and contact those that don't subscribe to service informing them of their obligations under the West Virginia Code.

RECYCLING

The Marion Solid Waste Authority will obtain funding from all available sources to operate and maintain a county wide drop-off recycling program. The SWA currently has two recycling trailers that are transported at least 18 times a month to various locations in the county including schools and rural communities. Residents bring plastics, glass, aluminum and steel cans, mixed paper and newspaper for recycling. The SWA also sponsors an annual phone book and Christmas card recycling program. The county has at least six other businesses or government entities that operate recycling facilities.

MARION COUNTY SITING PLAN
ABSTRACT

Existing Facilities

None

Facility Zones

1.) Class A, B and C Landfills:
Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. The remainder of the county is Tentatively Prohibited. The Marion County Landfill was closed May 17, 1996.

2.) Class D Landfills:
Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. The remainder of the county is Tentatively Prohibited.

3.) Solid Waste Transfer Stations:
Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. The remainder of the county is Tentatively Prohibited.

4.) Recycling Facilities:
Authorized in all areas of the county except residential areas and prohibited where one or more of the criteria established in 54CSR4 Section 5.3 exists.

5.) Energy Recovery Facilities
Prohibited County-wide in accordance with W. Va. Code §22-15-19.

6.) Materials Recovery Facilities:
Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. The remainder of the county is Tentatively Prohibited.

7.) Composting Facilities:
Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. Tentatively prohibited in areas of historical or cultural interest. Authorized in the remainder of the county except in areas specified in 33CSR3.

MARSHALL COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

Marshall County's solid waste disposal needs are currently being met by landfills in Ohio and Wetzel counties. The SWA concludes the disposal needs of the county can continue to be met by the existing system which they feel provides county residents with an efficient and economical way to dispose of their waste.

SOLID WASTE COLLECTION

Residential solid waste collection service in Marshall County is provided through both private and municipal carriers. The two private haulers, WV Solid Waste and American Disposal, serve the rural areas of the county. The four municipalities, Moundsville, McMechan, Benwood and Glen Dale provide service within their city limits. At the present time it is estimated that 56% of county residents subscribe to service. Although 44% of residents are disposing of their waste in an alternative manner it has been determined that under the present structure all residents within the county have access to waste collection services.

OPEN DUMPS

The SWA has worked effectively with the Department of Environmental Protection's Pollution Prevention and Open Dump (PPOD) Program and various volunteer groups to clean up open dumps and litter in the county. The identification of open dump sites is an on going process. Current efforts will be reenforced by the placement of "No Dumping" signs at cleaned sites. The SWA intends to continue working with various groups throughout the next planning cycle.

MANDATORY COLLECTION

The Marshall County SWA has established an appropriate mandatory garbage disposal program within the county which requires residents to dispose of their waste in a legal manner. To monitor the program the SWA intends to analyze hauler customer lists and compare them with tax records to determine nonsubscribers. Nonsubscribers will be notified and proof of proper disposal requested. In an effort to increase the number of residents disposing of waste properly, names will be forwarded to the appropriate authorities for enforcement when necessary.

RECYCLING

The SWA currently has recycling trailers in place in McMechen, Benwood and Cameron. These communities have volunteer recycling programs in place. There are two commercial recyclers, Automatic Recycling and Quigley's Recycling Center. Items accepted include: metal, bimetal products, white goods, batteries, brass, copper and aluminum. The commercial recyclers handle 25,000 pounds of material per month. The authority has designated metal, plastic, newspaper, office paper and glass to be recycled. The city of Glen Dale has a recycling program which has been in operation since 1991. They accept newspapers, cardboard, soda bottles, plastic, aluminum cans, steel cans and clear, green and brown glass. Educational activities include public presentations to civic groups in area schools and at the county fair. Recycling information is distributed at all local events.

MARSHALL COUNTY SITING PLAN
ABSTRACT

Existing Facilities

None

Facility Zones

1.) Class A, B and C Landfill:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: none.

2.) Class D Landfills:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: none.

3.) Solid Waste Transfer Stations:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: none.

4.) Recycling Facilities:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: none.

5.) Energy Recovery Facilities/Incinerators
Prohibited: county-wide in accordance with W. Va. Code §22-15-19.

6.) Materials Recovery Facilities:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: none.

7.) Commercial Composting Facilities:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: none.

MASON COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

Mason County's solid waste disposal needs are currently being met by a landfill located out of the county and state. The Mission Ridge Landfill remains closed. Although population and tonnage projections show a slight increase over the next 20 years the SWA concludes that the disposal needs of the county can continue to be met by the existing system.

SOLID WASTE COLLECTION

Mason County is served by four waste haulers with BFI and Rural Sanitation being the primary haulers. The city of Point Pleasant and New Haven provide waste services for their residents. The SWA has determined that all residents of the county have access to service.

OPEN DUMPS

The SWA has worked effectively with the Department of Environmental Protection's Pollution Prevention and Open Dump Program and various volunteer groups. The county initiated a "nominate-a-dump" program in 1993. Ads were placed asking citizens to help. Dumps are prioritized and cleaned up accordingly.

MANDATORY COLLECTION

The SWA has adopted a plan to implement mandatory disposal regulations. It includes advertising in the newspaper and on radio informing residents of the laws and the penalties for not complying with proper disposal requirements. They will also encourage citizens to utilize the Mason County Recycling Center to reduce the waste stream.

RECYCLING

The SWA and the county commission, using a grant for the Division of Natural Resources, has constructed a recycling center which is operated as a drop-off. There are 29 cardboard collection bins located throughout the county and the SWA works with business and industry to encourage recycling. Public education activities include developing brochures, running newspaper and radio ads and targeting schools. Items recycled include: cardboard, news-print, plastic milk jugs, bi-metal cans, magazines, mixed office paper and aluminum cans.

MASON COUNTY SITING PLAN
ABSTRACT

Existing Facilities

Recycling Facility
(Operated jointly by the SWA and the County Commission)

Facility Zones

1.) Class A, B and C Landfill:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: none.

2.) Class D Landfills:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: none.

3.) Solid Waste Transfer Stations:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: none.

4.) Recycling Facilities:
Prohibited: Within 1,200 feet of residential area, remote regions, congested areas and areas where view cannot be obstructed from highways or residential areas.
Tentatively Prohibited: none.
Authorized: county wide except for prohibited zones.

5.) Energy Recovery Facilities/Incinerators
Prohibited: county-wide in accordance with W. Va. Code §22-15-19.

6.) Materials Recovery Facilities:
Prohibited: cultural and historical areas, public parks and recreational areas and within 1,200 feet of residential areas.
Tentatively Prohibited: none.
Authorized: county wide except for prohibited zones.

7.) Commercial Composting Facilities:
Prohibited: in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: sites with historic or cultural resources.
Authorized: none.

MERCER COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

Currently, waste generated in Mercer County is hauled to the Mercer County Landfill. Approximately 4,200 tons per month is sent to this landfill from Mercer County. The Mercer County Landfill has a permitted capacity of 9,999 tons per month. No need for additional disposal capacity is foreseen.

SOLID WASTE COLLECTION

The cities of Athens, Bluefield and Princeton collect solid waste using city employees and trucks. The private haulers, Lusk Disposal, Fly-By Nite and Havens Enterprise service the remaining towns and rural areas of Mercer County.

MANDATORY COLLECTION

The Mercer County SWA has approved a mandatory solid waste disposal program and is currently working with the Mercer County Commission to develop this program. Ordinances are in place in Athens, Bluefield and Princeton requiring all households to have garbage pickup.

OPEN DUMPS

The Mercer County Environmental Restoration Program (MCERP) was organized in May 1991 to handle the recycling and litter control functions of the Mercer County SWA. A supervisor was hired that had experience utilizing inmates to clean-up open dumps. Using an average of 4 to 6 inmates daily, this group has removed over 5,550 tons of waste from the hollows, roadsides and streams of Mercer County. Over half of this amount has been recycled. The program is funded independently of the Mercer County Landfill through grants, donations and revenue from recycling.

RECYCLING

The Mercer County SWA accepts the following recyclable materials at its three weekly drop-off centers and at its Recycling Building every Tuesday. These materials include: newspaper, corrugated cardboard, aluminum and steel cans, HDPE and PET plastics, non-ferrous metals, yardwaste, oil, tires and appliances. Approximately 670 tons of material were processed in 1998. Recyclables are collected utilizing portable recycling trailers at drop-off sites. Additionally, the City of Bluefield operates a curbside collection program.

MERCER COUNTY SITING PLAN
ABSTRACT

Existing Facilities

Mercer County Sanitary Landfill, Recycling and Compost Facilities
Lusk Disposal Materials Recovery Facility
Recycling Collection Centers at Krogers in Bluefield
Reynolds Aluminum in the Bluefield Plaza
Glenwood Park Buy-Back Center

Facility Zones

1.) Class A, B and C Landfills - The current site of the Mercer County Landfill is authorized for a Class B landfill. Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3. The remainder of the county is Tentatively Prohibited.

2.) Class D Landfills - Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3. The remainder of the county is Tentatively Prohibited.

3.) Solid Waste Transfer Stations - Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3. The remainder of the county is Tentatively Prohibited.

4.) **Recycling Facilities** - Authorized at the following collection sites: Krogers in Bluefield, Mercer County Landfill, Reynolds Aluminum in the Bluefield Plaza, Buy Back Center at Glenwood Park. All other areas of the county are tentatively prohibited.

5.) Energy Recovery Facilities - Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3. The remainder of the county is Tentatively Prohibited.

6.) Materials Recovery Facilities - Lusk Disposal Facility, located adjacent to the Mercer County Landfill, is authorized. Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3. The remainder of the county is Tentatively Prohibited.

7.) Composting Facilities - The current site at the Mercer County Landfill is authorized for a compost facility. Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3. The remainder of the county is Tentatively Prohibited.

MINGO COUNTY SITING PLAN
ABSTRACT

Facility Zones

1.) Class A Landfills:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

2.) Class B Landfills:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

3.) Class C Landfills:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

4.) Class D Landfills:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

5.) Solid Waste Transfer Stations:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

6) Recycling Facilities:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

7.) Energy Recovery Facilities/Incinerators:
Prohibited: County-wide in accordance with W. Va. Code §22-15-19.

8.) Materials Recovery Facilities:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

9.) Commercial Composting Facilities:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

MINGO COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

Currently, there is no operating, permitted landfills within Mingo County. The majority of the solid waste is transported to the Sycamore Landfill in Putnam County and the Pecks Mill transfer station in Chapmanville. The City of Williamson transports their solid waste to the Pike County Landfill in Kentucky. Both arrangements are sufficient to sustain Mingo County over the next 20 years. The county currently produces approximately 52.7 tons of solid waste per day which is expected to decrease by 18.8% over the next twenty years, due to current population projections.

SOLID WASTE COLLECTION

County residents and commercial establishments are serviced by two private haulers; Waste Management of WV, Inc. and Morgan Sanitation & Recycling. The City of Williamson is the only public hauler in the county which provides services to all residents and some businesses within the city limits.

OPEN DUMPS

The Mingo County SWA has worked very closely with the WV Department of Environmental Protection's Pollution Prevention & Open Dump program in cleaning up the counties' open dumps. To date, there has been 25 dumps cleaned, removing nearly 700 tons of waste at a cost of $153,849, since the program inception in 1989. The authority realizes that there are many more dumps which remain and have set a short-term objective to create a complete list of open dumps and develop plans to prioritize and eliminate them.

MANDATORY COLLECTION

The County Commission has had a solid waste ordinance on the books since 1987 to deal with the mandatory collection issues. The major downfall of this is the lack of enforcement. The SWA had prepared a mandatory disposal regulation, which at the time of publication, has yet to be enforced.

RECYCLING

Mingo residents have very limited access to recycling facilities within the county. There are two Mingo county businesses who currently accept tires, batteries, used oil and various metals; City Tire in Williamson and Kentucky & West Virginia Metal. There is currently no one within the county who accepts paper, plastic or glass. Due to the rural nature of the county, the SWA realizes that curbside collection of recyclables would be very impractical, but are working towards creating drop-off recycling centers in the county's most highly populated areas with a centralized collection center in Williamson. This new infrastructure would allow for the collection of aluminum, cardboard and non-ferrous metals. The authority is also working with the teachers in the county to add litter, recycling and waste management education to their curriculum.

MONONGALIA COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

Currently, the waste generated in Monongalia County is hauled to Meadowfill Landfill and S&S Landfill in Harrison County, or to Ardens-USA Waste and CBF Landfills in Pennsylvania. No need for additional disposal capacity is foreseen. At this time, there is no landfill located in Monongalia County. Suburban Sanitation operates the only transfer station in the county to serve residents and haulers.

SOLID WASTE COLLECTION

There are currently ten authorized haulers in Monongalia County, with Suburban Sanitation and Browning Ferris Industries (BFI) - who replaced the City of Morgantown as a hauler - serving the majority of the residents. All residents have access to service.

MANDATORY COLLECTION

In 1993, the Monongalia County SWA sent a mandatory solid waste disposal survey to county residents to assess the number not subscribing to pick-up service. This effort did increase the number of citizens on service but no further record has been kept. A follow-up survey is needed to see how many people still do not properly dispose of their solid waste and then turn those names over to the enforcement office of the WV DEP for further action.

OPEN DUMPS

Large and small open dumps are scattered throughout the county. Since the first draft of this plan, some remediation work has occurred through the WV DEP PPOD program. Some help from the local jail and from the Kennedy Correctional Center has been enlisted in the past to clean-up these sites. There are some problems that remain with the open dump clean up program: a) locating new sites through public notification, b) keeping cleaned up dumps from becoming active again, and c) finding financial and volunteer resources to continually remove dumps. The SWA will remain active in supporting the WV DEP and their clean-up of open dumps. More time will be given to recruiting civic groups, inmates and volunteers to contribute to site remediation.

RECYCLING

Of the ten solid waste haulers in the county, only Suburban Sanitation, BFI, Walls Sanitation, City of Westover and Town of Star City participate in recycling. All of these entities provide curbside collection, and BFI, in addition to curbside, supplies drop boxes across the county. Much of the county, however, is still not served by convenient recycling and the SWA is seeking expansion to those areas. The materials from BFI collections are taken to the BFI facility in Fairmont for processing. The other processing facility for Monongalia County is MON Recycle. MON Recycle experienced fires in January and June 1997 resulting in a major equipment loss as well as the trailer containing all of the business records. It is hoped that MON Recycle will be able to continue operating in the future. The SWA will seek solutions to processing source-separated recyclables and developing markets for those products within the county.

MONONGALIA COUNTY SITING PLAN
ABSTRACT

Existing Facilities

Suburban Sanitation Transfer Station
Mon Recycle Recycling Facility
Dick's Recycling Facility
Northern Mountain State Metals Recycling Facility
WVU Compost Facility

Facility Zones

1.) Class A, B and C Landfills - Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3. The remainder of the county is Tentatively Prohibited.

2.) Class D Landfills - Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3. The remainder of the county is Tentatively Prohibited.

3.) Solid Waste Transfer Stations - Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3. The remainder of the county is Tentatively Prohibited.

4.) Recycling Facilities - Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3. The remainder of the county is Tentatively Prohibited.

5.) Energy Recovery Facilities - Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3. The remainder of the county is Tentatively Prohibited.

6.) Materials Recovery Facilities - Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3. The remainder of the county is Tentatively Prohibited.

7.) Composting Facilities - Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3. The remainder of the county is Tentatively Prohibited.

MONROE COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

A Class B Commercial Solid Waste Facility, Ham Landfill, is located within the county and authorized to accept asbestos. Hamm is currently awaiting issuance of a permit by the Department of Environmental Protection to begin accepting municipal solid waste and non-hazardous special solid waste. The authority expects the solid waste disposal needs of residents to be met by the Ham Landfill, the Mercer County Landfill, with a life expectancy of 20 years, and Greenbrier County Landfill, with an anticipated life span of 25 years. Both the Mercer County and Greenbrier County facilities are currently accepting waste from Monroe County.

SOLID WASTE COLLECTION

Presently every resident and business in Monroe County has access to garbage service through the services of four haulers. Union Disposal, serves approximately 1,276 residents and 67 businesses within a 10 mile radius of Union; Humphrey's Trash Disposal, operates within a 4 mile radius of Peterstown and serves 940 residents and 56 business customers; Southern Sanitation, Inc. operates within a 15 mile radius of Hinton and serves 800 residents and 20 businesses; and Greenbrier Valley Solid Waste serves approximately 100 residential and 2 business customers within the county boarders.

OPEN DUMPS

The Monroe County SWA in cooperation with county residents has identified 45 open dumps within the county. A countywide program utilizing alternative sentencing for prisoners for the purpose of open dump cleanup has been implemented. The Authority will continue to work with volunteer groups participating in programs such as Adopt-A Dump and will utilize, where possible, state agencies, i.e. Department of Environmental Protection's Pollution Prevention and Open Dump Program, for enforcement and cleanup efforts to help elevate open dumps within the county.

MANDATORY COLLECTION

The Monroe County SWA plans an aggressive public education program informing residents of the provisions and penalties associated with W. Va. Code §22C-4-14. Informational flyers will be inserted into all tax statements and will include a list of county haulers, locations of, and free day information on, area landfills in addition to reduction, reuse and recycling information. The Authority intends to build a database to identify households not currently subscribing to collection services for the purpose of education, allowing the opportunity to comply with the law and ultimately for enforcement.

RECYCLING

County recycling activities are currently being operated by the counties four waste haulers. Greenbrier Valley Solid Waste offers curbside pick up of OCC, newspaper, #1 and #2 plastic and aluminum and steel cans for 30 households in Glen Ray while offering drop-off services for it's remaining residential and business customers. Union Disposal offers curbside pick up of OCC and newspaper, Humphrey's Disposal has a drop-off service for OCC and newspaper and Southern Sanitation accepts OCC, newspaper and aluminum at its Summers County office. The SWA plans an ongoing recycling education program aimed at increase participation and receive properly prepared materials The Authority also plans to work with HAM Sanitary Landfill to establish a drop-off site at their location.

MONROE COUNTY SITING PLAN
ABSTRACT

Existing Facilities

Ham Landfill - Class B Solid Waste Facility, presently accepting asbestos*

Facility Zones

1.) Class A, B and C Landfills:
Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3. The remainder of the county is Tentatively Prohibited. A Class B Commercial Solid Waste Facility, Ham Landfill is authorized to accept asbestos and is awaiting issuance of a permit by the Department of Environmental Protection to begin accepting municipal solid waste and non-hazardous special solid waste.

2.) Class D Landfills:
Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3. The remainder of the county is Tentatively Prohibited.

3.) Solid Waste Transfer Stations:
Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3. The remainder of the county is Tentatively Prohibited.

4.) Recycling Facilities:
Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3. The remainder of the county is Tentatively Prohibited.

5.) Energy Recovery Facilities
Prohibited County-wide in accordance with W. Va. Code §22-15-19.

6.) Materials Recovery Facilities:
Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3. The remainder of the county is Tentatively Prohibited.

7.) Composting Facilities:
Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3. The remainder of the county is Tentatively Prohibited.

*Awaiting issuance of a permit by the Department of Environmental Protection to begin accepting municipal solid waste and non-hazardous special solid waste.

MORGAN COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

Waste generated within Morgan County is presently being transported to the LCS Landfill located in Hedgesville in Berkeley County, WV. Morgan County has a population 14,943 residents and the Authority has determined that the establishment of a new sanitary landfill in and for Morgan County is not a near term solution for waste disposal in the County. The anticipated life of the current cell at LCS, which opened July 2002, is 24 months. The remaining life of the landfill is 40+ years. The Authority concludes that the disposal needs of the county will be met for the next twenty years under the present circumstances.

SOLID WASTE COLLECTION

The solid waste collection needs of Morgan County are currently being met by one private hauling company, Morgan Sanitation, and one municipal service, the Town of Bath. The Town of Bath has approximately 440 accounts, 330 residential and 110 commercial. Morgan Sanitation serves approximately 3,700 customers, including 100 industrial/commercial clients. The Authority can assure that every resident has access to solid waste collection at their residence. Current numbers indicate that 64% of households and 86% of businesses subscribe to one of the two services.

OPEN DUMPS

The Morgan County SWA in cooperation with the Department of Environmental Protection's Pollution Prevention and Open Dump Program (PPOD), has successfully cleaned up 35 dumps in the county. They have also reclaimed 49 acres of land and collected 749 tons of material. There are currently eight open dumps identified in the county for future clean up. The identification and categorizing of open dumps is an ongoing program in the county.

MANDATORY COLLECTION

The Morgan County Solid Waste Authority has notified all residents by public notice in the county newspaper, as to the provision of W. Va. Code §22C-4-14. They will continue to educate county residents about the law through yearly newspaper promotions, handouts at local events and a direct mail campaign.

RECYCLING

The Authority operates seven drive up locations at which residents can drop off paper, cardboard, glass and cans. The service is provided once a month. They have worked with area business throughout the county in the collection of cardboard and have helped the Town of Bath institute a program for the collection of glass and cans at food establishments. The Authority has an active educational program which encourages and promotes recycling and source reduction in school, local businesses and civic and fraternal organizations.

MORGAN COUNTY SITING PLAN
ABSTRACT

Existing Facilities

Morgan County Recycling Consolidation Facility

Facility Zones

1.) Class A, B and C Landfills - Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3. The remainder of the county is Tentatively Prohibited. A Class B Commercial Solid Waste Facility (sub classified as a Materials Recovery Facility) is Authorized within the County Industrial Park.

2.) Class D Landfills - Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3. The remainder of the county is Tentatively Prohibited.

3.) Solid Waste Transfer Stations - Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3. The remainder of the county is Tentatively Prohibited.

4.) Recycling Facilities - Authorized County-wide

5.) Energy Recovery Facilities - Tentatively Prohibited County-wide.

6.) Materials Recovery Facilities - Authorized within the County Industrial Park. The remainder of the county is Tentatively Prohibited.

7.) Composting Facilities - Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3. The remainder of the county is Tentatively Prohibited.

NICHOLAS COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

The county is served by the Nicholas County Landfill which is owned and operated by the Nicholas County Solid Waste Authority. Construction is currently underway on a 0.8 acre disposal cell. In addition, the purchase of additional property for expansion could result in the extended life span of approximately 43 years for the landfill. The average monthly tonnage of solid waste deposited in the landfill is 1,200 tons.

SOLID WASTE COLLECTION

Nicholas County is served by two commercial solid waste collection companies; Nicholas Sanitation, Inc. and Western Greenbrier Disposal Service. The City of Richwood provides collection service within the city limits. The three haulers provide access to service to all Nicholas County residents.

OPEN DUMPS

The authority has identified 10 open dumps in Nicholas County. However, ongoing surveys are being done to compile a more comprehensive list. Dumps identified will be recorded on a map maintained by the Authority. They will be rated by their impact on the public health, estimated size, danger to the environment, proximity to public and private water supplies and proximity to residences for the purpose of categorizing and prioritizing clean-up. The removal of these illegal open dumps will be performed by the DEP Pollution Prevention Open Dump Program.

MANDATORY COLLECTION

The Authority has notified all residents, through public notice in the county newspaper, as to the provisions of the West Virginia Code requiring mandatory solid waste collection and proof of proper disposal. Enforcement of mandatory disposal is being carried out by the Division of Natural Resources conservation officers and DEP environmental enforcement. The conservation officers work closely with the magistrates of Nicholas County to enforce the laws. The Nicholas County Landfill tracks its customers usage by computer. This computer system, plus the use of hauler customer lists, allows them to identify proof of proper disposal.

RECYCLING

There are four collection centers for aluminum, radiators and batteries around the county. The landfill accepts used motor oil free of charge for reuse in an oil burning furnace. The authority has begun promoting recycling activities to encourage school children to bring clean, dry newspaper to the Nicholas County Landfill. The authority has been proactive in researching markets for recyclable materials. Recommendations resulting from this research include the need to purchase a baler for plastics.

NICHOLAS COUNTY SITING PLAN
ABSTRACT

Existing Facilities

Class B facility located near Calvin, WV
Class A Facility located at West Virginia Tire Disposal
(Accepting tires, construction and demolition debris and automotive fluff)

Facility Zones

1.) Class A, B and C Landfill:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: Class B facility located near Calvin, WV
Class A Facility located at West Virginia Tire Disposal near Summersville
(Accepting tires, construction and demolition debris and automotive fluff).

2.) Class D Landfills:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: Class B facility located near Calvin, WV
Class A Facility located at West Virginia Tire Disposal near Summersville.

3.) Solid Waste Transfer Stations:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: none.

4.) Recycling Facilities:
Prohibited: solely residential area, wetlands and perennial streams, surface waters, public parks, recreation areas, state and national forests. Any area where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: none.
Authorized: all areas except solely residential area or where one or more of the criteria established in 54CSR4 exists.

5.) Energy Recovery Facilities/Incinerators
Prohibited: county-wide in accordance with W. Va. Code §22-15-19.

6.) Materials Recovery Facilities:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: the Class B facility located near Calvin, WV**.**

7.) Commercial Composting Facilities:
Prohibited: in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited**:** sites with historic or cultural resources.
Authorized: all areas unless siting conflicts with 33CSR3.

OHIO COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

There are currently one Class A commercial solid waste facility in the county, Short Creek Landfill. All county waste is deposited at this facility, which is permitted at 24,200 tons per month. The county's population of 47,427, according to 2000 census data, has declined 6.8% since 1990 and is projected to continue to decrease slightly over the twenty year planning period. Therefore the authority has determined the current means of disposing of solid waste will adequately serve their needs for the near future.

SOLID WASTE COLLECTION

The county is served by three waste haulers, Jack Jochum Truck Service and American Disposal serve county residents and businesses and the city of Wheeling provides service within the city limits. All residents and commercial customers throughout the county have access to collection services

OPENS DUMPS

The authority, with the assistance of the Department of Environmental Protection's Pollution Prevention and Open Dump Program (PPOD), has clean up many of the larger dumps in the county. Since PPOD's inception, in 1989, 53 dumps have been cleaned up. Resulting in 686 tons of material removed and 41.2 acres of land reclaimed. Most of the dumps remaining in the county occur on private property which the authority addresses on a case by case basis.

MANDATORY COLLECTION

A Universal Garbage Collection Committee (UGCC), was formed to address mandatory disposal within the county. It is the mission of the UGCC to develop affordable solid waste collection, reuse, recycling and or disposal methods in which everyone will participate and which would be enforced pro-actively. Recommendations of the committee include: complying with existing statute, W. Va. Code 22C-4-10, education and seeking civil enforcement of the statute.

RECYCLING

The authority has identified plastic, metals and newspapers as the materials to be collected at three drop off locations located throughout the county. The city of Wheeling, a mandated municipality, collects clear glass, metals and newspaper curbside. The authority has the short term goal of working the JD Miller Trucking to establish a school recycling program. Items collected will include metals and paper. JD Miller presently processes all recyclables for the county and paper and metal for the city of Wheeling. The authority is working jointly with the Good Zoo at Oglebay Park on a cell phone recycling contest and a recycling program within the park.

OHIO COUNTY SITING PLAN
ABSTRACT

Existing Facilities

Class A Landfill - Short Creek

Facility Zones

1.) Class A Landfills:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: At the site of the permitted facility - Short Creek.

2.) Class B Landfills:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: At the site of the permitted facility - Short Creek.

3.) Class C Landfills:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: At the site of the permitted facility - Short Creek.

4.) Class D Landfills:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: At the site of the permitted facility - Short Creek.

5.) Solid Waste Transfer Stations:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: At the site of the permitted facility - Short Creek.

6.) Recycling Facilities:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: In areas not specifically prohibited in 54CSR4 Section 5.3 and in non residential areas.

7.) Energy Recovery Facilities/Incinerators
Prohibited: County-wide in accordance with W. Va. Code §22-15-19.

8.) Materials Recovery Facilities:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: At the site of the permitted facility - Short Creek.

9.) Commercial Composting Facilities:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 and 33CSR3 exists.
Tentatively Prohibited**:** All other areas of the county.
Authorized: At the site of the permitted facility - Short Creek and areas not densely populated providing maximum use of available land.

PLEASANTS COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

There are currently no permitted solid waste disposal facilities in the county. All county waste is deposited in the Northwestern Landfill in Wood County and the Wetzel County Landfill in Wetzel County. The county's population of 7,521 is projected to decrease slightly over the twenty year planning period. Therefore the authority has determined the current means of disposing of solid waste will adequately serve their needs for near future.

SOLID WASTE COLLECTION

The county is served by three waste haulers, Waste Management of West Virginia, Inc., Solid Waste Services of West Virginia, Inc. and N&N Disposal, Inc. The town of St. Marys provides service within the city limits. All residents and commercial customers throughout the county have access to collection services

OPENS DUMPS

The authority, with the assistance of the local Division of Natural Resources Conservation Officer, were able to inventory open dumps with the county in the spring of 2005. The authority plans to clean and stabilize the dumps with the assistance of the Department of Environmental Protection's Pollution Prevention and Open Dump Program, the cities of St. Marys and Belmont and the Pleasants County Commission. It is the objective of the authority to expand the use of incarcerated or probationary individuals to assist in open dump clean up when practical.

MANDATORY COLLECTION

The most recent information available, from a solid waste hauler survey, indicates approximately 67% of county residents subscribe to a licenced hauling service. The authority plans to educate the public regarding the law as it pertains to proper disposal of solid waste and to work with law enforcement agencies in enforcing these laws.

RECYCLING

The authority has identified paper, cardboard, aluminum, ferrous metal, glass, #1 PETE, #2 HDPE and scrap metals to be collected. These items are collected curbside within the city of St. Marys or can be dropped at the Pleasants County Recycling Center located at the Colin Anderson Center. In 2001, Tyler, Wetzel and Wirt counties began transporting their recyclables to Pleasants County for processing and marketing. The authority has developed educational materials for the city of Belmont drop-off program. An educational brochure, designed to fold into an origami-recycling box, will be distributed throughout the county in 2005. It contains recycling information, directions to the center, hours of operation and instruction on material preparation. Newspaper will be used to publicize the recycling center and encourage residents to recycle.

PLEASANTS COUNTY SITING PLAN
ABSTRACT

Existing Facilities

None

Facility Zones

1.) Class A Landfill:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

2.) Class B Landfill:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

3.) Class C Landfill:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

4.) Class D Landfill:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

5.)Solid Waste Transfer Stations:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

6.) Recycling Facilities:
Prohibited: In wetlands, 100-year floodplain and state and federal parks.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

7.) Energy Recovery Facilities/Incinerators
Prohibited: County-wide in accordance with W. Va. Code §22-15-19.

8.) Materials Recovery Facilities:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

9.) Commercial Composting Facilities:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited**:** All other areas of the county.
Authorized: None.

POCAHONTAS COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

The county is served by one landfill, which was opened in 1986 under a DNR permit. The landfill is centrally located and serves the entire county. The landfill is operated by the Pocahontas County Solid Waste Authority and plans are to continue to operate the landfill in the future.

SOLID WASTE COLLECTION

Two private haulers provide curbside pickup for certain areas of the county. The towns of Marlinton and Durbin provide curbside pickup. The two private haulers and the two towns provide collection for approximately 850 of the 3,628 households. The remainder of the county has access to a green box system. The five green boxes are emptied by Solid Waste Authority employees at the County landfill and serves approximately 3,500 house holds and camps.

OPEN DUMPS

Pocahontas County has very little problem with open or unpermitted dumps. There have been no documented cases of major open dumps since 1990. The lack of open dumps is primarily due to the mandatory solid waste disposal program for all dwellings located in the county.

MANDATORY COLLECTION

The Pocahontas County SWA has instituted a mandatory solid waste disposal program for all dwellings in the county. A solid waste assessment fee is placed on all dwellings in the county which are occupied at least one night per year. Payment of the fee gives the property owner the right to use the green boxes in the county. If a resident provides proof their garbage is being properly disposed, the fee is waived.

RECYCLING

Available at each green box site in the county are recycling bins and recycling education brochures. By placing the recycling bins at the green box sites, the public can bring their recyclables along with their solid waste all in one trip. The materials collected include: newsprint, magazines, cardboard, glass, metal cans and plastics are given to Pocahontas Recycling. White goods and tires are collected at the Pocahontas County Landfill.

POCAHONTAS COUNTY SITING PLAN
ABSTRACT

Existing Facilities

Pocahontas County Landfill
Pocahontas Recycling

Facility Zones

1.) Class A, B, C, and D Landfills - The site of the Pocahontas County Landfill and 40 acres of surrounding property are designated as authorized for a Class C and D landfill. The remainder of the county is Tentatively Prohibited.

2.) Solid Waste Transfer Stations - Tentatively Prohibited county-wide.

3.) Recycling Facilities - Pocahontas Recycling, a private recycler, is located on two acres of land approximately 5 miles from Marlinton, WV. The remainder of the county is Tentatively Prohibited.

4.) Energy Recovery Facilities - Tentatively Prohibited county-wide.

5.) Materials Recovery Facilities - Tentatively Prohibited County-wide

6.) Composting Facilities - Tentatively Prohibited county-wide.

There are few sites available to accommodate solid waste facilities since the federal and state government owns approximately two-thirds of Pocahontas County and a large portion of the privately owned land is located in the floodplain.

PUTNAM COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

Putnam County is served by two landfills located within the county. Sycamore Landfill has a projected life span of 30 years. Disposal Services's existing cell has a five year life span and the potential for an additional 20 years. Putnam County is in close proximity to 5 additional landfills. The present and future needs of Putnam county residents can be met with the existing system.

SOLID WASTE COLLECTION

Cummings Collection Services, E&L Sanitation, Waste Management and the city of Nitro are providing service to every resident and business in Putnam County. Cummings Sanitation offers their customers the option of a per bag rate in addition to a regular monthly fee.

OPEN DUMPS

The authority will continue working with the Department of Environmental Protection's (DEP) Pollution Prevention and Open Dump Program, the Division of Natural Resources (DNR), local governmental agencies and the Division of Highways (DOH) in the "Pick It Up Putnam Program" to help eliminate open dumps. It is the intent of the authority to purchase a GPS system to facilitate quick reference of dumps and better coordination with these agencies. Five litter cameras are being used at "hot spots" around the county to deter dumping.

MANDATORY COLLECTION

The authority has adopted rules for the proper disposal of solid waste. They work with haulers to identify problem households. Letters are sent to residents who have dropped off garbage service informing them of the legal requirements regarding solid waste disposal. In addition to the DEP and the DNR, the authority works with the County planning office and the health department to enforce the laws. Newspaper ads stating the requirements of proof of proper disposal are also run.

RECYCLING

The authority will continue to encourage and coordinate the development of an infrastructure that provides county residents with accessible/affordable recycling services. Two drop-off sites in the county exist in the county: West Virginia Cash'in Recyclables in Nitro and E&L Sanitation. Cummings Sanitation provides curbside recycling of newspaper, #1 and #2 plastics and steel and aluminum cans for $5.00 per bin. The authority has established an appliance recycling program which provides a $2.00 bounty on each appliance. In 2002 approximately 10,000 appliances were recycled. A mobile home recycling program has been developed in the county. Residents are educated on recycling through activities within the community and schools surrounding America Recycles Day. A "waste summit" is conducted yearly to educate the public and to receive comments and ideas from residents.

PUTNAM COUNTY SITING PLAN
ABSTRACT

Existing Facilities

Disposal Service Landfill
Sycamore Landfill
St. Albans Transfer Station
Recycling Drop-off Centers at Winfield and Hurricane

Facility Zones

1.) Class A, B, C and D Landfills - The portion of the county south of U.S. Route 60 and north of County Route 1, Northeast of County Route 5 and West of State Route 34 is Authorized. The remainder of the county is Prohibited.

2.) Solid Waste Transfer Stations - Three Authorized zones are identified, these include (1) northeast of the Kanawha River between the towns of Buffalo and Eleanor, southwest of County Routes 11, 12, 26/2 ; (2) northeast of the Kanawha River between the towns of Winfield and Poca, southwest of State Route 62; (3) west of the Kanawha River, south of Interstate 64 and east of County Route 44. The remainder of the county is Tentatively Prohibited.

3.) Recycling Facilities - The Authorized zones for recycling facilities are the same areas that are Authorized for transfer stations. The remainder of the county is Tentatively Prohibited.

4.) Energy Recovery Facilities - Prohibited county-wide in accordance with W.Va. Code § 22-15-19.

5.) Materials Recovery Facilities - Tentatively Prohibited county-wide.

6.) Composting Facilities - Yard waste composting facilities are Authorized county-wide except for the Tentatively Prohibited zone in proximity to the Kanawha River 100 year floodplain.

RALEIGH, FAYETTE AND WYOMING TRI-COUNTY COMPREHENSIVE PLAN ABSTRACT

SOLID WASTE DISPOSAL

In the tri-county area there is one Class A Commercial Solid Waste Facility located in the Raleigh County. In addition, transfer stations are located at the closed Wyoming County Landfill, Glen Fork, Baileysville and in Mullens. The largest percentage of waste produced in the tri-county region is disposed of at the Raleigh County Landfill. Montgomery and Gauley Bridge, in Fayette County dispose of their waste at the City of Charleston Landfill in Kanawha County. The current and future solid waste disposal needs of the tri-county area are being meet by the existing facilities.

SOLID WASTE COLLECTION

The tri-county area is served by seven haulers: Beckley Garbage Disposal, Inc., Lusk Disposal Service, Inc., Oak Hill Garbage Disposal, Inc., A&W Sanitation, Morgan Sanitation, Rural Garbage and Refuse and Dave's Sanitation. Public Service Commission records indicate that all residents of the tri-county area currently have access to garbage service.

OPEN DUMPS

Each county in the tri-county area has programs in place to help identify and deal with open dumps, both independently and jointly. Raleigh County employees a four person crew dedicated to fighting litter and cleaning open dumps. They also operate two surveillance cameras and continue to conduct a successful "Smile Your on Litter Camera" education program. They also work in conjunction with the Raleigh County Sheriff's "Crimestoppers" program to get information on dumping activities through a "Dumpstoppers" program. Three open dumps were cleaned up in Wyoming County in 2002 through their work with summer youth programs and inmate help. Fayette County, with the help of the county commission, employs a litter control offers for purpose of litter control and open dump clean up. All three counties work jointly with the West Virginia Division of Highways, Division of Natural Resources and the Department of Environmental Protection to identify and clean up open dumps in the area.

MANDATORY COLLECTION

The three counties in the region are in various stages of establishing programs which support W. Va. Code §22C-4-14 and the Department of Environmental Protection's Rule 33CSR7, Proof of Proper Solid Waste Disposal. Fayette County, with the cooperation of the county commission, is establishing a data base of customers on service to better track individuals not complying with the law. Wyoming county will be establishing a similar program in the future. Raleigh County is working to compile lists of individuals using their landfill's free day to determine who is disposing of their waste in a lawful fashion. They are working with local law officials to increase enforcement of violators.

RECYCLING

Fayette County has two privately operated drop-off sites and two curbside programs located in the towns of Smithers and Montgomery. Wyoming county has a county-wide mobile recycling program, with trailers serving six different locations in the county, collecting eight different recyclables. Raleigh County currently operates a drop-off center at their landfill. Raleigh County is in the process of constructing a regional recycling center which will more effectively deal with the recyclables in the tri-county area. All programs are supported by education efforts directed towards the local schools and communities.

RALEIGH COUNTY SITING PLAN
ABSTRACT

Existing Facilities

Raleigh County Landfill.

Facility Zones

1.) Class A, B and C Landfills:
Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. The site of the Raleigh County Landfill is approved as a Class A facility, the remainder of the county is Tentatively Prohibited.

2.) Class D Landfills:
Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. Raleigh has two permitted Class D facilities, both in Beckley at or near the landfill. The remainder of the county is Tentatively Prohibited.

3.) Solid Waste Transfer Stations:
Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. The remainder of the county is Tentatively Prohibited.

4.) Recycling Facilities:
Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. The recycling facility at the Raleigh County Landfill is Authorized, the remainder of the county is Tentatively Prohibited.

5.) Energy Recovery Facilities
Prohibited County-wide in accordance with W. Va. Code §22-15-19.

6.) Materials Recovery Facilities:
Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. A Materials Recovery Facility is currently under construction at the Raleigh Count Landfill and is Authorized. The remainder of the county is Tentatively Prohibited.

7.) Composting Facilities:
Prohibited in areas where of one or more of the criteria established in 54CSR4 Section 5.3 exists. The remainder of the county is Tentatively Prohibited. This does not include backyard composting by individuals which in encouraged.

RANDOLPH COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

Currently, waste generated in Randolph County is disposed at landfills in Harrison, Randolph and Tucker Counties. Approximately 1,500 tons per month is sent to these landfills. These landfills have a permitted capacity of 37,999 tons per month. No need for additional disposal capacity is foreseen.

SOLID WASTE COLLECTION

Residential and commercial collection is provided by the City of Elkins and the Town of Mill Creek. Three private companies are certificated by the West Virginia Public Service Com mission (PSC) to provide solid waste collection service throughout the remainder of the County. The largest, Tygart Valley Sanitation, has a certificate for the entire County except the northeast corner. It is committed to collecting solid waste from any household that can be reached by pick-up truck.

MANDATORY COLLECTION

A Mandatory Garbage Disposal Program would involve constant monitoring and enforcement actions involving an office, staff, telephone and legal expenses. The Randolph County Solid Waste Authority (RCSWA) does not have the resources to pay for all that is required to implement the program. In addition to funds already spent as chronicled elsewhere in this presentation, the RCSWA is faced with funding for recycling, payments for oversight of prisoners and/or probationers, if use can be worked out, promiscuous dump clean up, possible collection stations and administrative personnel.

OPEN DUMPS

Currently, there are no open dumps per se in Randolph County although, several roads are extensively littered. These include: Laurel Mt. Rd., Bradley Rd., Mcgee Rd., Elliots Ridge Rd., Rich Mt. Rd., the flood control area around Ward Rd. and Ferguson Rd. (Crystal Springs Area). There has been good cooperation between the RCSWA, the State Division of Highways, Division of Natural Resources, State Police and Sheriff's Office in litter and open dump clean-up and control. Municipalities, fire departments, newspapers, radio and television have also cooperated in clean up and public information efforts.

RECYCLING

Currently, the RCSWA is involved in recycling the following materials: cardboard, newspaper, aluminum cans, scrap aluminum, "dirty" aluminum, glass and steel cans. The Authority also coordinates and receives statistics on recycling activities from the private sector for used motor oil, "white elephant" appliances and batteries. The program has evolved over the last ten years from one that relied on the efforts of a volunteer group "Pride Against Litter", to one that relies on RCSWA volunteers, employees and the private sector. It will probably evolve further into an activity which will rely more heavily on the private sector. Simply stated, as a program's volume and complexity increases, more time and resources are required to keep it running. Volunteer time is by nature limited; burnout becomes the norm. State funding and commitment to this activity has been limited at best, since revenue is based on the quantity disposed, not on the quantity recycled. The Authority currently relies on a "drop-off center" located in Daley, WV and will soon have a mobile recycling trailer which will make drop-off recycling more available to all county residents.

RANDOLPH COUNTY SITING PLAN
ABSTRACT

Existing Facilities

Elkins-Randolph Landfill
Tygart Valley Sanitation Transfer Station

Facility Zones

In the siting plan, the county is divided into three zones. **Zone 1** is composed of easily identified areas in which large scale solid waste facilities (i.e. landfills, incinerators, energy recovery and composting) are clearly inappropriate. These areas include: the extensive area occupied by the Monongahela National Forest on the eastern side of the county including both public and private lands; the City of Elkins and the built up area around Elkins, other incorporated and unincorporated communities where there is dense residential and commercial development; the required airport clear zone; Kumbrabow State Forest; and the corridors of the Middle Fork, Tygart Valley and Shavers Fork rivers.

Zone 2 is made from all the land in Randolph County which is not in either Zone 1 or Zone 3. Included in this zone is all the territory west of the national forest except the built up area around Elkins, the Tygart Valley River Corridor, other densely populated communities, the state forest and most of the former Roaring Creek magisterial district which is in Zone 3. Class A and B landfills, and energy recovery facilities are prohibited in this Zone. Class C and D landfills, transfer stations, recycling, material recovery and composting facilities which are limited to capacity suitable to serve Randolph County are allowed, subject to the Schedule of Restrictions and Performance Standards.

Zone 3 is comprised of the area, adjacent to U.S. Route 33 and/or Corridor H in the former Roaring Creek magisterial district. This area, for the reasons given under Siting Rationale is considered to be the most appropriate for the development of a large, regional scale landfill or energy recovery facility. All solid waste facilities, except Class A landfills and Energy Recovery facilities are allowed in Zone 3 areas, subject to the Schedule of Restrictions and Performance Standards. Class A Landfills and energy recovery facilities are tentatively prohibited.

REGION VIII COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

Two transfer stations, located in Romney and Petersburg, and operated by the solid waste authority, are presently handling the majority of waste generated in the region. The Tucker County Landfill in Davis is the destination for the waste accepted at the transfer stations. It has been concluded that the needs of the region are being met with the current system and that a new sanitary landfill in the region is not necessary at this time.

SOLID WASTE COLLECTION

The five county region is served by seven solid waste haulers: ENVIRCO, Inc., Grant County Disposal Service, Inc., North Fork Disposal, Robert Peer Trash Service, Howell Sanitation, Knobley Mt. Hauling and United Disposal Service. The authority has determined that all residents of the region have reasonable access to solid waste collection services at this time.

OPEN DUMPS

The authority intends to identify all open dumps in the region and maintain them on a map in their office. Dumps will be rated and prioritized for clean up according to impact on public health, estimated size, danger to the environment and other relevant factors. The authority will continue to work with the Department of Environmental Protection's Pollution Prevention and Open Dump Program and other state and local agencies to identify and actively promote the clean up of open dumps. Since 1989 PPOD has been successful in cleaning up 386 open dumps in the region.

MANDATORY COLLECTION

Region VIII SWA agrees with and supports the states mandatory disposal laws. In order to educate the public of their responsibilities for proper disposal the authority will publish notices in all county newspapers siting the provision and penalties associated with W. Va. Code §22C-4-10. The authority recognizes that enforcement agencies sometimes lack resources and will therefore consider entering into inter-agency agreements to help in these efforts.

RECYCLING

Region VIII has identified glass, aluminum and ferrous metals as the most practical items to be recycled within the region. Because of the rural nature of the region, curbside recycling is not practical at this time. Drop-off collection centers located at the transfer stations and/or other convenient locations are the preferred collection methods. Three recycling buy back centers are presently operating in Moorefield, Petersburg and Ridgeley.

REGION VIII SITING PLAN
ABSTRACT

Existing Facilities

Two transfer stations: Petersburg & Romney

Facility Zones

1.) Class A, B and C Landfills:
Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. The remainder of the county is Tentatively Prohibited.

2.) Class D Landfills:
Tentatively Prohibited except in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.

3.) Solid Waste Transfer Stations:
Authorized in Petersburg and Romney at site of present facilities. Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. The remainder of the county is Tentatively Prohibited.

4.) Recycling Facilities:
Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. The remainder of the county is Tentatively Prohibited.

5.) Energy Recovery Facilities
Prohibited County-wide in accordance with W. Va. Code §22-15-19.

6.) Materials Recovery Facilities:
Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. The remainder of the county is Tentatively Prohibited.

7.) Composting Facilities:
Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. The remainder of the county is Tentatively Prohibited.

RITCHIE COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

Ritchie County's solid waste is currently being disposed of at Northwestern Disposal Company in Wood County. The landfill is easily accessed on Rt 50, 22 miles from the Ritchie County Recycling Center. Ritchie County produces approximately 720 tons of waste per month and with population projections showing only a small increase it has been determined that the present system for disposing of municipal solid waste will serve Ritchie County for the planning period.

SOLID WASTE COLLECTION

Ritchie County is served by five commercial haulers. The haulers and the number of customers served is as follows: Jack's Septic - 51, Joy's Disposal - 989, Petroleum Sanitation 125, R&L Trash 400 and N&N Disposal 1,500. It has been determined that although, approximately two thirds of residents don't subscribe to commercial service, every resident of the county does have access to service provided by a Public Service Commission certified carrier.

OPEN DUMPS

The SWA began Phase II of illegal/open dump removal by reassessing dump status in conjunction with the Department of Environmental Protection's Pollution Prevention and Open Dump (PPOD) Program in 1997. Maps were updated and dumps scheduled for removal. The total tonnage being recovered in open dumps in the county has significantly diminished during recent years in part to early success. Approximately 48 tons of steel has been recycled and 13 acres of land reclaimed as a result of the clean ups. The SWA will continue their efforts through the planning period.

MANDATORY COLLECTION

The SWA has developed a program for mandatory disposal within the county which includes a proposed ordinance to be enacted by the county commission. They will continue to work with the county commission to achieve the adoption of the ordinance and meanwhile will undertake an extensive county wide educational program in order to get support for the referendum, which supports mandatory collection and proof of proper disposal laws.

RECYCLING

The Ritchie County Recycling Center operates a drop off center in Ellenboro. In 2002 materials recycled and marketed included: aluminum cans - 3.29 tons, nonferrous metals - 11.91 tons, newspaper - 13.50 tons and cardboard - 42.28 tons. The proposed public education program includes advertising in local newspapers and initiating informative and educational articles for publication. There is also a plan to establish communication with area business to help educate them on how to further reduce waste.

RITCHIE COUNTY SITING PLAN
ABSTRACT

Existing Facilities

Ritchie County Recycling Center

Facility Zones

1.) Class A, B, C, D Landfills - The entire county is Tentatively Prohibited, except for those areas zoned as Prohibited because of one or more of the criteria established in 54CSR4 Section 5.3.

2.) Solid Waste Transfer Stations - Tentatively Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3.

3.) Recycling Facilities - Authorized county-wide except certain areas of the county where such facilities are Tentatively Prohibited because of one or more of the criteria established in 54CSR4 Section 5.3.

4.) Energy Recovery Facilities - Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3.

5.) Materials Recovery Facilities - Tentatively Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3.

6.) Composting Facilities - Tentatively Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3.

ROANE COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

Currently, there is no operating, permitted landfills within Roane County. Waste from Roane County is transported to the Kanawha County Landfill. Population projections through 2025 show a slight decrease. The county currently produces approximately 923 tons of solid waste per month which is expected to decrease in relation to population over the next twenty years. Based on these projections the present system of disposal will continue to serve the county into the foreseeable future.

SOLID WASTE COLLECTION

County residents and commercial establishments are serviced by two private haulers; Waste Management of WV, Inc. and Hizer Trucking. Information provided by the haulers indicates that 3289 households are subscribing to service. All areas of the county have access to service.

OPEN DUMPS

The SWA is working with the Department of Environmental Protection's Pollution Prevention and Open Dump Program (PPOD), local volunteer organizations and civic groups to help identify and clean up open dumps within the county. Many of these dumps are located on secondary roads throughout the county. There are approximately eight know open dumps in the county at the writing of the plan. Since the inception of the PPOD Program in 1989 approximately 27 dumps have been cleaned up, removing 909 tons of material and reclaiming 22 acres of land.

MANDATORY COLLECTION

The authority recognizes and supports the mandatory disposal law W. Va. §22C-4-10. Lists from certified haulers indicate that although every resident has access to service only about 53% of households subscribe to service. The SWA intends to encourage residents to subscribe though advertising. The authority feels that without strong enforcement efforts they will not be as successful as they could be.

RECYCLING

The SWA operates a drop off recycling facility in the town of Spencer and has positioned a collection bin at the Roane-Jackson Vocational Technology School. Designated recyclable items include: Plastics #1 and #2, aluminum and tin cans, glass, office paper, cardboard, newspaper and other paper products. Materials collected at the facility are transported the Kanawha County SWA for sale. The authority intends to continue educational efforts through the distribution of brochures and flyers, utilizing local radio stations and through appearances at churches, youth and civic groups and schools.

ROANE COUNTY SITING PLAN
ABSTRACT

Existing Facilities

Roane County Solid Waste Authority Recycling Center, Spencer.

Facility Zones

1.) Class A Landfills:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

2.) Class B Landfills:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

3.) Class C Landfills:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

4.) Class D Landfills:
Prohibited: None.
Tentatively Prohibited: Countywide.
Authorized: None.

5.) Solid Waste Transfer Stations:
Prohibited: None.
Tentatively Prohibited: Countywide.
Authorized: None.

6.) Recycling Facilities:
Prohibited: None.
Tentatively Prohibited: Countywide.
Authorized: None.

7.) Energy Recovery Facilities/Incinerators
Prohibited: Countywide in accordance with W. Va. Code §22-15-19.

8.) Materials Recovery Facilities:
Prohibited: None.
Tentatively Prohibited: Countywide.
Authorized: None.

9.) Commercial Composting Facilities:
Prohibited: None.
Tentatively Prohibited**:** Countywide.

SUMMERS COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

Summers County's solid waste is currently being disposed of in the Greenbrier, Mercer and Raleigh County Landfills. The three landfills have a projected life span of 94 years. In addition, the HAM Sanitary Landfill in Monroe County is permitted to begin accepting municipal solid waste and will be begin doing so in the near future. A projected population increase of 21% in Summers County through 2025 will create an estimated 966 tons of waste per month. Even with the increase in tonnage the authority has determined there is sufficient landfill capacity to serve the county through the planning period.

SOLID WASTE COLLECTION

Summers County is served by Southern Sanitation, Inc. The hauler reports approximately 3,110 households and 200 business on service. They offer drop-off recycling for corrugated cardboard, newspaper and aluminum cans. Census figures for 2000 indicate Summers County has 14,389 residents, a significantly higher number than those on service, however, the authority has determined all county residents have access to service.

OPEN DUMPS

The SWA has worked with the Department of Highways, school bus and hauling service drivers to identify open dumps. The SWA acts as a "report point" for citizens who witness dumping or have complaints about open dumps. Complaints are forwarded to law enforcement agencies and the Department of Environmental Protection's Pollution Prevention and Open Dump (PPOD) Program. The authority will being mapping dump locations and continue to work closely with PPOD and other groups to eliminate them.

MANDATORY COLLECTION

The SWA has adopted a plan to implement mandatory disposal regulations. A flyer has been developed for distribution in personal property tax statements. The flyer explains the laws, identifies the local hauler, recycling opportunities and free days at the landfill. A data base of waste service subscribers will be compared to hauler customer lists. Nonsubscribers will be contacted and given the opportunity to show proof of proper disposal or sign up for service. Only as a last resort will enforcement methods be employed.

RECYCLING

Southern Sanitation offers recycling activities within the county through a drop off program. They accept OCC, newspaper and aluminum cans. The SWA has a public education program which is designed to increase participation in recycling and educate the public how to properly prepare materials for recycling. Information is to be distributed in tax mailings outlining the "how and where" of recycling in Summers County. Refrigerator magnets listing items, preparation and schedules for drop off bins will also be distributed.

SUMMERS COUNTY SITING PLAN
ABSTRACT

Existing Facilities

None

Facility Zones

1.) Class A, B and C Landfill:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: none

2.) Class D Landfills:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: none.

3.) Solid Waste Transfer Stations:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: none.

4.) Recycling Facilities:
Prohibited: areas prohibited by geological and hydrological criteria and socio-economic criteria.
Tentatively Prohibited: none.
Authorized: county wide.

5.) Energy Recovery Facilities/Incinerators
Prohibited: county-wide in accordance with W. Va. Code §22-15-19.

6.) Materials Recovery Facilities:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: none.

7.) Commercial Composting Facilities:
Prohibited: areas prohibited by geological and hydrological criteria and socio-economic criteria
Tentatively Prohibited**:** county-wide except where prohibited.
Authorized: none.

TAYLOR COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

The solid waste disposal needs of Taylor county are currently being met by the landfills in Harrison County. The population of Taylor county is projected to grow by approximately 1,700 through 2030. The amount of waste produced would increase to 1,100 tons per month compared to the 2005 amount of 996 tons per month. The SWA has concluded that the disposal needs needs of the county will continue to be met by the existing system through the planning period.

SOLID WASTE COLLECTION

Residential service in Taylor is provided by four waste haulers. Three private haulers: Waste Management, Inc., Allied Waste and Refuse Control Systems provide service to various parts of the county. The city of Grafton provides service for city residents. The SWA has determined that all residents of the county have access to service.

OPEN DUMPS

Although open dumps are a problem the SWA feels it has done a good job of controlling and eliminating large open dumps from the county. By working closely with the Department of Highways, DNR conservation officers, postal employees and the county commission they have developed an excellent system of identifying dumps within the county. Once the dumps are siting the SWA contracts for clean up. They pay all fees/expenses associated with the clean up. They work with the DEP, community volunteers and the Pruntytown Correctional Facility to help in clean ups.

MANDATORY COLLECTION

Although all residents of the county have access to solid waste disposal the SWA had identified approximately 600 residents which do not subscribe to service. That is nearly 1/10 of the households in the county. The SWA uses all available media sources to educate and inform residents about the two legal options of proper waste disposal.

RECYCLING

In 2005, 531.42 tons of recyclables were collected for processing in Taylor County. The county has designated the following items for recycling: steel, aluminum, newspaper, corrugated cardboard, magazines, milk jugs, pop bottles, office paper and all #1 and #2 plastics. Taylor began offering curbside recycling for residents in 1992. The authority has an aggressive public education program and works closely with the North Central West Virginia Recycling Cooperative.

TAYLOR COUNTY SITING PLAN
ABSTRACT

Existing Facilities

RRHAMCO Recycling Buy-Back Center
Refuse Control Systems Recycling Center
Taylor County Workshop (Non-commercial) Compost Facility

Facility Zones

1.) **Class A, B, C, D Landfills**
Authorized - None.
Tentatively Prohibited - All areas of countynot otherwise prohibitaed by criteria established in 54CSR 5.3.
Prohibited - Areas prohibited by criteria established in 54CSR 5.3.

2.) Solid Waste Transfer Stations
Authorized - None.
Tentatively Prohibited - All areas of countynot otherwise prohibitaed by criteria established in 54CSR 5.3.
Prohibited - Areas prohibited by criteria established in 54CSR 5.3.

3.) Recycling Facilities
Authorized - None.
Tentatively Prohibited - All areas of countynot otherwise prohibitaed by criteria established in 54CSR 5.3.
Prohibited - Areas prohibited by criteria established in 54CSR 5.3.

4.) Energy Recovery Facilities
Authorized - None.
Tentatively Prohibited - None.
Prohibited - Countywide

5.) Materials Recovery Facilities
Authorized - None.
Tentatively Prohibited - All areas of countynot otherwise prohibitaed by criteria established in 54CSR 5.3.
Prohibited - Areas prohibited by criteria established in 54CSR 5.3.

6.) Composting Facilities
Authorized - None.
Tentatively Prohibited - All areas of countynot otherwise prohibitaed by criteria established in 54CSR 5.3.
Prohibited - Areas prohibited by criteria established in 54CSR 5.3.

TUCKER COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

Tucker County's solid waste disposal needs are currently being met by the Tucker County Landfill. Although problems have surfaced over the past several years forcing the landfill to divert the waste stream action has been taken to correct those problems and it is felt that the Tucker County Landfill will continue to be the main depository of waste for Tucker County.

SOLID WASTE COLLECTION

It has been determined that all residents of Tucker County have access to solid waste collection services. The municipalities of Parsons, Hendricks, Hambleton, Thomas and Davis provide curbside service to their residents. Sunrise Sanitation and Typart Valley Sanitation Service provide service to the balance of residents and businesses in the county.

OPEN DUMPS

The SWA has set as a short term goal the design and development of a county-wide open dump clean up program and begin working to effectively reduce illegal dumps within Tucker County. They are working with the DEP Pollution Prevention and Open Dumb Program. A file for reporting, tracking and cleaning up open dumps is now located at the SWA office in Davis.

MANDATORY COLLECTION

The SWA has adopted a plan to implement mandatory disposal regulations. It includes advertising in the newspaper and on radio informing residents of the laws and the penalties for not complying with proper disposal requirements.

RECYCLING

The authority has set as a goal the development of solid waste reduction plans and to increase the amount of material recycled from state, county and municipal agencies, organizations and colleges. Approximately 55 tons of metal was recycled by the SWA in 2003. Sunrise Sanitation operates a drop-off site in Thomas, Davis, and other locations around the county. Items collected include: steel cans, aluminum, cardboard, newspapers, batteries and used motor oil.

TUCKER COUNTY SITING PLAN
ABSTRACT

Existing Facilities

Class B Facility - Tucker County Landfill

Facility Zones

1.) Class A Landfill:

Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: none.

Class B and C Landfill

Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: Tucker County Landfill site.

2.) Class D Landfills:

Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: none.

3.) Solid Waste Transfer Stations:

Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: Tucker County Landfill.

4.) Recycling Facilities:

Prohibited: In wetlands, 100 year flood plain, state and federal parks
Tentatively Prohibited: all other areas of the county
Authorized: none.

5.) Energy Recovery Facilities/Incinerators

Prohibited: county-wide in accordance with W. Va. Code §22-15-19.

6.) Materials Recovery Facilities:

Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: county-wide.
Authorized: none.

7.) Commercial Composting Facilities:

Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited**:** county-side except where prohibited**.**
Authorized: none.

TYLER COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

The solid waste disposal needs of Tyler County are presently being met by transportation to the Wetzel County Sanitary Landfill, located approximately 0.4 miles from the Tyler county line and S&S in Harrison County. The Wetzel County Landfill has a monthly tonnage limit of 9,999. The average tonnage accepted at the landfill in FY2002 was 5,900 tons per month, 60% of permitted capacity. Population projections through 2025 indicate a growth of 2.2% in Tyler County. Therefore, it has been determined that the solid waste disposal needs for Tyler County will continue to be met through the present system through the planning period.

SOLID WASTE COLLECTION

Tyler County is presently being served by two commercial solid waste haulers. Solid Waste Services of WV provides services to the rural areas in the northern and western parts of the county. Middle Island Enterprises provides service to the southern and eastern parts of the county. Three municipalities provide serviced to their citizens. Sistersville provides their own collection services. Paden City and Middlebourne contract with Solid Waste Services for collection. At present 3,092 (72%) of county residents subscribe to weekly solid waste collection. It has been determined that all residents have access to service.

OPEN DUMPS

There are numerous open dumps located throughout the county, largely on back roads and remote areas. Since 1989 the Department of Environmental Protection, Pollution Prevention and Open Dump (PPOD) Program has cleaned up 54 dumps. This resulted in the removal of 964 tons of material, the reclamation of 32 acres of land and the recycling of 284 tons of steel. The authority plans to continue working with the DEP and other groups to monitor and remove open dumps in the county.

MANDATORY COLLECTION

The Tyler County SWA will assist the Division of Natural Resources, and law enforcement with enforcement of the Mandatory Solid Waste Disposal Rules. The authority will notify all residents not subscribing to service, or disposing of waste in the proper manner, by registered mail. The authority will fund the deployment of a law enforcement official to check residents that don't reply.

RECYCLING

The Tyler County SWA participates in a county wide curbside recycling program with Wetzel County. Aluminum and bimetal cans, glass, plastic and cardboard is also collected. One thousand curbside recycling containers have recently been purchased to expand the program. Materials are purchased or received at no cost by Northern Mountain State Metal's New Martinsville facility. Public education is accomplished through direct mailings, radio and print advertising and public service announcements. The authority also distributes flyers and conducts recycling presentations to area businesses and schools.

TYLER COUNTY SITING PLAN
ABSTRACT

Existing Facilities

Wade's Composting - Rt. 18 Middlebourne

Facility Zones

1.) Class A, B and C Landfill:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: none.

2.) Class D Landfills:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: none.

3.) Solid Waste Transfer Stations:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: none.

4.) Recycling Facilities:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: none.

5.) Energy Recovery Facilities/Incinerators
Prohibited: county-wide in accordance with W. Va. Code §22-15-19.

6.) Materials Recovery Facilities:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: none.

7.) Commercial Composting Facilities:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: Wade's Composting - Rt. 18 Middlebourne.

UPSHUR COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

Upshur County's solid waste disposal needs are currently being met by S & S Landfill in Harrison County. Most waste is transported to the City of Buckhannon's Transfer Station prior to being deposited in the landfill. Approximately 22 tons of waste per month is hauled directly to S & S. Population and tonnage projections for the county show a slight increase over the next 20 years. The SWA concludes the disposal needs of the county can continue to be met by the existing system.

SOLID WASTE COLLECTION

Residential service in Upshur county is provided by Weston Transfer, Inc and the City of Buckhannon. Browning Ferris Industries provides service to commercial and industrial accounts in the area. Approximately 6,033 residents are signed up for service and another 677 transport their waste directly to the transfer station. Under the present structure it is determined that all residents within the county have access to waste collection services.

OPEN DUMPS

The SWA has worked effectively with the Department of Environmental Protection's Pollution Prevention and Open Dump Program and various volunteer groups to clean up open dumps and litter in the county. The Upshur County Litter Control Board has adopted a open dump clean up program and also works in conjunction with the SWA. Work with these groups will continue throughout the next planning cycle.

MANDATORY COLLECTION

The SWA has done a series of mailings to property owners to educate and to determine the number of residents not following proper disposal regulations. In addition the City of Buckhannon canvases customers on rural routes making residents aware of disposal laws and fines. The SWA will continue to educate the public on the mandatory disposal laws and the proper ways to dispose of their solid waste. Working with local law enforcement and certificated haulers they will continue to gather information on those disposing of their waste properly and improperly. It is estimated that approximately 95% of county residents are currently in compliance with mandatory disposal regulations.

RECYCLING

The Upshur County Solid Waste Authority Recycling Center building was completed in 1995. The day to day operations of the center are handled by the City of Buckhannon. The city has a contract with the North Central West Virginia Recycling Cooperative (NCWVRC) for processing materials to be marketed by the NCWVRC. The City of Buckhannon offers a drop-off recycling area at the Wal-Mart at Crossroads. Participation in recycling at county schools is high. Each year all county fourth graders visit the City of Buckhannon Recycling Center to learn about recycling. Items currently being recycled include: steel, aluminum, corrugated cardboard, office paper, newspaper, magazines & catalogues, clear glass, milk jugs, #2HDPE plastic with necks, pop bottles and used motor oil.

UPSHUR COUNTY SITING PLAN
ABSTRACT

Existing Facilities

City of Buckhannon Transfer Station
City of Buckhannon Recycling Facility

1.) Class A, B and D Landfills
Authorized - None.
Tentatively Prohibited - Zone 3.
Prohibited - Zone 1 and 2.

2.) Class C Landfills
Authorized - None.
Tentatively Prohibited - Zone 2 and 3.
Prohibited - Zone 1.

3.) Transfer Stations
Authorized - City of Buckhannon
Tentatively Prohibited - Zone 1, 2 and 3 for county.
Prohibited - Zone 3 for regional.

4.) Recycling Facilities
Authorized - City of Buckhannon
Tentatively Prohibited - Zone 1, 2 and 3 for county.
Prohibited - Zone 2 and 3 for regional.

5.) Energy Recovery Facilities/Incinerators
Authorized - None
Tentatively Prohibited - None.
Prohibited - Countywide.

6.) Materials Recovery Facilities
Authorized - None
Tentatively Prohibited - Zone 1 and 2 for county.
Prohibited - Zone 3 for county; Zone 2 and 3 for regional.

7.) Composting Facilities
Authorized - None.
Tentatively Prohibited - Zone 1 and 2 for county.
Prohibited - Zone 3 for county; Zone 2 and 3 for regional.

The Upshur County Solid Waste Authority has divided the county into zones based on 54CSR5. Detailed maps and explanations of zones are found in the plan.

WAYNE COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

Wayne County has no Class A, B, C or D landfills. The Solid Waste Authority (SWA) feels that the volume of municipal solid waste produced in Wayne can be adequately managed by the Sycamore and Disposal Services landfills, both in Putnam County. Both Sycamore and Disposal Services have projected life expectancies of several years. Wayne residents may also have access to two Kentucky landfills, Cooksey Brothers and Green Valley. Wayne has no transfer stations, material recovery facilities or composting facilities.

SOLID WASTE COLLECTION

The residents of Wayne County have access to the services of two private sector haulers, Dalton Brothers and Browning Farris Industries. The municipalities of Ceredo, Kenova, Wayne and Huntington provide collection services for their residents. The present system provides all Wayne County residents with access to collection service.

OPEN DUMPS/LITTER CONTROL

Currently, the SWA has identified 12 open dumps within the county. The authority has implemented an alternative sentencing program in cooperation with local law enforcement to facilitate open dump cleanup and litter control. The West Virginia Contractors Association has provided assistance in open dump clean up. The authority will continue to cooperate with other agencies such as the Department of Environmental Protection's Pollution Prevention and Open Dump Program (PPOD), in cleanup efforts. To date, PPOD has helped cleanup 346 dumps reclaiming 193 acres of land. Wayne county has an active Adopt-A-Highway program with 130 member participants having picked up over 2,000 bags of litter.

MANDATORY COLLECTION

The SWA intends to canvas local haulers and landfills to determine which residents are not disposing of their waste legally. Resulting information will be passed on to local law enforcement and DNR officials for enforcement. The Authority is considering the adoption of regulations to support mandatory disposal as per W. Va. Code §22C-4-10.

RECYCLING

The Authority provides curbside recycling for 324 households in the town of Wayne. The county has one private sector recycler and residents also have access to several recyclers in surrounding counties. Designated recyclable items include: container glass; aluminum; ferrous metals; paper, newspaper, corrugated and office paper, plastic and ferrous metals. The SWA currently operates a mobile drop-off recycling program that collects recyclables at three locations in the county.

WAYNE COUNTY SITING PLAN
ABSTRACT

Existing Facilities

None

Facility Zones

1.) Class A, B and C Landfills:
Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. The site of the former Prichard Landfill is approved as a Class B facility, the remainder of the county is Tentatively Prohibited. The Prichard Landfill was closed in 1996.

2.) Class D Landfills:
Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. The remainder of the county is Tentatively Prohibited.

3.) Solid Waste Transfer Stations:
Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. The remainder of the county is Tentatively Prohibited.

4.) Recycling Facilities:
Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. The remainder of the county is Tentatively Prohibited.

5.) Energy Recovery Facilities
Prohibited County-wide in accordance with W. Va. Code §22-15-19.

6.) Materials Recovery Facilities:
Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. The remainder of the county is Tentatively Prohibited.

7.) Composting Facilities:
Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. The remainder of the county is Tentatively Prohibited. This does not include backyard composting by individuals.

WEBSTER COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

The Webster County Landfill, a Class B Commercial Solid Waste Facility, is located within the county. In addition to the Webster County Landfill the following landfills are currently permitted for operation in surrounding counties: Nicholas County Landfill, Pocahontas County Landfill and the Greenbrier Landfill.

SOLID WASTE COLLECTION

Presently, two companies possess certificates of "Convenience and Necessity" from the Public Service Commission to serve the citizens of Webster County, Smalley Sanitation, Inc. and Martin Sanitation. The Authority maintains that every resident of the county has access to a collection service at their residence. All collection of solid waste is and will continue to be conducted by private collection firms or municipalities. The Webster County Solid Waste Authority does not intend to engage in the direct collection of solid waste.

OPEN DUMPS

In an effort to obtain a current list of open dumps in the county the Authority will survey the county to identify all open dumps which will be reported on a map and maintained at the Authority. Dumps will be prioritized and clean-ups will be actively promoted through the Department of Environmental Protection's Pollution Prevention and Open Dump Program (PPOD), the Division of Highways and other groups. The authority will commit funds, as available, toward necessary expenses for personnel, equipment and other related costs for clean-up. The use of surveillance cameras is also planned.

MANDATORY COLLECTION

The Authority agrees with the mandatory garbage disposal provisions and penalties associated with W. Va. Code §22C-4-14. All residents have been notified by public notice in the two county newspapers as to the provisions of the Code. The Authority states that the enforcement of the mandatory collection and disposal laws is the responsibility of designated law enforcement agencies.

RECYCLING

Because of the geography within the county the Authority has determined that curbside recycling is not the most efficient or effective manner to collect recyclables within the county. The preferred method of collection is conveniently located drop-off centers. Four items have been designated for recycling within the county: aluminum, newspaper, office paper and batteries. The Authority will continue to promote placement of drop-off boxes for recyclables at the five county schools and special events such as the Webster County Fair and the Woodchopping Festival.

WEBSTER COUNTY SITING PLAN
ABSTRACT

Existing Facilities

Webster County Landfill, Webster Springs - Class B

Facility Zones

1.) Class A, B and C Landfills:
Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. The remainder of the county is Tentatively Prohibited. Authorized: The area that consist of the Webster County Landfill.

2.) Class D Landfills:
Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. The remainder of the county is Tentatively Prohibited.

3.) Solid Waste Transfer Stations:
Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. The remainder of the county is Tentatively Prohibited.

4.) Recycling Facilities:
Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. The remainder of the county is Tentatively Prohibited.

5.) Energy Recovery Facilities
Prohibited county-wide in accordance with W. Va. Code §22-15-19.

6.) Materials Recovery Facilities:
Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. The remainder of the county is Tentatively Prohibited.

7.) Commercial Composting Facilities:
Prohibited in areas where one or more of the criteria established in 54CSR4 Section 5.3 exists. The remainder of the county is Tentatively Prohibited.

WETZEL COUNTY COMPREHENSIVE LITTER AND SOLID WASTE CONTROL PLAN ABSTRACT

SOLID WASTE DISPOSAL

Wetzel County is served by the Wetzel County Landfill, a Class B facility, permitted at 9,999 tons per month. The three collection services and two municipal collection services in the county deposit their waste in the landfill. The county produced a monthly average of 1,438 tons in 1999 and 1,610 tons in 2000. Based on population estimates/generation and disposal rates for Wetzel County and easy access to two landfills within their wasteshed, Wasteshed A, it is clear that Wetzel County has more than enough capacity to satisfy their waste disposal needs for the next 20 years.

SOLID WASTE COLLECTION

The county is served by three commercial waste haulers and two municipal programs. Martyn's Service, Inc., serves the southeastern portion of the county, Wall's Sanitation, Inc., serves the northeast and Solid Waste Services of West Virginia, Inc. serves the western part of the county. The cities of Hundred and Pine Grove provide collection services to the customers within their own boarders.The above arrangement serves to make garbage service to all residents of the county.

OPEN DUMPS

Sixty-one open dumps have been identified within the county. Information on the location and size of the open dumps is provided in an Open Dump Log and Open Dump Map. Current statistics show that 39 dumps have been removed and 50.25 acres have been reclaimed. Individuals, clubs and civic groups volunteer during open dump clean up operations and the DEP's Division of Waste Management provide assistance in clean ups. Identifying and cleaning up these dumps is a county priority.

MANDATORY COLLECTION

The Wetzel County Solid Waste Authority (WCSWA) recognizes the improper disposal of solid waste as a problem siting, lack of incentives for proper disposal and inadequate enforcement capabilities. In addressing this issue, the WCSWA has and will continue to pursue information regarding the proper disposal of all solid waste within the county and coordinate efforts to ensure the proper collection and disposal is taking place within the counties boarders.

RECYCLING

Curbside recycling services are offered by the town of New Martinsville and the Wetzel and Tyler County Solid Waste Authorities, which serve the towns of Middlebourn, Pine Grove, Reader, Friendly, New Martinsville, Paden City, Sistersville, Rolling Acres, Beechwood Estates and two housing developments. Materials collected include glass, metals and plastics.WCSWA considers education and public acceptance the key to a successful recycling program and will continue to work with local organizations to educate and encourage recycling within the county.Plans are also being made to use an area in the New Martinsville City Park along Rt 2 to locate a building that could be used as a storage drop-off location for recyclables. The Tyler-Wetzel Recycling Project, which grew from the New Martinsville Recycling Program is supported by an advisory committee consisting of members of the Tyler and Wetzel County Solid Waste Authorities and city council members. They oversee the expenditure of project funds, formulate the projects direction, pursue market development for recyclables and address problems.

WETZEL COUNTY SITING PLAN
ABSTRACT

Existing Facilities

Northern Mountain State Metals Buy-Back Center
Wetzel County Sanitary Landfill

Facility Zones

1.) Class A and B Landfills - Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3.

2.) Class C Landfills - Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3. Tentatively Prohibited in the remainder of the county.

3.) Class D Landfills - Prohibited county-wide Commercial Class D facilities that serve a population of 40,000 persons or more. Tentatively Prohibited county-wide Commercial Class D facilities that serve a population of less than 40,000 persons.

4.) Solid Waste Transfer Stations - Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3. Tentatively Prohibited in the remainder of the county.

5.) Recycling Facilities - Authorized county-wide. It should be remembered that even within zones marked as “Authorized”, the prohibitions and location standards of the DEP and the Wetzel County Solid Waste Authority must be observed.

6.) Energy Recovery Facilities - Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3.

7.) Materials Recovery Facilities - Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3.

8.) Composting Facilities - Authorized county-wide for facilities composting separated, uncontaminated compostable materials. Prohibited county-wide for facilities composting mixed waste. Tentatively Prohibited county-wide for facilities composting sewage sludge.

WIRT COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

The solid waste disposal needs of Wirt County are presently being met by transporting waste to the Northwestern, Inc., Landfill in Wood County. Population projections through 2025 indicated that population of Wirt County will remain consistent. Therefore it has been determined that the disposal needs of the county will continue to be met in the present manner throughout the planning period.

SOLID WASTE COLLECTION

Wirt County is served by one commercial solid waste collection company, Waste Management. It has been determined that all residents have access to waste hauling services. In instances where topography and seasonal weather limits collection alternative methods of collection are provided. For example, residents may bring their waste from a rural road to a larger highway for pick up.

OPEN DUMPS

The SWA will work with the Department of Environmental Protection Pollution Prevention and Open Dump (PPOD) Program, the Department of Highways and other groups to identify and develop a list of open dumps in the county. The dumps will be rated as to severity with regard to impact on public health, estimated size and danger to the environment then prioritized for clean up. The authority will commit available funds towards the personnel, equipment and related costs to remove open dumps.

MANDATORY COLLECTION

The SWA agrees with and supports the states mandatory disposal regulations regarding proof of proper disposal. The authority has worked to educate the public about the laws and the penalties for not complying. “Public Notices” have been published in the newspaper in the past and the authority will continue to educate residents through handouts at local events and direct mail when finances allow.

RECYCLING

The SWA operates a drop off recycling center in Elizabeth. Items are dropped off and transported to the Pleasants County Recycling Center where they are sold. The authority has designated the following items for recycling within the county: aluminum cans, tin cans, #1 and #2 plastics, cardboard, magazines, newspapers, office paper, paper bags, mail and scrap paper. The authority will continue to work with schools and businesses to promote recycling. They will also promote recycling through displays at local events and through newspaper articles.

WIRT COUNTY SITING PLAN
ABSTRACT

Existing Facilities

None

Facility Zones

1.) Class A, B and C Landfill:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: none.

2.) Class D Landfills:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: none.

3.) Solid Waste Transfer Stations:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: all other areas of the county.
Authorized: none.

4.) Recycling Facilities:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: none.
Authorized: county wide except for residential areas or where siting is prohibited according to the criteria established in 54CSR4 Section 5.3.

5.) Energy Recovery Facilities/Incinerators
Prohibited: county-wide in accordance with W. Va. Code §22-15-19.

6.) Materials Recovery Facilities:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: county-wide.
Authorized: none.

7.) Commercial Composting Facilities:
Prohibited: areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited**:** Sites with historic or cultural resources.
Authorized: all other areas of county unless siting conflicts with rationale contained in 33CSR3.

WOOD COUNTY COMPREHENSIVE PLAN
ABSTRACT

SOLID WASTE DISPOSAL

Currently, waste generated in Wood County is disposed at Northwestern Landfill. Approximately 5,400 tons per month is sent to this landfill from Wood County. This landfill has a permitted capacity of 30,000 tons per month. No need for additional disposal capacity is foreseen.

SOLID WASTE COLLECTION

Residential and commercial collection is provided by the City of Parkersburg. The city serves all 12,500 residences within the city limits. Four private companies are certificated by the West Virginia Public Service Commission (PSC) to provide solid waste collection service throughout the remainder of the county. The parent company of Northwestern Landfill also provides solid waste collection service.

MANDATORY COLLECTION

The SWA will continue to lend assistance to all garbage service providers in Wood County to identify non-subscribers. In accordance with W.Va. Code § 22C-4-10 the SWA adopted "mandatory disposal" regulations that addresses mandatory garbage disposal as required under W.Va. Code § 22C-4-23(3). Such regulations will be submitted to the Wood County Commission for adoption as a county-wide ordinance.

OPEN DUMPS

The SWA has been registering open dump complaints on forms the SWA has developed. Estimates of the number of open dumps in Wood County range from 300 - 700. The SWA will ask the sheriff's patrol, private haulers, rural mail carriers and others who travel regularly in Wood County to identify other open dumps. The SWA will then determine the order of priority to clean-up the listed dumps. The SWA will continue to work with local, state and federal agencies in order to clean-up as many open dumps as possible.

RECYCLING

Recycling is probably the most visible and talked about waste management concept. The SWA promotes recycling based on sound business principals and encourages to some extent a legislative approach to encourage, enhance and legitimize both private and public recycling efforts. In Wood County, great emphasis is placed on landfill diversion activities. This one element of waste stream management has had more effect on reduction goals, environmental impact and long-term planning than all other elements combined. Diversion at Northwestern Landfill includes, but is not limited to, fiber products, both wood and paper-based, industrial by-products, batteries, tires, flourescent bulbs, yard waste, roofing shingles, bulky goods, metals, as well as materials collected with curbside and other programs. Curbside programs are offered in the Cities of Parkersburg and Vienna. Both of these cities are mandated to offer curbside recycling programs. Parkersburg provides its own program while Vienna contracts out this service. Parkersburg's program collects newsprint, #1 and #2 plastic, aluminum cans, tin cans, bi-metal cans, glass containers and cardboard. Residents in Vienna place plastics #1 and #2, bimetal cans, aluminum cans, glass and cardboard in curbside containers. The private haulers in the county are beginning to offer curbside collection for recyclables to customers in the rural areas of Wood County.

WOOD COUNTY SITING PLAN
ABSTRACT

Existing Facilities

Northwestern Landfill

Facility Zones

1.) Class A, B and C Landfills - The area permitted for Northwestern Landfill is authorized for a Class A facility. The remainder of the county is Tentatively Prohibited because of one or more of the criteria established in 54CSR4 Section 5.3.

2.) Class D Landfills - Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3.

3.) Solid Waste Transfer Stations - Tentatively Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3.

4.) Recycling Facilities - Tentatively Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3.

5.) Energy Recovery Facilities - Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3.

6.) Materials Recovery Facilities - Tentatively Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3.

7.) Composting Facilities - Tentatively Prohibited in those areas because of one or more of the criteria established in 54CSR4 Section 5.3.

WYOMING COUNTY SITING PLAN
ABSTRACT

Existing Facilities

Transfer Stations located in Bailysville, Jesse, Tralee and Pineville: operated by the Wyoming County Commission.
Recycling Facilities: Wyoming County Recycling Program, at the Pineville Transfer Station.

Facility Zones

1) Class A Landfills:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

2) Class B Landfills:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

3) Class C Landfills:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

4) Class D Landfills:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: None.

5) Solid Waste Transfer Stations:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: In Baileysville, Jesse, Tralee and Pineville.

6) Recycling Facilities:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized: Wyoming County Recycling Program, at the Pineville Transfer Station.

7) Energy Recovery Facilities/Incinerators
Prohibited: County-wide in accordance with W. Va. Code §22-15-19.

8) Materials Recovery Facilities:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited: All other areas of the county.
Authorized**:** None.

9) Commercial Composting Facilities:
Prohibited: Areas where one or more of the criteria established in 54CSR4 Section 5.3 exists.
Tentatively Prohibited**:** All other areas of the county.
Authorized: None.

APPENDIX E

List of Acronyms

LIST OF ACRONYMS AND OTHER INITIALS USED IN THIS PLAN

ADF	Advanced Disposal Fees
AFR	American Fiber Resources
ARD	America Recycles Day, recycling public-awareness campaign held annually on Nov. 15
BCI	Battery Council International
BFI	Browning-Ferris Industries
BFTA	Business and Financial Technical Assistance Program
BIRP	Business and Industry Recycling Program
BOD	Biochemical Oxygen Demand
BOLT	Blot Out Litter Today
CARP	Car and Appliance Recycling Program, West Virginia program
CDC	Community Development Corporation
CD	Conservation District, West Virginia
CEC	Cation Exchange Capacity
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CON	Certificate of Need
COSA	Certificate of Site Approval
COTA	Congressional Office of Technology Assessment
CPG	Comprehensive Procurement Guideline
CSR	Code of State Rules
DH	Department of Health, West Virginia
DHHR	Department of Health and Human Resources, West Virginia
DEP	Department of Environmental Protection, West Virginia
DAQ	Division of Air Quality, WV DEP
DLR	Division of Land Restoration, WV DEP
DWWM	Division of Water and Waste Management, WV DEP
DMR	Division of Mining and Reclamation, WV DEP
DIY	Do It Yourself
DMA	Direct Marketing Association, monitors mailing lists
DNR	Division of Natural Resources, West Virginia
DOH	Division of Highways, West Virginia
EE	Environmental Enforcement
EPA	Environmental Protection Agency, Federal
EPR	Extended Product Responsibility, manufacturing concept
ERS	Environmental Resources Section, WV Division of Natural Resources
FAA	Federal Aviation Administration
FCA	Full-Cost Accounting, budgeting approach
FEIN	Federal Employment Identification Number
FY	Fiscal Year
GWL	Gross Weight Limit, highway measurement
H.B.	House Bill

HDPE Natural	High-density polyethylene, plastics family that includes milk jugs, also known as #2 plastics
HHW	Household Hazardous Waste
HSWA	Hazardous and Solid Waste Amendments
IDA	Industrial Development Authority
IRRF	Integrated Resource Recovery Facility
LDPE	Low-density polyethylene, also known as #4 plastics
MACREDO	Mid-Atlantic Consortium of Recycling and Economic Development Officials, organization that includes West Virginia, Pennsylvania, Maryland, Virginia, Delaware and the District of Columbia
MCSL	Monongalia County Sanitary Landfill
MOVHD	Mid-Ohio Valley Health Department
MRF	Materials Recovery Facility
MSS	Municipal Sewage Sludge
MSW	Municipal Solid Waste
NCER	National Center for Electronics Recycling
NCWVRC	North Central West Virginia Recycling Cooperative, Inc., Fairmont-based program
NPDES	National Pollutant Discharge Elimination System
NRC	National Recycling Coalition
NSWMA	National Solid Waste Management Association
OCC	Old Corrugated Containers, waste paper category
ONP	Old Newspaper, waste paper category
OSHA	Occupational Safety and Health Administration, Federal
PAHs	Poly-nucleic Aromatic Hydrocarbons
PAYT	Pay as You Throw
PET	Polyethylene Terephthalate, plastics family that includes soda bottles, also known as #1 plastics
PP	Polypropylene, also known as #5 plastics
PPOD	Pollution Prevention Open Dump, West Virginia program
PS	Polystyrene, also known as #6 plastics
PSC	Public Service Commission, West Virginia
PVC	Polyvinyl chloride, plastics family
RCRA	Resource Conservation Recovery Act, Federal
REAP	Rehabilitation Environmental Action Plan, WV DEP
RFP	Request for Proposals
RFQ	Request for Quotations
RFS	Request for Service
RIC	Regional Intergovernmental Council
RPDC	Regional Planning and Development Council
RRSWDA	Resource Recovery - Solid Waste Disposal Authority, state predecessor to the Solid Waste Management Board
S.B.	Senate Bill
SMART	Saving Money and Reducing Trash
SCO	State Contract Order, or purchase order
SWA	Solid Waste Authority
SWANA	Solid Waste Association of North America

SWM	Solid Waste Management
SWMB	Solid Waste Management Board, West Virginia
TDD	Telecommunications Device for the Deaf, telephone service
TDF	Tire Derived Fuel
TPM	Tons Per Month
USEPA	United States Environmental Protection Agency
V	Vinyl (Polyvinyl Chloride or PVC), also known as #3 plastics
WMI	Waste Management Incorporated
WVDO	West Virginia Development Office
WVU	West Virginia University

APPENDIX F

Government Agency Contacts

FEDERAL AGENCIES INVOLVED WITH SOLID WASTE

Environmental Protection Agency
Solid Waste and Emergency Response
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460: 202/260-2090
Website: ..... www.epa.gov

Office of Solid Waste: 703/308-8895
Communications, Information & Resource Management Division: 703/308-8730
Office of Underground Storage Tank: 703/603-9900
Hazardous Waste Minimization and Management Division: 703/308-8414
RCRA and Superfund Hotline: 800/424-9346

Environmental Protection Agency
Region III (WV, DE, DC, MD, PA, VA)
1650 Arch Street
Philadelphia, PA 19103: 215/814-5000
Toll Free: 800/438-2474
E-mail: ..... r3public@epa.gov

Environmental Protection Agency
Region IV (AL, FL, GA, KY, MS, NC, SC, TN)
Sam Nunn Atlanta Federal Center
61 Forsyth Street, S.W.
Atlanta, GA 30303: 404/562-9900
Toll Free: 800/241-1754

Environmental Protection Agency
Region V (IL, IN, MI, MN, OH, WI)
77 West Jackson Boulevard
Chicago, IL 60604: 312/353-2000

U.S. Geological Survey
12201 Sunrise Valley Drive
Reston, VA 22092: 703/648-4000
Website: ..... www.usgs.gov

Map Division: 888/ASK-USGS

SOLID WASTE AGENCIES
SURROUNDING STATES

KENTUCKY

Kentucky Department of Environmental Protection
14 Reilly Road
Frankfort, KY 40601: 502/564-2150
Fax: 502/564-4245
Website: ..... www.dep.ky.gov

MARYLAND

Maryland Department of the Environment
1800 Washington Blvd.
Baltimore, MD 21230: 800/633-6101
Website: ..... www.mde.state.md.us

OHIO

Department of Natural Resources
Division of Recycling & Litter Prevention
2045 Morse Road, Building C-2
Columbus, OH 43229-6693: 614/265-6333
Fax: 614/262-9387
Website: ..... www.dnr.state.oh.us

Ohio Environmental Protection Agency
P.O. Box 1049
122 South Front Street
Columbus, OH 43215: 614/644-3020
Website: ..... www.epa.state.oh.us

Division of Hazardous Waste Management: 614/644-2917
Division of Solid & Infectious Waste Management: 614/644-2621

PENNSYLVANIA

Department of Environmental Protection
P.O. Box 2063
400 Market St. 16th Floor
Harrisburg, PA 17101: 717/787-2814
Website: ..... www.dep.state.pa.us

Division of Air, Recycling and Radiation Protection –
Bureau of Land Recycling and Waste Management: 717/787-2388

VIRGINIA

Department of Environmental Quality
P.O. Box 10009
Richmond, VA 23240-0009 804/698-4000
Website: ..... www.deq.state.va.us

Executive Director: 804/698-4020
Director of Solid Waste: 804/698-4421
Technical Assistance: 804/698-4218
Compliance: 804/698-4199
Superfund Response: 804/698-4201
Spill Response: 804/698-4297

Secretary of Natural Resources
7th Floor
9th Street Office Building
202 North 9th Street
Richmond, VA 23219: 804/786-0044
Website: ..... www.snr.vipnet.org

STATE AGENCIES CONCERNED WITH SOLID WASTE IN WEST VIRGINIA

ATTORNEY GENERAL
Darrell McGraw
1900 Kanawha Blvd., East
Building 1, Room 26-E
Charleston, WV 25305-0311
Main Switchboard: 304/558-2021
FAX: 304/558-0140
Website: ..... www.wvago.us

BUREAU OF COMMERCE
1900 Kanawha Blvd., E. Building 6, Room 525
Charleston, WV 25305-0311
Cabinet Secretary (L. Thomas Bulla): 304/558-0352
Website: ..... www.boc.state.wv.us

WV Development Office
Community Development Division
Building 6, Room 553 1900 Washington Street, East
Charleston, WV 25305-0311
Director (Steve Spence): 304/558-2234
Energy Efficiency (Jeff Herholdt): 304/558-2234
FAX: 304/558-0449
Website: ..... www.wvdo.org

Natural Resources, Division of (DNR)
Building 3, 1900 Kanawha Blvd.
Charleston, WV 25305-0660
Director (Frank Jezioro): 304/558-2754
Law Enforcement Section: 304/558-2784
Website: ..... www.dnr.state.wv.us

Geological & Economic Survey (GES)
Mont Chateau Research Center
1 Mont Chateau Road
Morgantown, WV 26508-8079
State Geologist (Carl J. Smith): 304/594-2331
FAX: 304/594-2575
Deputy Director and Associate State Geologist (Carl J. Smith): 304/594-2331
Deputy Director Finance and Administration (John D. May): 304/594-2331

ENVIRONMENTAL PROTECTION, DEPARTMENT OF
601 57th Street, SE
Charleston, WV 25304
Cabinet Secretary (Stephanie Timmermeyer): 304/926-0499
Legal Counsel (Heather Connolly): 304/926-0499
FAX: 304/926-0446
Website: ..... www.wvdep.org

Air Quality Board (AQB)
Administrative Secretary (Kathryn Coleman): 304/926-0445
Office Supervisor: 304/926-0445
Legal Counsel (Wendy Radcliff): 304/926-0445
Clerk (Jackie Shultz): 304/926-0445
FAX: 304/926-0486
Toll Free: 866/568-6649

Environmental Quality Board (EQB)
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Division of Air Quality
Director (John Benedict): 304/926-0475
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Division of Land Restoration
Director (Ken Ellison): 304/926-0455
Environmental Remediation (Don Martin): 304/926-0455
Landfill Closure Assistance Program (Don Martin - Acting): 304/926-0455

Rehabilitation Environmental Action Group (REAP)
Director (Daniel Haught): 304/926/0499
Adopt-A-Highway: 304/926-0499
Make It Shine Program: 304/926-0499
Operation Wildflower: 304/926-0499
Pollution Prevention and Open Dump Program: 304/926-0455
Recycling Assistance Grant Program: 304/926-0499
Toll Free: 800/322-5530

Division of Water and Waste Management
Director (Lisa McClung): 304/926-0465
Deputy Director (Bill Brannon): 304/926-0465
Compliance Assurance and Emergency Response: 304/926-0465
Underground Storage Tank Section: 304/926-0465
Hazardous Waste Permitting Section: 304/926-0465
Solid Waste Permitting Section: 304/926-0465

Environmental Enforcement
Chief Inspector (Mike Zeto): 304/926-0470

Office of Environmental Advocate
Advocate (Pam Nixon): 304/926-0440
FAX: 304/926-0479

Office of Legal Services
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Solid Waste Management Board (SWMB)
Executive Director (Richard P. Cooke): 304/926-0448
FAX: 304/926-0472
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ETHICS COMMISSION, WV
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Charleston, WV 25301-1809
Executive Director (Lewis Brewer): 304/558-0664
Legal Counsel (Teresa M. Kirk): 304/558-0664
FAX: 304/558-2169
Website: ..... www.ethicscommission.org

HEALTH AND HUMAN RESOURCES, DEPARTMENT OF (DHHR)
Building 3, Room 206
State Capitol Complex
Charleston, WV 25305-0500
Cabinet Secretary (Martha Yeager Walker): 304/558-0684
FAX: 304/558-1130
Website: ..... www.wvdhhr.org

Office of Environmental Health Services
Capitol & Washington St.
1 Davis Square Suite 200
Charleston, WV 25301-1798
Director (Barbara Taylor): 304/558-2981
FAX: 304/558-1291
Toll Free: 800/368-4358

HOUSE OF DELEGATES, WV
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State Capitol Complex
Charleston, WV 25305-0470
Speaker, Richard Thompson: 304/340-3210
Clerk, Greg Grey: 304/340-3200
FAX: 304/340-3315
Website: ..... www.legis.state.wv.us

PUBLIC SERVICE COMMISSION (PSC)
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P.O. Box 812
Charleston, WV 25323-0812
Chairman (Jon W. McKinney): 304/340-0306
Transportation Division (Gary Edgell): 304/340-0432
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RISK AND INSURANCE MANAGEMENT, STATE BOARD OF
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Division of Highways
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Charleston, WV 25305-0430
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WEST VIRGINIA UNIVERSITY EXTENSION SERVICE
507 Knapp Hall
Morgantown, WV 26506-6031
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FAX: 304/293-6611
Website: ..... www.wvu.edu/~exten

APPENDIX G

Solid Waste Management Glossary

SOLID WASTE MANAGEMENT BOARD GLOSSARY

Aeration - The process of exposing to air, bulk material, such as compost. Forced aeration refers to the use of blowers in compost piles.

Aerobic - A biochemical process or condition occurring in the presence of oxygen.

Air Classification - A process in which a stream of air is used to separate mixed material according to the size, density, and aerodynamic drag of the pieces.

Algal Bloom - Population explosion of algae (simple one-celled or many-celled, usually aquatic, plants) in surface waters. Algal blooms are associated with nutrient-rich run-off from composting facilities or landfills.

Anaerobic - A biochemical process or condition occurring in the absence of oxygen.

Ash - Non-combustible residue resulting from a thermal process, classified as fly ash (light and exits combustion chamber through water vapor stream) or bottom ash (heavy and falls to bottom of combustion chamber).

Baler - A machine used to compress recyclables into bundles to reduce volume. Balers are often used on newspaper, plastics, and corrugated cardboard.

Biodegradable Material - Waste material which is capable of being broken down by microorganisms into simple, stable compounds such as carbon dioxide and water. Most organic wastes, such as food wastes and paper, are biodegradable.

Bottle Bill - A law requiring deposits on beverage containers (see Container Deposit Legislation).

Broker - An individual or group of individuals that act as an agent or intermediary between the sellers and buyers of recyclable materials.

Buffer Zone - Neutral area which acts as a protective barrier separating two conflicting forces. An area which acts to minimize the impact of pollutants on the environment or public welfare. For example, a buffer zone is established between a composting facility and neighboring residents to minimize odor problems.

Bulking Agent - A material used to add volume to another material to make it more porous to air flow. For example, water treatment sludge may act as a bulking agent when mixed with municipal solid waste.

Bulky Waste - Large items of refuse including, but not limited to, appliances, furniture, and auto parts, which cannot be handled by normal solid waste processing, collection and disposal methods.

Buy-Back Center - A facility where individuals bring recyclables in exchange for payment.

Centralized Yardwaste Composting - System utilizing a central facility within a politically defined area with the purpose of composting yardwastes.

Class A Solid Waste Facility - A commercial solid waste facility which handles an aggregate of between ten thousand (10,000) and thirty thousand (30,000) tons of solid waste per month. Class A facility includes two or more Class B solid waste landfills owned or operated by the same person in the same county, if the aggregate tons of solid waste handled per month by such landfills exceeds nine thousand nine hundred ninety-nine (9,999) tons of solid waste per month.

Class B Solid Waste Facility - A commercial solid waste facility which receives, or is expected to receive, an average daily quantity of mixed solid waste equal to or exceeding one hundred (100) tons each working day, or serves, or is expected to serve a population equal to or exceeding forty thousand (40,000) persons, but which does not receive or is expected to receive solid waste exceeding an aggregate of ten thousand (10,000) tons per month. Class B solid waste disposal facilities do not include construction/ demolition facilities: Provided, That the definition of Class B facility may include such reasonable subdivisions or subclassifications as the director may establish by legislative rule proposed in accordance with the provisions of W.Va. Code § 29A-1-1 et seq.

Class C Solid Waste Facility - A commercial solid waste facility which receives, or is expected to receive, an average daily quantity of mixed solid waste of less than one hundred (100) tons each working day, and serves, or is expected to serve a population of less than forty thousand (40,000) persons. Class C solid waste disposal facilities do not include construction/ demolition facilities.

Class D Solid Waste Facility - Any commercial solid waste facility for the disposal of only construction/demolition waste and does not include the legitimate beneficial reuse of clean waste concrete/masonry substances for the purpose of structural fill or road base material.

Clean Air Act - Act passed by Congress to have the air "safe enough to protect the public's health" by May 31, 1975. Required the setting of National Ambient Air Quality Standards (NAAQS) for major primary air pollutants.

Clean Water Act - Act passed by Congress to protect the nation's water resources. Requires EPA to establish a system of national effluent standards for major water pollutants, requires all municipalities to use secondary sewage treatment by 1988, sets interim goals of making all U.S. waters safe for fishing and swimming, allows point source discharges of pollutants into waterways only with a permit from EPA, requires all industries to use the best practicable technology (BPT) for control of conventional and non-conventional pollutants and to use the best available technology (BAT) that is reasonable or affordable.

Co-composting - Simultaneous composting of two or more diverse wastestreams.

Commercial Waste - Waste materials originating in wholesale, retail, institutional, or service establishments such as office buildings, stores, markets, theaters, hotels and warehouses.

Commingled Recyclables - A mixture of several recyclable materials into one container.

Compactor - Power-driven device used to compress materials to a smaller volume.

Compost - The relatively stable decomposed organic material resulting from the composting process. Also referred to as humus.

Composting - The controlled biological decomposition of organic solid waste under aerobic conditions.

Construction/Demolition Waste -Waste building materials, packaging, and grubbing waste resulting from construction, remodeling, repair, and demolition operations on houses, commercial and industrial buildings, and other structures and pavements, including, but not limited to: wood, plaster, metals, asphaltic substances, bricks, blocks and concrete, other masonry materials, trees, brush, stumps, and other vegetative materials, but shall not include asbestos waste.

Container Deposit Legislation - Laws that require monetary deposits to be levied on beverage containers. The money is returned to the consumer when the containers are returned to the retailer. Also called "Bottle Bills."

Corrugated Paper - Paper or cardboard manufactured in a series of wrinkles or folds, or into alternating ridges and grooves.

Cullet - Clean, generally color-sorted, crushed glass used to make new glass products.

Curbside Collection - Programs where recyclable materials are collected at the curb, often from special containers, to be brought to various processing facilities.

Decomposition - Breaking down into component parts or basic elements.

Detinning - Recovering tin from “tin” cans by a chemical process which makes the remaining steel more easily recycled.

Dioxins - Heterocyclic hydrocarbons that occur as toxic impurities, especially in herbicides or when trash is burned.

Diversion Rate - A measure of the amount of waste material being diverted for recycling compared with the total amount that was previously thrown away.

Drop-off Center - A method of collecting recyclable or compostable materials in which the materials are
taken by individuals to collection sites and deposited into designated containers.

eCycling (electronics recycling) - The reuse or recycling of end-of-life electronic materials.

Enterprise Fund - A fund for a specific purpose that is self-supporting from the revenue it generates.

Farm Dump - Refers to the placement of farm waste such as old equipment, household garbage, fence posts and wire, etc. on the farmer’s property in an open pile.

Ferrous Metals - Metals that are derived from iron. They can be removed using large magnets at separation facilities.

Flow Control - A legal or economic means by which waste is directed to particular destinations. For example, an ordinance requiring that certain wastes be sent to a landfill is waste flow control.

Garbage - Spoiled or waste food that is thrown away, generally defined as wet food waste. It is used as a general term for products discarded.

Gob - That portion of coal which is difficult to utilize in a conventional combustion chamber; however, today 30% of this previously unusable gob generates power because of available technology.

Ground Water - Water beneath the earth’s surface that fills underground pockets (known as aquifers) and moves between soil particles and rock, supplying wells and springs.

Hammermill - A type of crusher or shredder used to break up waste materials into smaller pieces.

Hazardous Waste - Waste material that may pose a threat to human health or the environment, the disposal and handling of which is regulated by federal law.

Heavy Metals - Hazardous elements including cadmium, mercury and lead which may be found in the wastestream as part of discarded items such as batteries, lighting fixtures, colorants and inks.

High Grade Paper - Relatively valuable types of paper such as computer printout, white ledger and tab cards. Also used to refer to industrial trimmings at paper mills that are recycled.

Household Hazardous Waste - That waste resulting from products purchased for household use which, because of their characteristics, may pose potential hazards to human health or the environment when improperly treated, disposed or otherwise managed.

Humus - Organic materials resulting from decay of plant or animal matter. Also referred to as compost.

Incinerator - An enclosed device using controlled flame combustion to thermally break down solid waste, including refuse-derived fuel, to an ash residue that contains little or no combustible materials.

Incinerator Ash - The remnants of solid waste after combustion, including non-combustibles (e.g., metals and soot).

Industrial Waste - Materials discarded from industrial operations or derived from manufacturing processes.

Inorganic Waste - Waste composed of matter other than plant or animal (i.e. contains no carbon).

In Shed - Waste generated from sources within the wasteshed in which the solid waste disposal facility is located.

Institutional Waste - Waste materials originating in schools, hospitals, prisons, research institutions and other public buildings.

Integrated Solid Waste Management - A practice of using several alternative waste management techniques to manage and dispose of specific components of the municipal solid wastestream. Waste management alternatives include source reduction, recycling, composting, energy recovery and landfilling.

In-Vessel Composting - A composting method in which the compost is continuously and mechanically mixed and aerated in a large, contained area.

IPC - Intermediate Processing Center - Usually refers to the type of materials recovery facility (MRF) that processes residentially collected mixed recyclables into new products available for market; often used interchangeably with MRF.

Landfill - Any solid waste facility for the disposal of solid waste on or in the land for the purpose of permanent disposal. Such facility is situated, for the purpose of this rule in the county where the majority of the spatial area of such facility is located.

Leachate - Liquid that has percolated through solid waste or another medium and has extracted, dissolved or suspended materials from it, which may include potentially harmful materials. Leachate collection and treatment is of primary concern at municipal waste landfills.

Magnetic Separation - A system to remove ferrous metals from other materials in a mixed municipal wastestream. Magnets are used to attract the ferrous metals.

Mandatory Recycling - Programs which by law require consumers to separate trash so that some or all recyclable materials are not burned or dumped in landfills.

Manual Separation - The separation of recyclable or compostable materials from waste by hand sorting.

Materials Recovery Facility (MRF) - Any solid waste facility at which source-separated materials or materials recovered through a mixed waste processing facility are manually or mechanically shredded or separated for purposes of reuse and recycling. Does not include a composting facility.

Mechanical Separation - The separation of waste into various components using mechanical means, such as cyclones, trommels, and screens.

Methane - An odorless, colorless, flammable and explosive gas produced by municipal solid waste undergoing anaerobic decomposition. Methane is emitted from municipal solid waste landfills.

Microorganisms - Microscopically small living organisms that digest decomposable materials through metabolic activity. Microorganisms are active in the composting process.

Monofill - A sanitary landfill solely for one type of waste.

MSW Composting - Municipal Solid Waste Composting - The controlled degradation of municipal solid waste including after some form of preprocessing to remove non-compostable inorganic materials.

Mulch - Ground or mixed yardwastes placed around plants to prevent evaporation of moisture and freezing of roots and to nourish the soil.

Municipal Solid Waste (MSW) - Includes non-hazardous waste generated in households, commercial and business establishments,

institutions and light industrial process wastes, agricultural wastes, mining waste and sewage sludge. In practice, specific definitions vary across jurisdictions.

NIMBY - Acronym for “Not In My Back Yard” - Expression of resident opposition to the siting of a solid waste facility based on the particular location that is proposed.

Organic Waste - Waste material containing carbon. The organic fraction of municipal solid waste includes paper, wood, food wastes, plastics and yardwastes.

Out of Shed - Waste generated from sources outside the wasteshed in which the solid waste disposal facility is located.

Participation Rate - A measure of the number of people participating in recycling program compared to the total number that could be participating.

Pathogen - An organism capable of causing disease.

Percolate - To ooze or trickle through a permeable substance. Ground water may percolate into the bottom of an unlined landfill.

Pollution Control Residuals - End products of the thermal process which includes hot combustion gases composed primarily of nitrogen, carbon dioxide, water vapor (flue gas) and non-combustible residue (ash).

Post-Consumer Recycling - The reuse of materials generated from residential and commercial waste, excluding recycling of material from industrial processes that have not reached the consumer, such as glass broken in the manufacturing process.

Putrescible - Organic matter partially decomposed by microorganisms and producing a foul smell.

Rehabilitation Environmental Action Plan (REAP) - Program created under the Department of Environmental Protection which combined the pre-existing cleanup programs from the Division of Natural Resources and the PPOD program from DEP.

Recyclables - Materials that still have useful physical or chemical properties after serving their original purpose and that can, therefore, be reused or remanufactured into additional products.

Recycle or Recycling - The process by which recovered products are transformed into new products, and includes the collection, separation, recovery and sale or reuse of metals, glass, paper, tires, lead-acid batteries and other materials.

Residential Waste - Waste materials generated in single and multiple-family homes.

Residue - Materials remaining after processing, incineration, composting or recycling have been completed. Residues are usually disposed of in landfills.

Resource Recovery - A term describing the extraction and utilization of materials and energy from the wastestream. The term is sometimes used synonymously with energy recovery.

Retention Basin - An area designed to retain run-off and prevent erosion and pollution.

Reuse - The use of a product more than once in its same form for the same purpose; e.g., a soft drink bottle is reused when it is returned to the bottling company for refilling.

Roll-off Container - A large waste container that fits onto a tractor trailer that can be dropped off and picked up hydraulically.

Secondary Material - A material that is used in place of a primary or raw material in manufacturing a product.

Sludge - Any solid, semi-solid, residue, or precipitate separated from or created by a municipal, commercial, or industrial waste treatment plant, water supply treatment plant, or air pollution control facility; or any other such waste having similar origin.

Soil Liner - Landfill liner composed of compacted soil used for the containment of leachate.

Source Reduction - The design, manufacture, acquisition and reuse of materials so as to minimize the quantity and/or toxicity of waste produced. Source reduction prevents waste either by redesigning products or by otherwise changing societal patterns of consumption, use and waste generation.

Source Separation - The segregation of specific materials at the point of generation for separate collection. Residents source separate recyclables as part of a curbside recycling program.

Special Waste - Refers to items that require special or separate handling, such as household hazardous wastes, bulky wastes, tires and used oil.

Subtitle C - The hazardous waste section of the Resource Conservation and Recovery Act (RCRA).

Subtitle D - The solid, non-hazardous waste section of the Resource Conservation and Recovery Act (RCRA).

Superfund - Common name for the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) to clean up abandoned or inactive hazardous waste dump sites.

Tipping Fee - A fee, usually dollars per ton, for the unloading or dumping of waste at a landfill, transfer station,
recycling center or waste-to-energy facility; also called a disposal or service fee.

Tipping Floor - Unloading area for vehicles that are delivering municipal solid waste to a transfer station or municipal waste combustion facility.

Tire Derived Fuel (TDF) - A tire that is shredded and processed into a rubber chip ranging in size from 1 to 4 inches. Depending on the requirements of the users, TDF may also be processed to remove bead and radial wires. TDF has an energy content ranging from 14,000 to 15,500 BTU per pound.

Transfer Station - A combination of structures, machinery, or devices at a place, or facility where solid waste is taken from collection vehicles and placed in other transportation units (such as a “walking floor,” or other method of transfer for movement to another solid waste management facility. Provided, when the initial generator of solid waste disposes of said waste into a container such as a roll-off, greenbox or bin which is temporarily positioned (not more than five days) at a specific location for transport by a transportation unit, such container is not considered a transfer station. Under any circumstances, leachate, litter and windblown materials must be properly managed.

Trash - Material considered worthless, unnecessary or offensive that is usually thrown away. Generally defined as dry waste material it is a synonym for garbage, rubbish, or refuse.

Tub Grinder - Machine to grind or chip wood wastes for mulching, composting or size reduction.

Variable Container Rate - A charge for solid waste services based on the volume of waste generated measured by the number of containers set out for collection.

Volume Reduction - The processing of waste materials so as to decrease the amount of space the materials occupy, usually by compacting or shredding (mechanical), incineration (thermal), or composting (biological).

Waste Exchange - A computer catalog network that redirects waste materials back into the manufacturing or reuse process by matching companies generating specific wastes with companies that use those wastes as manufacturing inputs.

Waste Reduction - Reducing the amount or type of waste generated. Sometimes used synonymously with Source Reduction.

Wasteshed - Geographically organized areas for the purpose of managing solid waste.

Wastestream - A term describing the total flow of solid waste from homes, businesses, institutions and manufacturing plants that must be recycled, burned or disposed of in landfills; or any segment thereof, such as the “residential wastestream” or the “recyclable wastestream.”

Wetland - Those naturally occurring areas, as defined under 40CFR232.2(r), that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. “Wetlands” generally include swamps, marshes, bogs, and similar areas.

White Goods - Large household appliances such as refrigerators, stoves, air conditioners and washing machines.

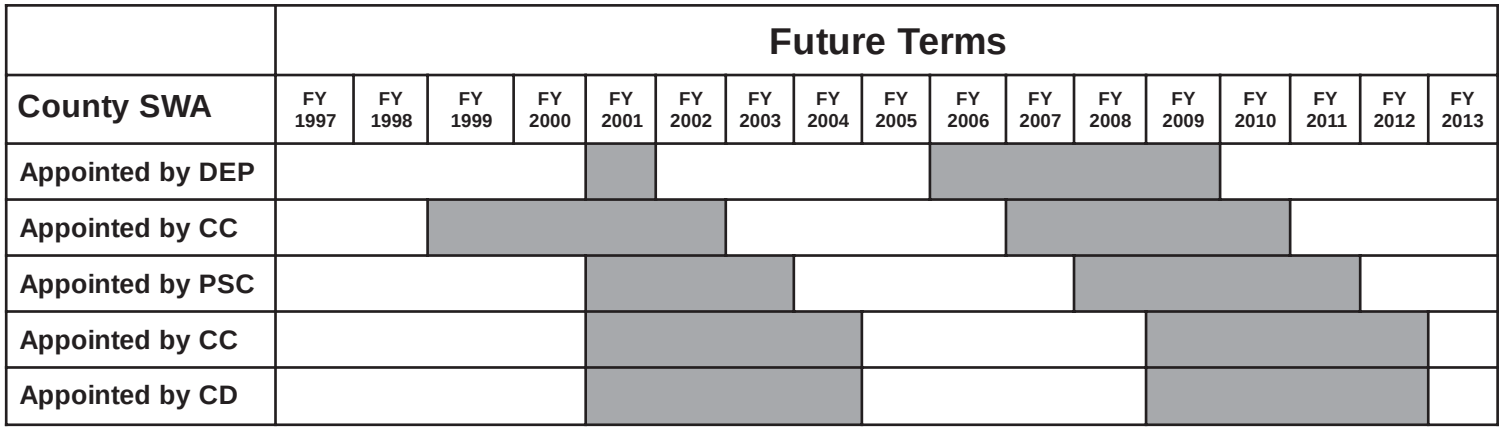
Windrow - A large, elongated pile of composting material.

Yardwaste - Leaves, grass clippings, prunings and other natural organic matter discarded from yards and gardens. Yardwastes may also include stumps and brush, but these materials are not normally handled at composting facilities.

APPENDIX H

MEMBERSHIP TERM CHART

Solid Waste Authority Member Terms
(County)



Terms for County Solid Waste Authority Members

- **Department of Environmental Protection**: The initial appointment was for one year, which began on July 1, 2000; thereafter, appointments are for four years.

- **County Commissions**: Each County Commission appoints two members in staggered terms. All appointments are for four years, the first initial term began on July 1, 1998, and the second initial term began on July 1, 2000.

- **Public Service Commission**: The initial appointment was for three years, beginning on July 1, 2000; thereafter, appointments are for four years.

- **Conservation District**: All appointments are for four years. The initial appointment began on July 1, 2000.

Solid Waste Authority Member Terms
(Regional)

	Future Terms																
Regional SWA	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Appointed by DEP																	
Appointed by Mayor																	
Appointed by CC																	
Appointed by PSC																	
Appointed by Mayor																	
Appointed by CC																	
Appointed by CD																	

Terms for Regional Solid Waste Authority Members

- **Department of Environmental Protection:** The initial appointment was for one year, which began on July 1, 2000; thereafter, appointments are for four years.

- **County Commissions:** Each county commission appoints two members in staggered terms. All appointments are for four years, the first initial term began on July 1, 1998, and the second initial term began on July 1, 2000.

- **Public Service Commission:** The initial appointment was for three years, which began on July 1, 2000; thereafter, appointments are for four years.

- **Conservation District:** All appointments will be for four years. The initial appointment began on July 1, 2000.

- **Municipal Representatives:** Each Municipal Representative appoints two members in staggered terms. The first initial term of one year began on July 1, 2000, and the second initial term of three years began on July 1, 2000; thereafter, appointments are for four years.

APPENDIX I

2005 Recycling, Infrastructure and Market Development In Other States

APPENDIX I: RECYCLE INFRASTRUCTURE AND MARKET DEVELOPMENT IN OTHER STATES

West Virginia: Recycle Market Development	
Funding Sources	Many of West Virginia's environmental programs are financed through a $8.25 waste assessment fee collected at the landfills. Sixteen percent of this fee goes to the states recycling programs.
Recycling Incentives	The state makes disposal-tax waivers available for commercial recyclers who reduce their solid waste disposal tonnage to 30% or less. Both of West Virginia's recycling grant programs are competitive in nature and require projects to facilitate a significant and measurable reduction in the municipal waste stream. Curbside recycling is available to an estimated one third of the states population.
Recycling Programs	The Solid Waste Management Board's (SWMB), Recycling Market Development & Planning Section provides recycle market development and other technical assistance to the states local solid waste authorities, businesses, government entities and others through grants, individual consulting, internet based marketing services, environmental training and special programs. Local solid waste authorities are required to have a current recycling plan on file with the SWMB. The Recycling Market Development & Planning Section manages the West Virginia Materials Exchange program, one of the states grant programs and special projects such as electronics recycling. The West Virginia Development Office publishes a state recycling directory and provides financing and training applicable to recycling facilities.
Recycling Mandates	The state has mandated curb-side recycling for cities of over 10,000. Local solid waste authorities are required to keep an approved recycling plan on file with the Solid Waste Management Board. State agencies and instrumentalities of the state are required to purchase recycled products.
Landfill Bans	West Virginia bans yardwaste, lead acid batteries and tires.
Recycling Grants/Loans	West Virginia provides two grant programs, the Department of Environmental Protection, Rehabilitation Environmental Action Plan (REAP) Recycling Assistance Grant Program, available to government entities, non-profits and businesses and the SWMB grant program, available to the local solid waste authorities only. Loans are available from the WV Development Office that are applicable to manufactures that use recycled materials.
Recycling Budget	West Virginia's FY 2007 recycling grant programs distributed nearly $2.4 million.
Recycling Goals	West Virginia has no mandated recycling rate. It does have a mandated waste diversion goal of 50% by 2010 which is based on the 1991per capita waste disposal rate. West Virginia has no penalties for not meeting its diversion goals.
Recycling Rate	A study completed in the Spring of 2002 by the WV Recycling Measurement Committee, a group of both public and private sector individuals, indicated that 16% of the waste stream was being recycled at the time. Lack of reporting requirements make it difficult to determine actual recycling rate.

Information was gathered through SWMB Surveys of State agencies.

Kentucky Recycle Market Development	
Funding Sources	Many of their environmental programs are funded by a per ton hazardous waste assessment fee of $1.75. Kentucky gives its counties the authority to place a surcharge on property taxes used to pay for waste management programs. Most of the responsibility for recycling in Kentucky lies with the localities.
Recycling Incentives	Kentucky provides a 50% tax credit for the purchase of recycling related machinery and exempts the equipment from state and local sales tax.
Recycling Programs	The Kentucky Pollution Prevention Center at the University of Louisville manages many of the states waste diversion programs including the Kentucky Industrial Materials Exchange.
Recycling Mandates	Counties are required to provide access to recycling for their residents.
Landfill Bans	Kentucky bans tires and batteries from landfills and has a tire remediation program.
Recycling Grants/Loans	The state provides no grants or loans targeted at recycling other than those mentioned in the following section. Some of the localities may.
Recycling Budget	In 2006, the Kentucky legislature revised the hazardous waste assessment fee to establish a recycling grant fund for political subdivisions to be awarded for electronic scrap collection events, household hazardous waste events and recycling equipment like bailers, bins, et. The fund is supported by the money remaining in the budget for cleanups and pollution prevention. For the current year the budget is around $2 million.
Recycling Goals	Senate Bill 2, passed in 1991, set a policy to reduce waste with a goal of 25% by 1997. The state did not meet the 1997 goal. A 2002 Bill, HB 174, amended parts of the waste reduction policy, but failed to set a new goal. Each county sets its own waste reduction goal and finds ways to finance its programs.
Recycling Rate	Kentucky's recycling rate in 2005 for household (post consumer) material was about 11%. The states rate for C&D, concrete, sewage sludge and industrial waste is 22%.

Maryland: Recycle Market Development	
Funding Sources	State funding for recycling comes from the general fund. The counties have the authority from the state to place a surcharge on trash bills and/or a surcharge on tipping fees collected at the states landfills.
Recycling Incentives	Maryland places most of the responsibility for recycling on its localities. Counties are required to submit a recycling plan to the state, to establish a recycling program in the county, to hire a county recycling coordinator and to file an annual recycling report which includes tonnage reports on materials recycled. Each county is also required to set its own recycling goals.
Recycling Programs	Maryland has no recycle market development program. The state sponsors a “buy recycle” program. The Maryland Department of the Environment publishes an online recycling directory and provides other services for the localities. All other programs are local.
Recycling Mandates	Mandated recycling reporting is required from the county, state and local recycling coordinators. The Maryland Recycling Act (MRA) mandates that state government achieve a waste reduction goal of at least 20%, or to an amount that is determined "practical and economically feasible", but in no case less than 10%.
Landfill Bans	The state bans yardwaste, tires and oil from landfills.
Recycling Grants/Loans	The state does not provide grant or loan programs for recycling but some of the counties do. The Maryland Department of Environment assists the counties by providing loans for innovative scrap tire projects and provides some assistance for mercury and electronics recycling.
Recycling Budget	Maryland’s FY 2004 recycling budget was $251,327. This amount is the state budget only and does not include local input.
Recycling Goals	Maryland has a voluntary diversion goal of 40%. In addition, they mandate a 15% recycling rate for counties with less than 150,000 people and 20% for counties with more than 150,000 people. Maryland has no penalties for not meeting recycling goals.
Recycling Rate	Maryland’s 2005 Recycling rate was 42.6% which includes a 3.4% source reduction credit. The maximum allowable credit for source reduction activities is 5%. Three of Maryland’s 24 reporting jurisdictions have achieved the maximum 5% credit.

Ohio: Recycle Market Development	
Funding Sources	The Ohio Department of Natural Resources (ODNR), Division of Recycling & Litter Prevention is funded by a Construction & Demolition Debris (CDD) statewide fee enacted on July 1, 2005. The portion of the fee, which is dedicated to the division amounts to $.75 per ton of CDD material disposed in Ohio facilities. In addition, the division receives $1.0 million dollars annually from the Ohio Environmental Protection Agency (OEPA) for the purpose of scrap tire market development. These funds originate from Ohio's fee on the purchase of tires ($1.00 per tire at the point of sale) and are collected by OEPA.
Recycling Incentives	Not Applicable.
Recycling Programs	ODNR manages Ohio's grant programs including the Market Development Grant and Scrap Tire Grant. Additionally, the division provides grants (Community Development Grant) for the establishment and operation of community based recycling projects. Other services include technical guidance to state agencies and colleges/universities in the implementation of local recycling programs.
Recycling Mandates	Not Applicable.
Landfill Bans	Ohio bans scrap tires and yardwaste.
Recycling Grants/Loans	ODNR offers Market Development Grants to Ohio cities with a population greater than 50,000, Ohio counties and Ohio solid waste management districts or authorities to implement recycling, litter collection and recycling market development projects. For the Market Development Grants, the above entities may apply on behalf of an Ohio business or non-profit organization. All agencies of the state are eligible to apply for Scrap Tire Grant funding. Market Development Grants funding is targeted at processors and manufacturers seeking to purchase equipment which allows them to utilize recyclable materials collected in Ohio. The Scrap Tire Grant Program targets scrap tire processors, tire derived fuel facilities, rubberized mulch and crumb rubber operations, research and development firms and other entities for expenses related to the use of scrap tires or scrap tire material.
Budget	Ohio's FY 2007 market development and scrap tire grant budget was about $3.2 million.
Recycling Goals	The 2001 OEPA statewide solid waste plan sets out the following goals: 1. Ensure the availability of reduction, recycling, and minimization alternatives for municipal solid waste (also known as the "Access Goal.") 2. Reduce and/or recycle at least 25 percent of the residential/commercial solid waste and 66 percent of the industrial solid waste generated by each SWMD, and 50 percent of all solid waste generated statewide by the year 2005. 3. Provide informational and technical assistance on source reduction. 4. Provide informational and technical assistance on recycling, reuse, and composting opportunities. 5. Establish strategies for scrap tires and household hazardous waste. 6. Provide annual reporting of plan implementation. 7. Provide a market development strategy. 8. Directs local solid waste management districts and authorities to evaluate the feasibility of incorporating economic incentives into their source reduction and recycling programs.
Recycling Rate	OEPA references Ohio's overall recycling rate statewide in 2004 to be 39.6%. This recycling rate includes residential, commercial and industrial recycling activity within the state of Ohio.

Pennsylvania: Recycle Market Development	
Funding Sources	Pennsylvania funds their programs with a $2 per ton landfill and resource recovery facility tipping fees. State funding for recycling program staff is from the General Fund.
Recycling Incentives	Pennsylvania provides recycling performance grants based on quantity of materials recycled and investment tax credits to companies that invest in tire recycling equipment. They also believe the widespread availability of curbside recycling is an incentive to recycle. Over 900 communities provide curbside collection.
Recycling Programs	The Pennsylvania Department of Environmental Protection has a Recycling Program comprised of three sections: Waste Reduction and Recycling; Waste Minimization and Planning; and Recycling Markets Program. The Recycling Markets Program oversees market development initiatives, composting programs, product stewardship initiatives, electronics recycling initiatives, market development technical assistance and buy-recycled initiatives. This section also oversees agreements with other state agencies to encourage the use of recycled materials into their daily operations. The recycling program promotes buy-recycle to state agencies businesses and citizens.
Recycling Mandates	They have mandated curbside recycling for all municipalities with populations of more than 10,000 or more than 5,000 and with a population density of greater that 300-persons/square mile.
Recycling Grants/Loans	Pennsylvania provides the bulk of funding for recycling statewide, reimbursing localities for 90% of the cost of recycling program development and implementation expenses, 80% of the costs of the development of waste management plans and 50% of the costs of county recycling coordinator salaries and expenses. Grants are also provided to local governments based upon tons recycled and the local recycling rate. Two new competitive grant programs available to the private sector include: the Composting Infrastructure Development Grant Program and the Recycling Markets Infrastructure Development Program.
Landfill Bans	Lead acid batteries, whole tires and yardwaste are banned.
Recycling Budget	Pennsylvania's FY 05/06 recycling budget is $66 million.
Recycling Goals	A 1988 law, Act 101, required the state to recycle 25% of its municipal waste by January 1, 1997. The goal was met. Although no new legislation was passed, the governor announced a new voluntary goal in 1997 of a 35% recycling rate for municipal waste by 2005. The goal was exceeded in 2001. Pennsylvania has civil and other penalties for not meeting recycling goals. No new recycling goal has been established.
Recycling Rate	Pennsylvania does not promote the use of a recycling rate, but rather utilizes the economic and environmental benefits that are derived from the total tons recycled and diverted from landfills. For example, by recycling over 1 million tons of steel in 2004, PA industries saved 1.3 million tons of iron ore, 718,460 tons of coal and 61,582 tons of limestone. Through recycling newsprint and office and mixed paper, Pennsylvanians saved over 8.2 million trees. Recycling in PA reduced greenhouse gas emissions by 1.9 million metric tons of carbon equivalent.

Virginia: Recycle Market Development	
Funding Sources	Virginia funds its recycling programs through various forms of business taxation. Each business owner pays a $10 “owners fee” type of litter control tax and an additional $15 fee for each establishment the company owns. Carbonated soft drink wholesalers and distributors pay a litter tax which is scaled to their gross receipts. They also have a beer and wine litter tax. Virginia counties have authority from the state to levee a consumer utility tax to cover the cost of solid waste management, which can be used for recycling. In FY 2005, taxes and interest totaled $2,322,046.
Recycling Incentives	Virginia makes income tax credits available to corporations and individuals for the purchase of recycling equipment. They have a specific exemption for those that accept used motor oil. The state gives local governments the authority to exempt recycling businesses from property tax. Manufacturers using recycled materials are eligible for a 10% tax credit.
Recycling Mandates	Each town, city and county is mandated to have a recycling program as part of a solid waste management plan on file with the DEQ. For CY 2006, all localities (counties, cities and towns or regional program units) are required to recycle at least 15% or 25% of their MSW. A new law effective July 1, 2006, established the two tiered recycling rate based upon population and/or unemployment levels (populations less than 100 persons per square mile or unemployment 50% or more above the statewide average.)
Recycling Programs	The Virginia Department of Business Assistance offers financing programs, workforce training programs, and consulting services to businesses operating in Virginia including those in recycling industries. Recycling policy is evaluated by the Virginia Recycle Markets Development Council, which then makes recommendation for change. The council is made up of professionals from the waste, recycling, plastics, metals, glass, paper, oil, composting and other interested industry segments as well as government agencies involved in recycling.
Landfill Bans	Virginia bans lead acid batteries, tires, yardwaste and free liquids from landfills.
Recycling Grants/Loans	Virginia’s recycling grant programs distribute 90% of available funds to localities for litter prevention and recycling programs, 5% for litter prevention projects and the remaining 5% is used for administrative expenses.
Recycling Budget	Virginia’s FY 2005, recycling related funding totaled $2,322,046.
Recycling Goals	All localities (counties, cities and towns or regional program units) are required to recycle at least 15% or 25% of their MSW. There are possible civil and permitting penalties involved for those that do not meet the goals.
Recycling Rate	For CY 2004, the states average recycling rate was 29.8%. For CY 2005, preliminary numbers indicate a state average rate of 32%.

North Carolina Recycle Market Development	
Funding Sources	North Carolina funds its recycling programs through their solid waste trust fund which receives funding from waste disposal fees on tires and white goods.
Recycling Incentives	A tax incentive for recycling and resource recovery facilities and equipment was adopted in 1976 and amended in 1991. Under this provision, recycling businesses may be entitled to special tax treatment for real and personal property tax, corporate state income tax, and franchise tax on domestic and foreign corporations. Real and personal property are exempt from property tax if used for recycling. They have an accelerated depreciation option for recycling equipment to encourage the purchase of new equipment and use a franchise exemption for recycling businesses.
Recycling Programs	The Recycling Business Assistance Center (RBAC) is a partnership of the North Carolina Department of Environment and Natural Resources, Division of Pollution Prevention and Environmental Assistance and The Department of Commerce. RBAC provides the following services; recycling business development assistance, financing for recycling businesses, a directory of markets for recyclable materials, recycling markets assistance partnerships and various publications.
Recycling Mandates	Counties and localities are required to report solid waste and recycling activities within their areas to the state by the first day of December each year. Private firms must report by the first day of August each year.
Landfill Bans	More than any state in the region, North Carolina uses landfill bans to stimulate the recycling sector. Statewide they ban aluminum cans, lead-acid batteries, used motor oil, antifreeze, whole tires, white goods and yardwaste. They believe this alone reduces the amount of waste being landfilled by 500,000 tons a year. Starting in 2009, wood pallets, plastic bottles and oil filters will be banned in all landfills. In addition to statewide bans, many of the states 100 counties have bans on certain recyclable materials such as newspaper, plastic, office paper, wood, steel and glass. Many localities ban identified types of recyclable materials from landfills but give clients the option of paying a surcharge to tipping fees if they wish to landfill rather than recycle. Legislation passed in 2006 mandates businesses holding ABC (Alcoholic Beverage Commission) permits to have recycling programs for beverage containers.
Recycling Grants/Loans	Recycling grants are targeted at areas of recycling that administrators feel need attention. Eligible applicants include local government entities, manufacturing industries and service industries. Eligible uses of funds include startup financing, research and development, machinery and equipment and expansion financing.
Budget	The budget for recycling, including appropriations and the solid waste trust fund for FY 2007 is $1.3 million.
Recycling Goals	By June 1, 2001, each local government must have submitted a plan that includes a goal for the reduction of municipal solid waste and a further goal of continued reduction by 2006. No penalties exist for those that do not meet their goals. The per capita disposal goal for North Carolina is a 40% reduction from ten years prior. As of September 2006, it had not been met.
Recycling Rate	FY 2005 recovery rates for different programs include 38% for curbside collection, 44% for drop-off programs, 1% for mixed-waste, and 17% for other programs.

End Notes for Appendix I

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