



Current Solid Waste System Issues

This paper provides a descriptive overview of the current status of Washington State's solid waste management system. Though the term "solid waste" means different things to different people, this paper first defines the term as it will be used here by identifying the categories – or streams – of solid waste and giving quantities generated and managed in those categories. It goes on to describe how waste is collected from generators and the types of facilities to which it is transported for handling, disposal, or diversion to productive use. The entities involved in managing solid waste are identified, along with the laws and regulations that establish the roles of those entities. Finally, a summary of the costs of managing solid waste is included.

This paper does not include any Beyond Waste plan recommendations.

Solid waste management progressed a great deal during the twentieth century, moving from dumping wastes onto lands or waters, to burying and burning wastes in open dumps, to today's extensive collection systems and modern, regulated disposal facilities, along with various recycling programs and facilities. A broad network of government entities, private businesses, and not-for-profit organizations is involved in providing and overseeing effective solid waste management services that serve residences and businesses across Washington.

Since 1992, Ecology has published an annual status report of solid waste in Washington State providing the latest information on solid waste infrastructure, services, and programs in the state. The report compiles information on disposal, recycling activities, volumes of materials recycled, other waste diversion, moderate-risk waste collection, and future trends. Much of the information presented below is derived from those reports, particularly the most recent: Solid Waste in Washington State: Thirteenth Annual Status Report, published in February 2005 (Ecology Publication No. 04-07-018, available on-line at <http://www.ecy.wa.gov/biblio/0407018.html>).

I. Waste Definitions and Quantities

Solid waste management in Washington includes handling, storage, collection, diversion, transportation, treatment, utilization, processing, recycling, reuse, and disposal. It is governed by the laws and regulations of federal, state, and local governments.

The term "solid waste" is used by different parties in various ways and is defined differently in various laws and regulations. While the regulatory definition of solid waste encompasses both hazardous and nonhazardous wastes, the term "solid waste" is used in this paper to mean the following:

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1. Nonhazardous wastes (from residential, commercial, community, institutional, and some industrial sources).
2. Hazardous wastes from households.
3. Small quantities of hazardous wastes from businesses. These wastes are targeted for segregation and special handling, recycling, and/or disposal.
4. Nonhazardous materials that have entered the waste stream but are then diverted from disposal through recycling and reuse.

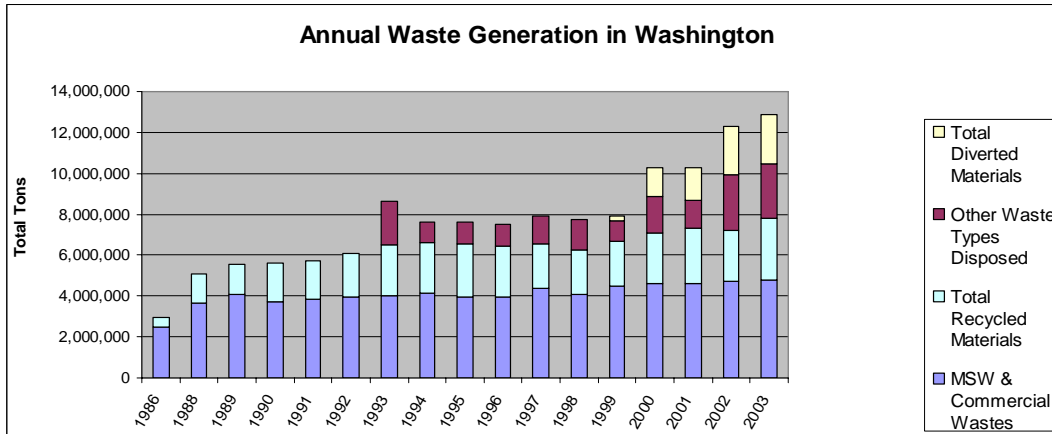
Whether the wastes are recycled or disposed of, categories 1 through 4 are often collectively referred to as municipal solid waste, or MSW.

NOTE: Refer to Appendix A for more information about, and definitions for, the various categories and sources of solid wastes in Washington. As technologies have changed, more materials in the solid waste stream have been segregated for special handling and/or management. Examples include additional materials that are recycled or reused, and diversion of wastes into special storage or disposal streams.

Local jurisdictions and Ecology have expanded the wastes that they have tracked over the years. Nonetheless, information collected about nonhazardous industrial wastes, resource use and extraction wastes, moderate-risk wastes, and transfer wastes remains incomplete. Therefore, we cannot calculate the exact total of solid waste generated in Washington each year. The best estimate available for total solid waste generated is the sum of the reported amounts disposed of and the reported amounts diverted from disposal. Using this calculation, we see that more than 12 million tons of solid waste were generated in 2003, which amounts to more than 2 tons per capita.

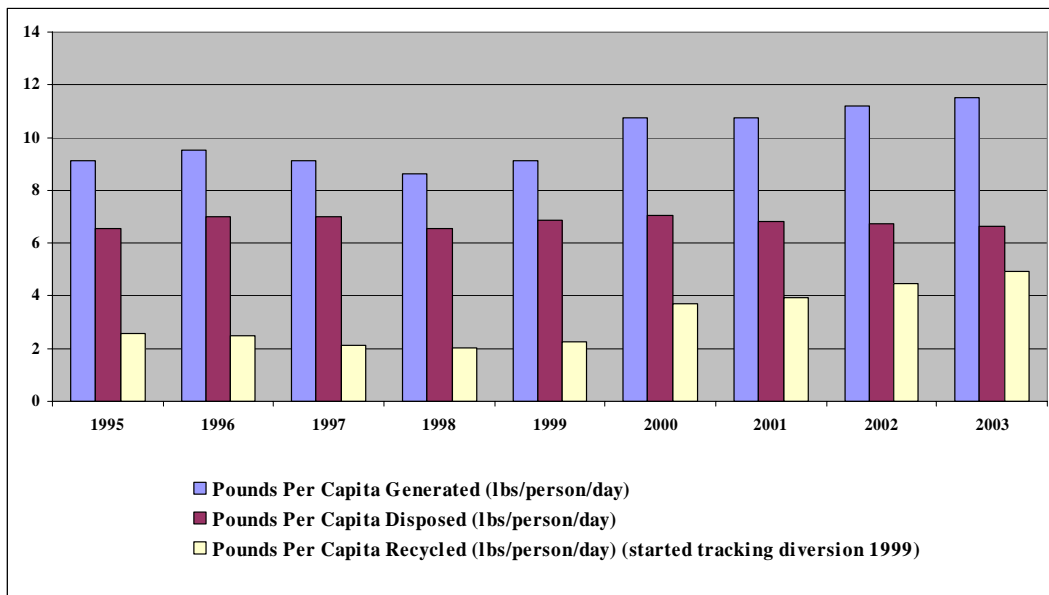
More than 5 million tons of these materials are diverted from disposal, so they do not end up in our solid waste incinerators or landfills (Calculated from figures in the Thirteenth Annual Status Report). This volume of diversion is significant, and represents the sustained work and initiative by local governments, private recycling collectors and transporters, and the citizens of Washington. Even so, efforts to achieve the 50% statewide recycling goal continue to be made. The state Legislature extended the deadline to 2007 for reaching this goal. (RCW 70.95)

The chart below displays total annual generation of waste reported, including the amounts disposed of, and the amounts recycled or otherwise diverted from disposal.



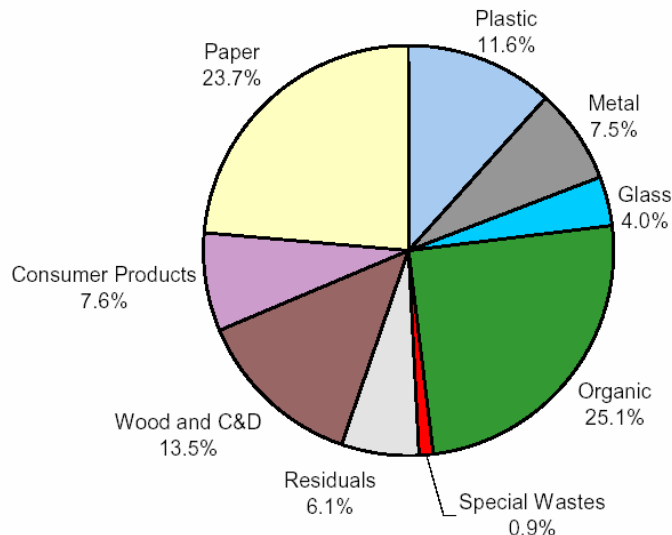
Washington State is now home to more than 6 million people. The amount of solid waste generated is also increasing over time, from 9 pounds per person per day in 1993, to over 11.5 pounds in 2003. (Thirteenth Annual Status Report, pg 119) This figure does not reflect what each person produces at each household because the total from which it is calculated includes all residential, business, commercial, and industrial waste generated in the state that is disposed of in municipal solid waste landfills and incinerators. That total does not include any of the state’s waste that is disposed of in non-MSW landfills (at least 20 percent as much as what does go to MSW landfills).

Per Capita Waste Generation
(includes both household and business wastes)



The breakdown of materials generated in the municipal solid waste (MSW) stream is shown in the table below, from a study of statewide waste composition in 2000.

Statewide Municipal Waste Composition Results 2000



Note: "Special Wastes" includes MRW, medical wastes, asbestos, other hazardous wastes (such as ammunition or gunpowder), and nonhazardous wastes (such as adhesives and weak cleaning agents).

II. Waste Reduction

Waste reduction means preventing waste from being generated. Education programs on reducing wastes and the use of hazardous household products reach most people in the state. Measuring the success of recycling efforts has been accomplished by the state's recycling survey and by similar surveys by local governments and other parties. The success of waste reduction efforts is more difficult to measure, though strides made by individual businesses have been reported and the conservation of particular kinds of materials can be documented. The state's overall waste generation, however, has been on a steady increase during these years, and not all of that increase can be attributed to the growing numbers of people.

III. Collection Services

Once a waste material has been generated, the generator usually needs to get this waste material off premises. To satisfy this need, a broad range of solid waste service options are available to residences and commercial businesses. Garbage collection services are available to residents and businesses located on publicly accessible roads. In many areas, collection service for recyclable materials is also available. Generators also have the option of transporting their own waste materials to a disposal facility or a recycling collection site.

Not all solid wastes and recyclables are collected from customers at their locations. Some of it is self-hauled and delivered to various types of facilities for handling and ultimate disposition. Section V below will discuss the types of disposal facilities or recycling collection sites to which these materials can be legally transported. Problems exist with waste materials being illegally transported and dumped.

Garbage collection services for all unincorporated areas (and some cities and towns) statewide are provided by private hauling companies that have received certificates from the Washington State Utilities and Transportation Commission (WUTC). Incorporated cities and towns can choose to provide collection services directly, to contract with a private company, or to use the WUTC-regulated hauler that has a certificate to serve the city or town. A city or town's choice on collection service providers applies both to the collection of garbage and to the collection of residential recyclable materials.

Counties can choose to contract with private companies to provide regularly scheduled collection of routine recyclable materials from residences in unincorporated areas. (Counties cannot provide these services directly.) Counties establish, through their Comprehensive Solid Waste Management Plans, minimum service levels, including recycling collection programs and materials collected.

Counties, cities, and the WUTC each establish service levels and performance standards. For example, through the adoption of a county's comprehensive solid waste management plan a county provides not only itself with standards and methods to be followed, but this plan is then used by the WUTC in determining whether or not the regulated G-Certificated private companies are providing the required level of service to county citizens. The cities do the same through city ordinances and/or city contracts.

Recyclable materials collected directly from households routinely include metal food and beverage cans, glass jars and bottles, plastic bottles, newspaper, cardboard, mixed waste paper, and yard waste. Recently, collection programs in some areas have chosen to exclude glass from curbside recycling collection, in favor of collection through drop-off sites. Some collection services also handle a wider range of materials including plastic containers, scrap metals, certain home electronic equipment, food waste (including food-soiled paper), batteries, motor oil, and even antifreeze.

Some one-time collection services for recyclable materials such as old appliances or junk cars are also available to residences from common carriers. Several nonprofit organizations pick up donated reusable goods for resale.

Collection of recyclable materials from commercial sources can be provided by any private company licensed as a common carrier by the WUTC under Chapter 81.80 RCW. Additionally, collectors of recyclables are now required to register with Ecology, in an effort to ensure that these materials are being legitimately recycled. Unfortunately, the practice of "sham recycling" is not uncommon, and involves a person or company contracting to deliver materials for recycling, but then actually disposing of the materials instead. Similarly, there are facilities that ostensibly accept material for recycling when in fact the material is not recycled.

Collection of recyclable materials varies across the state. In some areas, recyclable materials are separated into specified categories and placed in special collection bins. In other areas, all collected recyclable materials are commingled into one container, sometimes with "glass on the side" or sometimes with glass collected separately at drop-off sites.

IV. Handling/Recycling/Disposal

Reuse

Reuse of materials that would otherwise be disposed of or recycled is highly encouraged and is being increasingly emphasized. Local governments, private companies, and charities accumulate reusable materials and (directly or indirectly) make them available to the public. Solid waste disposal sites and MRW collection sites sometimes have space and infrastructure in place to divert reusable materials. Many MRW collection sites allow visitors to take home reusable materials that are correctly packaged. Nonhazardous materials diverted at solid waste disposal sites are passed on to nonprofit organizations for resale. Both nonprofit and for-profit corporations can directly receive donations of, or buy, reusable goods for resale.

Recycling

Sites that receive recyclable materials include buy-back recycling centers and publicly accessible drop-off bins often located at public disposal sites. Some retailers also provide collection points for products that have reached the end of their useful life. (For instance, some gas stations and auto parts stores take back used oil, many supermarkets take back shopping bags, and stores selling power tools or home electronics sometimes take back batteries, cell phones, or computer equipment.) Since the late 1980s, parties in Washington's solid waste management system have promoted recycling. New facilities have been built, new equipment has been acquired, and new attitudes have been engendered statewide. Most residents have access to curbside recyclables collection or nearby recycling drop-off locations. A number of product stewardship efforts are underway and have had some successes.

Recycling actually occurs through "transforming or remanufacturing waste materials into usable or marketable materials for use other than landfill disposal or incineration [as defined in WAC 173-350-100]. Recycling does not include collection, compacting, repackaging, and sorting for the purpose of transport." Facilities meeting this definition under WAC 173-350-210(2) are exempt from solid waste permitting.

Diversion

For nearly two decades, Ecology has conducted a survey to measure and report the statewide MSW recycling rate for a list of materials prescribed in state law. However, very large increases of recovery or "diversion" in other waste streams have occurred, and these are now also tracked by Ecology as part of a "diversion" rate. Most notable are the growing industries in diverting asphalt, asphalt roofing shingles, concrete, road asphalt, dimensional lumber, and land-clearing debris. Some of this material is crushed or chipped for reuse on the same construction site where it was generated. The materials can also be processed at a central location for use at construction sites elsewhere or for use as an industrial fuel. Similarly, tires can also be processed into a fuel material, or recapped for further use as a tire; tires diverted from disposal in these ways have not been counted in the MSW recycling rate. Composting facilities handle recyclables such as yard debris and wood, land-clearing debris, manure, and food waste. The non-MSW portion of these materials is now counted as diversion for Ecology's reporting.

Intermediate Handling

Any waste type that might eventually end up in a landfill can be found in intermediate solid waste handling: municipal solid wastes, inert wastes, industrial wastes, used tires, etc. We don't have good numbers yet on how much material goes through intermediate solid waste handling. More data should be available in 2006.

Material recovery facilities (or MRFs) collect and process solid wastes slated for recycling. Materials that arrive at MRFs are compacted, repackaged, sorted, and/or otherwise processed in preparation for recycling.

In addition, specialized materials, such as waste tires, concrete, asphalt, inert material, land-clearing debris, and vector wastes, are sometimes placed in piles for storage or treatment, in surface impoundment, and in tanks. Permitted transfer stations and drop boxes accept municipal solid waste for final disposal elsewhere and/or receive materials for recycling.

MRW facilities accept household hazardous wastes and small quantities of business hazardous wastes. The facilities then bulk some of these wastes for transport to other facilities for treatment, recycling, reuse, and special disposal. (To some extent, MRW facilities treat, recycle, or reuse materials on-site.)

Several communities operate material exchanges that enable them to provide some of the MRW materials collected to others for reuse. Used motor oil, auto batteries, and antifreeze are generally recycled after collection. Mercury from fluorescent tubes, thermometers, and other products is also recycled. While some latex paints are used as additives in cement manufacturing, many oil-based paints, pesticides, and poisons are incinerated. Household batteries, pool chemicals, and bleaches are often stabilized and then sent to hazardous waste landfills for final disposal. Corrosive products, including many household cleaners, are generally neutralized and then sent through wastewater treatment plants or disposed of at landfills.

Disposal

Solid wastes slated for disposal in Washington go to landfills and energy-recovery facilities (incinerators). Under permitting regulations in effect through 2003, landfills were categorized into five different types: municipal solid waste landfills, wood waste landfills, limited purpose landfills, inert/demolition landfills, and ash monofills. (The majority of the waste accepted at these landfills should match their permitted type.) Depending on climatological and geological conditions, permitted landfills may be lined or unlined. (In areas with no more than 12 inches of rain per year, the opportunity exists for an unlined landfill to be permitted.) Some wastes are exported outside the state for disposal. In 2003, for example, over 1.5 million tons of wastes generated in Washington were sent to Oregon landfills. (pg 113, Thirteenth Annual Status Report)

In 2003, 71 landfills (19 MSW, 3 wood waste, 15 limited purpose, 33 inert/demolition, 1 ash monofill) and 3 waste energy-recovery/incinerator facilities were operating in Washington. (2003 Solid Waste Facilities Database)

In 2003, the facilities estimated about 214 million tons, or about 47 years, of capacity at the current disposal rate. Most of this capacity exists in a small number of large landfills that take wastes from other geographical areas. Of the state's 39 counties, 35 sent solid waste outside of their counties for disposal in 2003. Changes in permit conditions, early landfill closures, projections of fewer expansions, and changing volumes affect remaining capacity, which has fluctuated the past several years. Because only 6 MSW landfills have greater than 10 years of remaining permitted capacity, Washington's cities and counties will most likely be sending solid waste to a smaller number of landfills in the future. (pg 120 Thirteenth Annual Status Report.)

Many areas of the state are plagued by illegal dumping, and identification or prosecution of perpetrators is achieved in very few cases. This leaves government agencies responsible for cleaning up illegal dumpsites on public roadways and public property, and private landowners are stuck with cleanup costs on private property. The number of such sites and the amount of material disposed of in this way are unknown. Cleaning up illegal dumps and abandoned vehicles (which are included in the definition of solid waste) costs local jurisdictions a great deal and is a significant local issue in many areas.

V. Laws and Regulations

In Washington State, primary responsibility for managing solid waste has been assigned to local government jurisdictions, where it is divided between the counties, cities, and jurisdictional health districts. The governmental roles and authorities are delineated in legislation, regulations, and agreements. These laws and regulations also affect the roles and responsibilities of private waste management companies, and not-for-profit organizations that manage wastes. The main state laws governing solid waste management are Chapters 70.95, 70.105, and 81.77 Revised Code of Washington (RCW). The related regulations include Chapters 173-350, 173-351, 173-322, 173-300, 173-306, 173-308, 173-312, 173-313, 173-434, 173-321, and 480-70 Washington Administrative Code (WAC).

RCW 70.95, Solid Waste Management – Reduction and Recycling, includes the following:

- establishes a hierarchy for managing solid waste that prioritizes waste reduction;
- sets a fifty percent statewide MSW recycling goal;
- requires permits for solid waste facilities;
- lays out roles and responsibilities of local jurisdictions, Ecology and the UTC;
- addresses management of several categories of special wastes, such as tires, medical wastes and vehicle batteries;
- requires local and statewide solid waste plans; and
- provides for financial assistance to local governments.

State laws require local government jurisdictions to develop comprehensive plans for managing solid wastes and hazardous (MRW) wastes. In addition, local governments may adopt their own regulations for governing solid waste.

General responsibilities of various governmental entities are summarized below.

Local Government

Under Chapter 70.95 RCW, counties and cities have the responsibility to plan for and dispose of solid waste. Chapters 35.21, 36.58, and 36.58A RCW establish other local responsibilities and authorities.

Counties

□ Establishing systems and rules

Counties are authorized to establish solid waste handling and disposal systems or facilities for unincorporated areas, and make rules necessary for the use and occupation of those sites.

□ Curbside

Counties can contract for the collection of residential curbside recycling in unincorporated areas.

□ Districts

Counties may form solid waste collection districts (unincorporated areas in which subscription to garbage collection is mandated) and solid waste disposal districts (taxing districts that generate revenue to pay for disposal services).

Cities

- A city may establish a system of solid waste handling for the entire city or for any portion of the city.
- Cities can provide directly solid waste collection service.
- A city can contract with a third party for solid waste collection service.

Jurisdictional Health Districts

Under Chapter 70.95 RCW, jurisdictional health districts have the authority to issue permits to solid waste handling facilities. They are also responsible for handling solid waste enforcement and complaints.

Local air pollution control authorities

These authorities are responsible for monitoring air emissions from solid waste facilities, issuing permits for incinerators, and taking action against facilities that violate air quality standards.

State Government

Department of Ecology

- Ecology develops Minimum Functional Standards for Solid Waste Handling.
- Ecology is required to review all permits issued by local health departments.
- Ecology is directed in the State Solid Waste Management Act to prepare a State Solid Waste Management Plan.

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- Ecology and the Washington Utilities and Transportation Commission are required to provide counties and cities with technical assistance with local plans.
- Ecology is required to provide technical assistance to state and local jurisdictions, the public, and private industry on solid waste reduction, recovery, and recycling.
- Ecology and other state agencies have the authority to enforce Washington State litter laws.
- Under RCW 70.105 and WAC 173-303, and in coordination with the EPA, Ecology carries out the permitting of hazardous waste treatment, storage, and disposal facilities (TSDs).
- Ecology is directed to provide and administer grants to local governments and nonprofit organizations for various activities and facilities.

Utilities & Transportation Commission

The Washington Utilities & Transportation Commission (WUTC) is responsible for regulation of all solid waste collection companies in Washington, except those operated by or under contract with cities (Chapter 81.77 RCW). The WUTC:

- Provides counties and cities with technical assistance for local plans.
- Performs cost assessments of county solid waste management plans to determine their effect on regulated ratepayers.
- Regulates service areas, rates, and services provided by regulated solid waste collection companies.
- Inspects vehicles to ensure compliance with federal safety standards and reviews operational and safety records to ensure regulated companies comply with safety requirements, driver qualification standards, and drug and alcohol testing program requirements.
- Ensures regulated solid waste collection companies comply with county service level requirements and implementing ordinances.
- Resolves consumer complaints.

Department of Health

The Department of Health is responsible for the preservation of public health, and may be involved in solid waste management where public health issues arise. (Chapter 43.70 RCW, "Department of Health")

Pollution Control Hearings Board

The Pollution Control Hearings Board has jurisdiction to hear and decide appeals by Ecology, air pollution boards, and local health departments, including the jurisdiction over the granting and denial of solid waste permits.

Federal Government

RCRA

The Resource Conservation and Recovery Act of 1976 (RCRA) Subtitle D regulates solid waste and encourages solid waste management practices that promote environmentally sound disposal methods, maximize the reuse of recoverable resources, and foster resource conservation.

EPA

The Environmental Protection Agency (EPA) role in permitting hazardous waste (including MRW) treatment, storage and disposal facilities lies in issuing a permit, complementary to Ecology's, that covers a few specific areas, usually involving federal requirements that Washington State has not yet adopted or been authorized to add to the state program.

The following tables delineate the various activities involved in management of solid waste and who is involved in those particular activities. The tables are divided into nonhazardous waste activities and moderate risk waste activities.

Solid Waste System Roles

Parties operate, oversee, permit, or regulate the following S/HW handling services

	City Government	County Government	Health Departments	Hauling Companies	Disposal Companies	Private Recyclers	Retailers & Manufacturers	WUTC	Ecology
Collect garbage ¹ from residential/commercial sources	Cities can provide collection services directly, contract with a private company to provide the services, or use the G-Certificate holder in the area. (35.21, 81.77.020)			Can provide these services in all areas, either under city contract or WUTC certification. (81.77)				Oversees private companies' collection services in unincorporated and incorporated areas where cities do not provide service directly or contract (81.77)	
Collect recyclables ² from residential/commercial sources	Cities can provide collection services directly, contract with a private company to provide the services, or use the G-Certificate holder in the area. (35.21)	Counties can provide collection of recyclables from residences under contract with a private company (36.58). Counties can establish minimum levels of service for WUTC regulated haulers in the collection of recyclables from residences.		Regularly scheduled residential recycling collection; on-demand recycling collection. (81.77) Commercial recycling (81.80)		Regularly scheduled recycling collection (commercial only); on-demand recycling collection. (81.77.140)	Fund, manage, or operate collection services for their products at end-of-life.	Oversees private companies' residential collection activities in unincorporated areas and cities where cities do not provide service directly or contract (81.77)	

¹ "Garbage" means materials heading for disposal (some of which might be diverted from disposal along the way).

² "Recyclables" means materials separated from garbage by the generator and heading for productive use.

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	City Government	County Government	Health Departments	Hauling Companies	Disposal Companies	Private Recyclers	Retailers & Manufacturers	WUTC	Ecology
Receiving/storage /processing site for garbage	Can own and operate transfer stations, or contract with private companies to do this. (35.21)	Can own and operate transfer stations, or contract with private companies to do this. (36.58)	Permitting authority over solid waste handling facilities. (70.95)	Can own and operate transfer stations. (70.95)	Can own and operate transfer stations. (70.95)				Establishes minimum standards for facility operations. (70.95)
Receiving/storage /processing site for recyclables.	Can own and operate drop-off/buy-back sites, MRFs. (35.21)	Can own and operate drop-off/buy-back sites, MRFs. (36.58)	Permitting authority over these facilities when they don't qualify for 350 exemption.	Can own and operate drop-off/buy-back sites, MRFs. (70.95)	Can own and operate drop-off/buy-back sites, MRFs. (70.95)	Can own and operate drop-off/buy-back sites, MRFs. (70.95)	Can receive recyclable materials. Manufacturers can fund handling, transport, and processing.		Provides grants to local governments to help fund these. (70.105?)
Intermediate transport of garbage	Can transport waste between solid waste facilities that they own and to private facilities.	Can transport waste between solid waste facilities that they own and to private facilities.		Can transport waste between solid waste facilities.	Can provide, or arrange, transport of waste from transfer stations and Intermodal transshipment facilities to disposal sites.				
Intermediate transport of recyclables	Can transport recyclables to other facilities. (81.80.040)	Can transport recyclables to other facilities. (81.80.040)		Can transport recyclables to other facilities.		Can transport recyclables to other facilities. (81.77.140)	Can transport recyclables to other facilities. (81.77.140)		Licenses tire transporters and storage sites. (70.95.555)
Final disposal site for garbage.	Can own and operate landfills or incinerators.	Can own and operate landfills or incinerators.	Permitting authority over solid waste disposal facilities.		Can own and operate landfills or incinerators.				Establishes minimum standards for facility operations. (70.95) Certificates operators of SW disposal facilities. (70.95D)
Remanufacture products using recyclable materials.	Can own and operate yard waste and biosolids composting facilities	Can own and operate yard waste and biosolids composting facilities		Can own and operate yard waste and biosolids composting facilities	Can own and operate yard waste and biosolids composting facilities	Can own and operate yard waste and biosolids composting facilities	Manufacturers and composters do this.		Regulates and sets compost facility standards (WAC 173-350).

Moderate Risk Waste System Roles

Parties operate, oversee, permit, or regulate following MRW handling services

	City Government	County Government	Health Departments	MSW Hauling and/or Disposal Companies	Haz. Waste Transporters and/or TSDs	Private Recyclers	Retailers & Manufacturers	WUTC	Ecology
Collection of MRW from residential/commercial sources	Cities can provide collection services directly from residences.		Can ban disposal of household and SQG hazardous waste.	Regularly scheduled collection services are currently offered by hauling companies in some areas for used motor oil, antifreeze, and batteries from residences.	Can pick up MRW.	Regularly scheduled recycling collection (commercial only); on-demand recycling collection.	Fund, manage, or operate collection services for their products at end-of-life.	Oversees private companies' collection services in unincorporated and incorporated areas where cities do not provide service directly or contract (81.77)	
Receiving/storage /processing site for MRW.	Can own and operate collection events, satellite facilities, and fixed facilities. (70.105)	Can own and operate collection events, satellite facilities, and fixed facilities. (70.105)	Permitting authority over these facilities when they don't qualify for 350 exemption. (70.95)	Some disposal companies have MRW facilities at their disposal sites.	Can receive MRW.	Can receive MRW for recycling.	Fund, manage, or operate collection sites for their products at end-of-life.		Provides grants to local govts. to help fund these. (70.105D) Published guidelines for operating sites.
Intermediate transport of MRW.	Can transport MRW.	Can transport MRW.		Can provide transport, or contract for this service from a specialized HW transporter.	Can transport MRW.	Can transport MRW.	Can transport MRW.		
Disposal, recycling, or neutralization of MRW.	Can recycle or treat MRW.	Can recycle or treat MRW.			Dispose of or neutralize MRW, or process for reuse.	Can recycle or process some MRW materials for reuse.	A variety of firms manufacture new products from MRW.		Permitting authority for TSDs.

VI. Costs of Managing Solid Waste

Collection and Disposal Costs

Collection fees, disposal fees, and energy sales currently pay for most solid waste services offered in Washington's communities. Households and commercial businesses pay collection fees to waste haulers, transfer stations and landfills charge disposal fees, and recycling companies charge monthly collection or per-visit fees. Collection and disposal fees can incorporate costs for government-run programs and services, including the special collection of household hazardous waste, education and outreach, waste prevention, litter pickup, and illegal dump cleanup. In addition, rates often are calculated to include the costs of cleanup of closed solid waste facilities, and to accrue funds to pay for closure and post-closure activities for existing facilities, especially in the case of landfills. Additional revenue comes from extra taxes, such as disposal district taxes.

State grants and loans also help fund some local government activities. Funding comes primarily from the Model Toxics Control Account, which contains revenues raised by a tax on toxic substances, and from the Waste Reduction, Recycling and Litter Control Account, which contains revenues raised by a tax on items likely to be littered. Some funding comes from the Public Works Trust Fund. Also, jurisdictional health districts charge permit fees for solid waste permitting.

Many recycling activities take place without any government funding. These include not only traditional recycling buy-back centers, but also industry-sponsored and/or retail store product take-back programs. Nonprofit organizations also contribute efforts toward better waste management.

Waste Prevention, Recycling and MRW Collection Program Costs

Local governments rely primarily on solid waste disposal fees to fund programs that include activities such as special collection of MRW and education about waste reduction and recycling. As programs succeed here, and less waste is disposed of, some local governments expect to see a decline in their funding source for these very programs. There is concern that alternate funding sources may be needed later.

The Coordinated Prevention Grant (CPG) program is a substantial and important source of funds for waste reduction, recycling, and education activities. CPG funds are also used by local health jurisdictions to pay for solid waste enforcement and permit oversight activities. Coordinated Prevention Grants are not sufficient to fully fund local government efforts in these areas for most jurisdictions.

Refer to the *Background Paper for Final Beyond Waste Summary: Financing Solid Waste for the Future* (Ecology publication number 04-07-032) for more details. It is available on-line at <http://www.ecy.wa.gov/biblio/0407032.html>.

VII. Closing Words

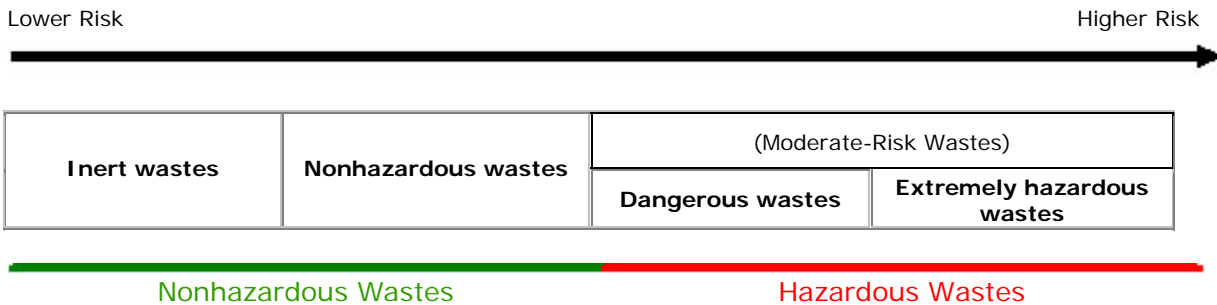
Washington enjoys a well-managed solid waste system that has continually improved to reduce threats to human health and the environment, and to provide for a range of desired services at a reasonable cost. Protective standards are in place for the operation and management of solid waste facilities. Industry, government, and the not-for-profit sector work together well to provide a strong network of services and programs that reach all sectors of Washington's society. Reducing waste and recycling are valued and emphasized. The Beyond Waste state plan lays out a long-range collective vision to work toward even more improvements in the future.

VIII. APPENDIX A

Solid Waste Types and Sources

“Solid waste” is a frequently used term that, in some professional and regulatory areas, is actually used to include both all hazardous and nonhazardous wastes. In this paper, the term “solid waste” has been used in a narrower sense to include (from the hazardous end of the spectrum) only moderate-risk wastes (unregulated hazardous wastes). Four general types of wastes that are included under the umbrella definition of waste are described below:

TYPES OF WASTE



Inert wastes include asphalt, masonry, concrete, stainless steel, glass, and other similar materials that meet certain criteria. Disposal of these wastes poses very few environmental risks.

Nonhazardous wastes can include wastes generated from many sources, including:

- Residential wastes.
- Commercial and institutional wastes.
- Industrial wastes.
- Resource-use and extraction wastes.
- Transfer wastes.

Hazardous wastes include wastes that are either listed under federal law as hazardous or wastes that meet certain criteria under state regulations. Under Washington State law, hazardous wastes fall into two categories: dangerous wastes and extremely hazardous wastes.

In addition, dangerous waste is a category that includes moderate-risk wastes, which are the hazardous wastes conditionally excluded from state dangerous waste laws because they are generated in relatively small quantities from households or from businesses. Handling and disposal of moderate-risk wastes are governed by state and local law.

In summary, the continuum of solid waste types is complex and the lines drawn to define these wastes are not always clear. Often, the legal definitions of these wastes are quite different from the commonly understood definitions. For a complete list of the legal definitions of solid and hazardous wastes, check out Washington's state laws and regulations.

- [Hazardous Waste and Toxic Reduction regulations](#)
- [Solid Waste and Financial Assistance regulations](#)
- [Solid- and hazardous-waste laws](#)

SOURCES AND CATEGORIES OF SOLID WASTE

For purposes of management or regulation, waste streams have been classified according to their source, their content, or both.

Most solid wastes come from the sources/activities listed below:

- **Municipal solid waste (MSW)** includes nonhazardous waste material discarded from residential and commercial sources and from community activities. It can also include nonhazardous wastes from institutional and some industrial sources. It includes unsegregated garbage, refuse, yard waste, used tires, and similar solid waste material.
- **Industrial waste** includes hazardous and nonhazardous waste generated from manufacturing operations, food processing, or other industrial processes. Potato peelings, nonhazardous solvents, spent catalyst, and plating wastes are among the constituent materials.
- **Resource use and extraction waste** includes hazardous and nonhazardous waste generated by agriculture, mining, forestry, oil and gas exploration and extraction, and fishery businesses and industries. It includes agricultural wastes, mine tailings, slash piles, and drilling muds.
- **Transfer waste** includes hazardous and nonhazardous waste generated by industry and government activities involved in cleanup, treatment, and deregulation of hazardous wastes. Included are contaminated soils and sediments, sewage and septage (biosolids), combustion residues, vector wastes, and asbestos.
- **Moderate-risk waste (MRW)** is a category of flammable, toxic, corrosive, or reactive substances that are discarded from two sources: households or businesses that generate small enough quantities to be excluded from dangerous waste regulations. Household hazardous waste (HHW) is any waste created by the discard of a hazardous household substance as listed by Ecology or identified by a local jurisdiction's hazardous waste plan. Examples include paint, solvents and thinners, cleaning agents, pesticides, automotive fluids, and batteries.

The other portion of the moderate-risk waste stream comes from commercial generators of small quantities of wastes designated as hazardous through Chapter 173-303 WAC, the Dangerous Waste Regulations. Within the large group of commercial hazardous waste generators are conditionally exempt small quantity generators (CESQG) who generate less than 220 pounds per month or per batch for most hazardous wastes AND store less than 2200 pounds at one site.