

Chapter VI - Moderate Risk Waste Management



The term “moderate risk waste” (MRW) was created by revisions to Washington State’s 1986 Hazardous Waste Management Act (RCW 70.105). MRW is a combination of household hazardous waste (HHW) and conditionally exempt small quantity generator (CESQG) waste. HHW is waste created in the home, while CESQG is small quantities of business or non-household waste. Both HHW and CESQG waste are exempt from hazardous waste regulations.

- Total MRW collection in 2005 was over 32 million pounds.
- The average amount of HHW disposed of per participant was 76.09 pounds, and per capita was 2.68 pounds.
- Over 3.5 percent of Washington residents used a fixed facility or collection event to remove hazardous waste from their household, about nine percent of all households.
- The counties that collected the most CESQG waste per capita were Yakima, San Juan, Whatcom, Cowlitz, and Chelan.
- The counties that collected the most used oil per capita were Mason, Garfield, Island, Stevens, Skamania, and Yakima.
- The ten categories of collected waste that increased the most from 2004 are Reactives, Pesticide/Poison Solids, Other, Flammable Liquid Poison (aerosols), Chlorinated Solvents, CRTs, Electronics, Oil w/ PCB’s, Oil w/ chlorides, and Bases (aerosols).
- Eighty-four percent of all HHW was recycled, reused, or used for energy recovery.

MRW collections started in the early 1980’s primarily as HHW-only events, also known as “round-ups.”

These events usually happened once or twice a year. In the late 1980’s permanent collection facilities, now known as fixed facilities, began to replace the collection events in order to fulfill the need for year-round collection. In addition, collection facilities have further developed with mobile units, satellite facilities, and tailgate events. These efforts resulted in a larger number of customers served, decreased costs, and increased reuse and recycling of MRW.

It should be noted the data in this chapter are only a portion of the MRW waste stream. The MRW data presented here is reported through local governments. *Chapter V Solid Waste Generation, Disposal and Recycling in Washington State* includes additional data statewide.

Funding

Washington State's 1988 Model Toxics Control Act provides a large part of the funding for public MRW programs through the Coordinated Prevention Grant program. Many jurisdictions use funds to plan and carry out local MRW programs.

By 1991 all local governments in the State of Washington had submitted MRW plans. Every local MRW plan includes sections on CESQG technical and disposal assistance, MRW public education, MRW enforcement, and HHW collection.

Accuracy of Data Collection

Ecology created and circulates a standard reporting form to all MRW programs. Nonetheless, the reported data can vary depending on a program's collection process and how data is reported and interpreted. All programs must provide individual MRW reports.

2004 – Some reporting errors have been identified since the 2004 report numbers were published. The 2004 HHW numbers and consequently the overall MRW number for 2004 have changed dramatically. One facility over reported the total amount of latex paint collected by 3 million pounds. Another facility reported the total amount of HHW that came to its facility from all sources (versus the facilities county of residence) in 2004. This same facility, due to the aforementioned reporting confusion and a contract change saw its HHW number go from 4,068,503 pounds collected in 2004 to 4,395 pounds collected in 2005. The actual number for 2004 is impossible to know for what was collected in the county it resides. These two reporting anomalies account for upwards of 7 million pounds over reported in 2004 in the HHW and overall MRW categories.¹

2005 - Columbia County did not report their used oil collections so the number from the previous year was carried over.

Lincoln County has experienced limited quantities and has stored their MRW. They have just submitted HHW quantities, participation numbers, and costs from the past three years. This data was averaged over the time period to establish the numbers for 2005. In addition, Klickitat County's participation numbers seem high but the county could confirm this for us.

One facility in King County reported all CESQG waste received at its facility from all Washington State counties it services for CESQG collections. These numbers were easily backed out of the King County total based on other annual reports submitted to Ecology.

¹ See Table 6.2 for a year by year breakdown of HHW, CESQG, and overall MRW pounds collected back to 1999. By accounting for the reporting confusion mentioned above, the numbers are more in line with overall collection trends and explain the large jump seen from 2003 to 2004.

Year 2005 Data

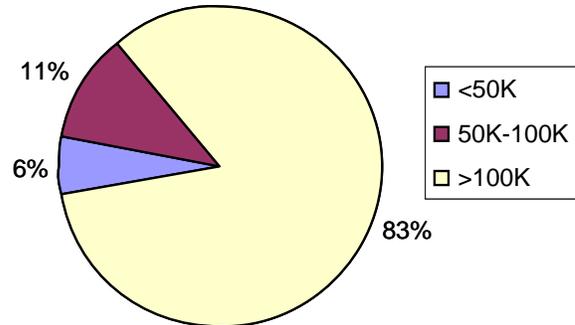
This year’s report focuses on 2005 data with some comparisons to the data published in previous years’ reports. In an effort to provide useful information for individual programs, it was determined that data would be presented in categories by county size.

Figure 6.1 and Table 6.1 indicates a distinction between counties with a population of less than 50 thousand, of 50 to 100 thousand, and of more than 100 thousand.

In Washington State there are 42 programs that manage MRW. These programs include all 39 counties. Agencies located in King County produce four reports:

- King County Waste Mobile and Used Oil Collection System
- Seattle Solid Waste Utility (HHW)
- Port of Seattle (HHW)
- Seattle City Light (CESQG)

Figure 6.1
Percent of State Population by County Size



Many HHW collection systems are approaching stability. Permanent fixed facilities now service most of the state. Only Chelan, Clallam, Douglas, Ferry, Garfield, Grant, Skamania, and Wahkiakum counties do not have fixed facilities. San Juan County had a fixed facility, but had to close in June of 2005. Garfield residents use the facility in Asotin County and Cowlitz County conducts a mobile unit in Wahkiakum County. Clallam, Chelan, Douglas, Grant, and Skamania counties conduct collection events but may convert to fixed facilities in the future. The City of Port Angeles opened a new facility early in 2007 to serve Clallam County residents. Also, Stevens County is planning on adding another facility and Mason County is looking to expand its current facility.

Collection services for CESQGs continue to expand statewide. For 2005, 19 fixed facilities and 4 collection events were providing collection services for CESQGs.

Table 6.1
Individual County Population by Size

<50K		50K-100K		>100K	
Adams	17,000	Chelan	69,200	Benton	158,100
Asotin	20,900	Clallam	66,800	Clark	391,500
Columbia	4,100	Cowlitz	95,900	King *	1,235,300
Douglas	34,700	Franklin	60,500	Kitsap	240,400
Ferry	7,400	Grant	79,100	Pierce	755,900
Garfield	2,400	Grays Harbor	69,800	Skagit	110,900

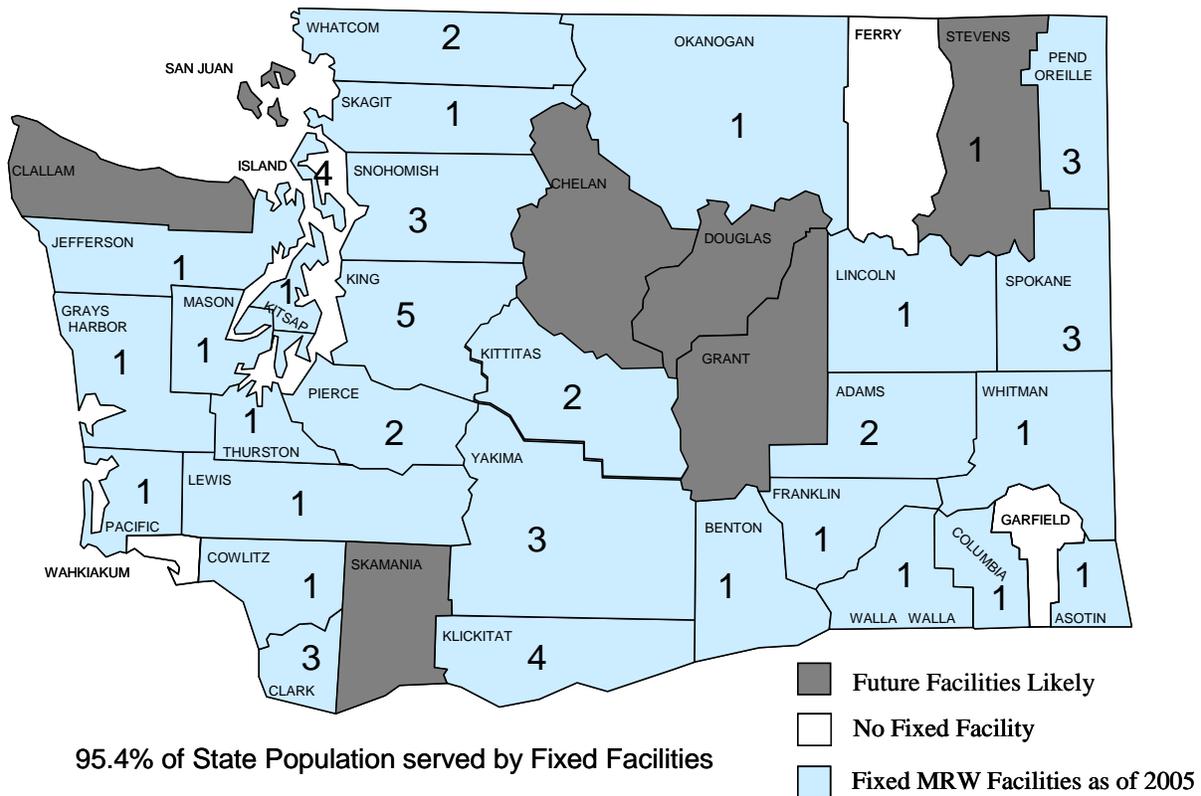
<50K		50K-100K		>100K	
Jefferson	27,600	Island	76,000	Snohomish	655,800
Kittitas	36,600	Lewis	71,600	Spokane	436,300
Klickitat	19,500	Mason	51,900	Thurston	224,100
Lincoln	10,100	Walla Walla	57,500	Whatcom	180,800
Okanogan	39,600	50K-100K total	698,300	Yakima	229,300
Pacific	21,300			Seattle *	573,000
Pend Oreille	12,200			>100K total	5,191,400
San Juan	15,500				
Skamania	10,300				
Stevens	41,200				
Wahkiakum	3,900				
Whitman	42,400				
<50K total	366,700				

*** King excludes Seattle**

State Total 6,256,400

Figure 6.2 shows which counties have permanent facilities, the number of facilities in each county, and which counties are likely to develop a permanent facility in the future.

Figure 6.2
54 MRW Facilities as of 2005



MRW Collected

As shown in Table 6.2, Washington collected approximately 14.7 million pounds of HHW, 11.3 million pounds of used oil (UO) from collection sites (includes antifreeze and oil filters), and 6.3 million pounds of CESQG waste, for a total of over 32 million pounds of MRW during 2005. Most significant is the increase of CESQG waste collected; however, this is largely due to more focused efforts at collecting CESQG wastes by the King County Local Hazardous Waste Program and Tacoma/Pierce County Health Department. In general, the increases seen in collection totals are attributed to increased collections at the Phillip Services (Kent Facility) in King County and the Emerald Services facility in Pierce County.

**Table 6.2
Total Pounds per Waste Category
Years 1999 - 2005**

Collection Year	HHW lbs (no UO)	Used Oil lbs	CESQG lbs	Total MRW lbs
1999	9.9M	9.3M	637K	20.4M
2000	10.5M	8.3M	1.1M	19.8M
2001	15.6M	11.3M	1.0M	27.9M
2002	13.5M	9.2M	1.4M	24.1M
2003	16.0M	11.7M	1.3M	29.0M
2004	15.3M*	12.4M	2.4M	30.1M*
2005	14.7M	11.3M	6.3M	32.3M

* An estimated 7 million pounds of HHW was over reported in 2004. These numbers reflect a change from 2004 data reported in last year's report.

Collection by Waste Category and Type

As shown in Table 6.3, the dominant types of MRW collected in 2005 were non-contaminated used oil, latex and oil-based paint, lead-acid batteries, antifreeze, and flammable liquids. These totals include used oil and antifreeze collected at all collection sites. These six specific waste types accounted for 74 percent of the estimated 32 million pounds of MRW collected in 2005.

Table 6.4 provides summary information on total pounds of MRW collected from HHW and CESQG categories by waste types.

Table 6.3
Six Most Dominant MRW Waste Types Collected in 2005

Waste Type	Total Lbs.
Non-Contaminated Used Oil	10,715,376
Latex Paint	4,392,771
Oil-based Paint	3,272,514
Lead-Acid Batteries	1,954,582
Antifreeze	1,885,479
Flammable Liquids	1,715,235
TOTAL	23,935,957

Table 6.4
Total Pounds of MRW Collected by Waste Category

WASTE TYPE	HHW	CESQG	TOTAL
Acids	166,027.50	18,057.00	184,084.50
Acids (aerosol cans)	109.00	0.00	109.00
Antifreeze	602,547.00	925,570.00	1,528,117.00
Antifreeze Off-site*	0.00	357,362.00	357,362.00
Bases	163,249.00	13,559.00	176,808.00
Bases, Aerosols	3,978.00	0.00	3,978.00
Batteries (lead acid)	1,936,453.00	18,129.00	1,954,582.00
Batteries (small lead acid)	9,229.00	11,405.00	20,634.00
Batteries (dry cell)	251,656.00	6,171.00	257,827.00
Batteries (nicad/NIMH/lithium)	26,186.00	6,219.00	32,405.00
Electronics	604,737.00	40,742.00	645,479.00
CRT's	704,243.00	84,175.00	788,418.00
Chlorinated Solvents	8,264.00	11,862.00	20,126.00
Flammable Solids	36,647.00	24,135.00	60,782.00
Flammable Liquids	886,607.50	828,628.00	1,715,235.50
Flammable Liquids, Aerosols	21,914.00	4,199.60	26,113.60
Flammable Liquids Poison	102,238.00	3,620.00	105,858.00
Flammable Liquid Poison, Aerosols	21,483.00	3,994.00	25,477.00

WASTE TYPE	HHW	CESQG	TOTAL
Flammable Gas (butane/propane)	185,791.00	30,474	216,265.00
Flammable Gas Poison	2,260.00	11.00	2,271.00
Flammable Gas Poison, Aerosols	61,594.00	3,807.00	65,401.00
Latex Paint	4,308,970.60	103,801.20	4,412,771.80
Latex Paint, Contaminated	877,995.00	20,942.00	898,937.00
Mercury (pure)	669.00	598.50	1,267.50
Mercury (switches)	42.33	15.11	57.44
Mercury (fluorescent lamps)	2.13	1.68	3.81
Oil-Based Paint	3,064,407.10	208,107.20	3,272,514.30
Oil-Based Paint, Contaminated	14,692.00	34,270.00	48,962.00
Oil Contaminated	91,700.00	86,855.00	178,555.00
Oil Filters	56,757.40	46,479.00	103,236.40
Oil Filters Off-site*	0.00	61,692.00	61,692.00
Oil Filters Crushed	379.00	19,727.00	20,106.00
Oil Non-Contaminated	1,602,574.00	257,599.00	1,860,173.00
Oil Non-Contaminated Off-site *	0.00	8,855,203.00	8,855,203.00
Oil with Chlorides	2,820.00	338.00	3,158.00
Oil with PCBs	10,044.00	10,843.00	20,887.00
Other Dangerous Waste	240,058.60	3,475,652.00	3,715,710.60
Organic Peroxides	1,279.00	542.00	1,821.00
Oxidizers	53,231.60	717.00	53,948.60
Pesticide / Poison Liquid	336,701.80	10,529.00	347,230.80
Pesticide / Poison Solid	237,898.90	8,582.00	246,480.90
Reactives	60,557.00	201.00	60,758.00
MRW TOTAL	16,755,992.46	15,594,814.29	32,350,806.75

* Used oil collection sites other than a collection facility or event

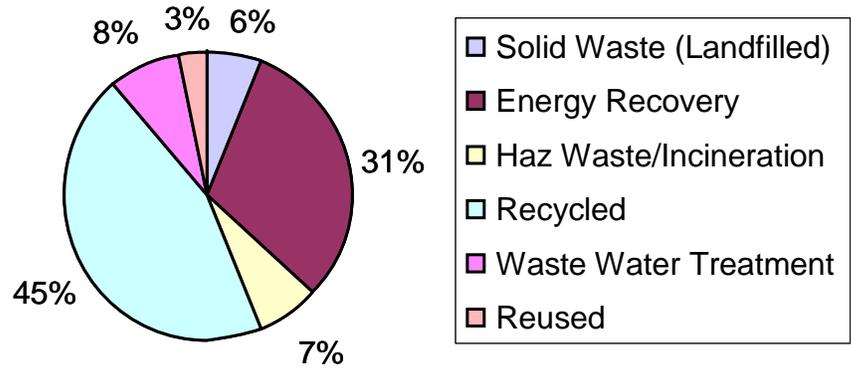
Disposition of MRW Waste

The disposition of MRW is generally well managed. Most MRW is recycled or used for energy recovery. Very little is safe for solid waste disposal and seven percent of all MRW is disposed of at a hazardous waste landfill or incinerator. See Figure 6.3 for final disposition of MRW between recycled, reused, energy recovery, hazardous waste landfill or incineration, solid waste landfill, and disposal through a waste water treatment plant.

MRW Data

Table 6.5 shows various data by county. This information can be used to evaluate efficiencies within each county by comparing percentage of participants per housing units and costs and HHW pounds per participant. Housing units are the number of households in each county. This data is used instead of per capita because participants typically represent a household.

**Figure 6.3
MRW Final Disposition**



**Table 6.5
Various Data by County**

COUNTY	HOUSING UNITS	HHW Participants	% Participant / Housing Units	HHW Cost / Participant	HHW lbs / Participant	HHW Total lbs	HHW, SQG, & Used Oil Total lbs
Adams	6,211	362	5.8%	\$46.96	22.21	8,040.02	59,833.02
Asotin	9,509	1,065	11.2%	\$57.63	90.82	96,720.08	103,275.58
Benton	62,897	5,921	9.4%	\$31.85	77.52	458,994.02	505,779.84
Chelan	32,467	710	2.2%	\$123.43	115.62	82,090.00	193,080.01
Clallam	33,048	993	3%	\$91.90	103.16	102,436.00	302,227.00
Clark	156,219	11,931	7.6%	\$28.17	106.43	1,269,838.09	1,435,817.09
Columbia	2,134	9	.4%	\$82.33	92.67	834.00	8974.00*
Cowlitz	41,160	1,585	3.9%	\$51.93	159.46	252,742.00	679,127.00
Douglas	14,047	433	3.1%	\$63.38	153.78	66,586.00	126,930.00
Ferry	3,977	24	.6%	\$22.50	29.29	703.00	2,224.00
Franklin	20,313	123	.6%	\$35.72	178.84	21,996.90	194,246.90
Garfield	1,303	Inc. w/ Asotin	Inc. w/ Asotin	Inc. w/ Asotin	Inc. w/ Asotin	Inc. w/ Asotin	Inc. w/ Asotin
Grant	31,453	649	2.1%	\$93.72	207.70	134,795.16	156,672.16
Grays Harbor	34,088	1,624	4.8%	\$101.77	66.18	107,474.70	304,188.71
Island	36,204	2,594	7.2%	\$67.96	161.38	418,630.16	648,261.18
Jefferson	15,644	1,104	7.1%	\$57.82	37.18	41,042.32	112,087.34
King	509,127	53,072	10.3%	\$61.80	75.54	4,008,965.58	9,849,267.90
Seattle	285,532	17,159	6%	\$71.21	76.70	1,315,921.00	1,315,921.00
Kitsap	99,298	6,837	6.9%	\$114.21	98.58	673,980.47	1,179,406.33
Kittitas	18,156	769	4.2%	\$78.79	92.92	71,455.00	208,483.00
Klickitat	9,504	8,888	93.5%	\$3.97	8.72	77,526.00	121,999.00

COUNTY	HOUSING UNITS	HHW Participants	% Participant / Housing Units	HHW Cost / Participant	HHW lbs / Participant	HHW Total lbs	HHW, SQG, & Used Oil Total lbs
Lewis	32,013	1,665	5.2%	\$47.34	111	184,742.18	348,060.18
Lincoln	5,581	200	3.6%	\$20.45	25.33	5,065.00	9,164.67^
Mason	28,107	4,159	14.8%	\$26.57	23.40	97,310.02	899,801.02
Okanogan	20,177	205	1%	\$181.84	91.17	18,690.00	56,208.00
Pacific	14,608	165	1.1%	CNR	110.38	18,212.00	90,406.00
Pend Oreille	7,144	2,000	28%	\$55.31	33.07	66,140.20	66,140.20
Pierce	305,957	10,152	3.3%	\$45.91	70.85	719,310.10	2,597,991.28
San Juan	10,970	271	2.5%	\$232.19	219.15	59,389.58	105,150.58
Skagit	46,450	3,450	7.4%	\$24.20	89.22	307,793.14	394,815.14
Skamania	5,084	207	4.1%	\$76.02	94.50	19,560.00	66,520.00
Snohomish	262,424	18,278	7%	\$22.18	108.58	1,984,554.80	3,390,666.97
Spokane	186,670	38,390	20.6%	\$6.02	51.21	1,966,082.66	2,657,972.60
Stevens	18,907	424	2.2%	\$86.98	182.75	77,486.10	306,796.10
Thurston	96,310	10,615	11%	\$57.13	114.22	1,212,424.37	1,612,053.44
Wahkiakum	1,931	Inc. w/ Cowlitz	Inc. w/ Cowlitz	Inc. w/ Cowlitz	Inc. w/ Cowlitz	Inc. w/ Cowlitz	Inc. w/ Cowlitz
Walla Walla	22,566	1,930	8.6%	\$68.01	51.47	99,340.00	167,869.00
Whatcom	82,742	6,151	7.4%	\$34.00	49.46	304,198.06	497,681.44
Whitman	17,704	3,294	18.6%	\$12.46	11.04	36,370.50	59,393.50
Yakima	82,748	1,609	1.9%	\$183.44	173.03	278,411.31	1,516,315.77
STATEWIDE	2,670,384	219,017	8.20%	N/A	76.09	16,665,850.52	32,350,806.75

* Used Oil Total from previous year used

^ County submitted totals from last three years, so the 3 year average was used to determine the 2005 number.

Household Hazardous Waste (HHW)

Participants per Housing Unit

Counties that exhibit 10 percent or higher of participants per housing unit are either performing excellent public education to encourage the use of facilities or events, have very convenient locations for their collection facilities, or both. The participation number and rate for Klickitat County seem high but the county could confirm this for us.

Cost per Participant

This statistic is hard to compare because of the many variables in program costs. Some programs record every cost, whether direct or indirect; others record only the disposal and basic operation costs. Larger counties have the advantage of efficiency of scale both in quantities received and in disposition options. Also, there are differences in service levels of the basic program, accounting differences, and errors. This data does, however, provide an idea of what is possible and an incentive to contact those counties that appear to operate efficiently.

HHW Pounds per Participant

The average pounds collected statewide per participant for HHW was just over 76.

Table 6.6 shows the top five counties with the highest collections of HHW in pounds per capita (not participant) for 2003, 2004, and 2005. It is noteworthy that in 2004 both King and Snohomish counties have large collection numbers per capita. In 2004 Pacific County collected 292,093 pounds of HHW with only 180 participants, which comes to an average of 1,623 pounds per participant, or 13.75 pounds per capita. This number seems high, and Ecology could not verify it.

Table 6.6
High Collections of HHW (no Used Oil Sites) Pounds per Capita
by County in 2003-2005

HHW 2003			HHW 2004			HHW 2005		
County	Size	Lbs./Capit a	County	Size	Lbs./Capit a	County	Size	Lbs./Capita
Thurston	>100K	17.65	Pacific	<50K	13.75	Island	50-100K	5.51
Kittitas	<50K	12.18	King	<100K	9.39	Pend Oreille	<50K	5.42
Whatcom	>100K	5.21	Kittitas	<50K	6.49	Thurston	>100K	5.41
Klickitat	<50K	4.51	Snohomish	<100K	6.20	Asotin	<50K	4.63
Cowlitz/Skagit	>50K & >100K	4.44	Asotin	<50K	4.45	Spokane	>100K	4.51

HHW Disposition

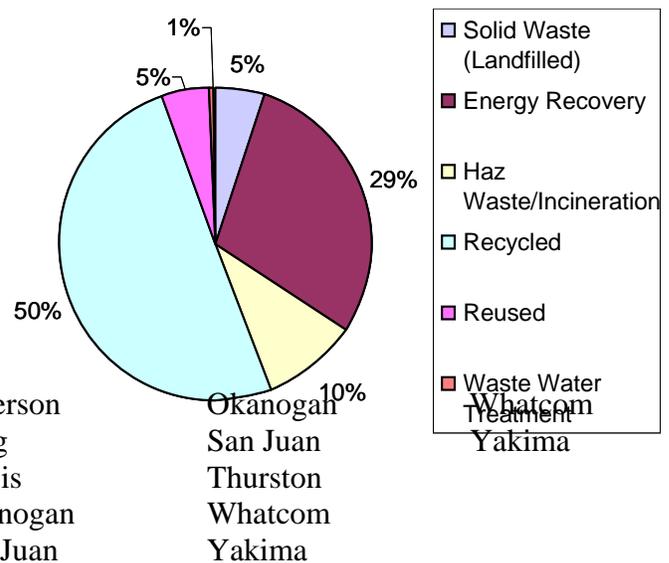
Figure 6.4 shows the final disposition of all HHW collected throughout Washington State.

Conditionally Exempt Small Quantity Generator (CESQG)

Twenty-two local MRW programs collect CESQG waste from the public. Counties that sponsor CESQG waste collections are:

- | | | | |
|---------|--------------|-----------|----------|
| Asotin | Grant | Jefferson | Okanogan |
| Benton | Grays Harbor | King | San Juan |
| Chelan | Island | Lewis | Thurston |
| Clallam | Jefferson | Okanogan | Whatcom |
| Clark | King | San Juan | Yakima |

Figure 6.4
HHW Final Disposition



Cowlitz Kitsap Skagit
 Douglas Kittitas Snohomish

Yakima County was responsible for over 49 percent of the total statewide volume of publicly collected CESQG waste. This is largely due to Yakima County’s policy of not charging businesses to dispose of or recycle their waste. This does not take into account the numbers of CESQG waste collected privately.

Also included in CESQG waste totals for year 2005 are data from Emerald and Philip Services (private collections). These types of collections by-pass the public system with each company servicing small businesses directly. Emerald Services primarily serves Pierce County and Philip Services primarily serves King, Pierce, and Clark counties. If factoring in the privately collected totals from Emerald and Phillip Services, King and Pierce counties would move to the top of the below list of the top five counties collecting CESQG waste per capita.

The top five counties that collected the most CESQG material per capita were:

Yakima San Juan Whatcom Cowlitz Chelan

As shown in Table 6.7 (discounting the waste type “Other”), the dominant four types of CESQG waste collected in 2005 were antifreeze, flammable liquids, used oil (non-contaminated), and oil-based paint.

CESQG Disposition

39-percent of all CESQG moderate risk waste was either recycled or used for energy recovery. See Figure 6.5 for the complete disposition of CESQG wastes. The biggest difference between final dispositions of HHW and CESQG wastes lie in the amount of waste sent to a waste water treatment plant. 39-percent was treated and disposed of through a waste water treatment plant while one percent of HHW was disposed of via the same method. This number increased significantly from previous years due to the 2.5 million pounds of “other MRW waste” disposed of via a water treatment plant processed through Phillip Services Kent Facility.

**Figure 6.5
 CESQG Final Disposition**

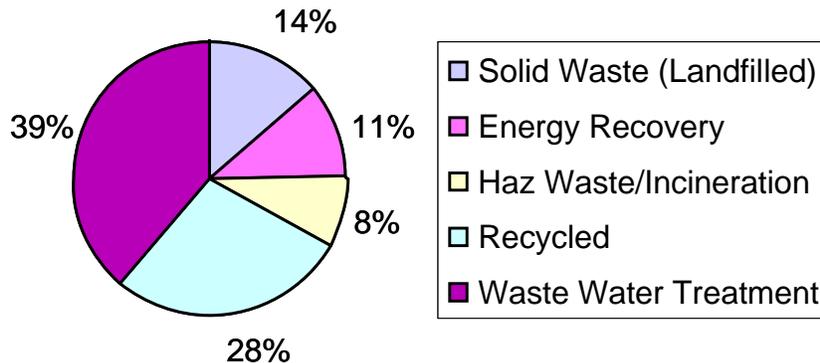


Table 6.7
CESQG by Waste Type Collected in 2005 (top 25 types)

Waste Type	Total lbs. CESQG	Waste Type	Total lbs. CESQG
Antifreeze	925,570	Oil Filters (crushed)	19,727
Flammable Liquids	828,628	Batteries (lead acid)	18,129
Used Oil (non-contaminated)	257,599	Acids	18,057
Oil-based Paint	208,107	Bases	13,559
Latex Paint	103,801	Chlorinated Solvents	11,862
Used Oil (contaminated)	86,855	Batteries (small lead acid)	11,405
CRT's	84,175	PCB oils	10,843
Oil Filters	46,479	Pesticide Poison Liquid	10,529
Electronics	40,742	Pesticide Poison Solid	8,582
Oil-based Paint (contaminated)	34,270	Batteries (nicad/NIMH/lithium)	6,219
Flammable Gas (butane/propane)	30,474	Batteries (dry cell)	6,171
Flammable Solids	24,135	Flammable Liquids (aerosols)	4,199
Latex Paint (contaminated)	20,942	All Other	3,489,498
		TOTALS	6,320,557

Used Oil Sites

In 2005, facilities and collection sites reported collecting a total of 10,893,931 pounds of used oil (contaminated – 2% and non-contaminated – 98%). Used oil collection by county population is starting to show consistency with the top producers over the last few years. See Table 6.8 for the six counties with the highest collections in pounds per capita by county size for 2003, 2004, and 2005.

Table 6.8
Used–Oil High Collection Counties, pounds per capita by county size collected at facilities and used oil collection sites

Used Oil Sites - 2003			Used Oil Sites - 2004			Used Oil Sites - 2005		
County	Size	Lbs./Capita	County	Size	Lbs./Capita	County	Size	Lbs./Capita
Columbia	<50K	17.6	Mason	50K-100K	13.0	Mason	50K-100K	13.83
Mason	50K-100K	11.9	Yakima	>100K	4.9	Garfield	<50K	8.33
Skamania	<50K	5.6	Skamania	<50K	4.7	Island	50K-100K	5.36
San Juan	<50K	4.9	Kittitas	50K-100K	4.2	Stevens	<50K	5.34
Stevens	<50K	3.8	Stevens	<50K	4.0	Skamania	<50K	4.56
Pacific	<50K	3.8	Cowlitz	50K-100K	3.6	Yakima	>100K	4.16

Statewide Level of Service

The Washington State Office of Financial Management reported that as of 2005 Washington State had an estimated 2,670,384 housing units². MRW Annual Reports revealed there were 219,017 participants. The actual number of households served is larger due to the fact that most used oil sites do not record or report numbers of participants. (Spokane is the exception.) The actual number of households served is also larger because some participants counted at events or by facilities bring HHW from multiple households.

One way to estimate the approximate number of households served is to add 10 percent to the participant values. This method gives an estimate of 240,918 participants served in 2005. This number represents 9-percent of all households in Washington State. Table 6.9 shows the percent of participants served statewide since 2001.

Table 6.9
Percent of Participants Served Statewide

Year	Percent Participants Served	Year	Percent Participants Served
2001	6.1	2004	8.9
2002	6.8	2005	9.0
2003	8.9		

Trends in Collection

As fixed facilities continue to gain popularity, the number of collection events is decreasing. Some programs are eliminating collection events altogether or using hybrid mobile collection systems. Reasons for this shift include:

- Increased cost of collection events per amount of waste collected.
- Fixed facilities providing a sense of permanence and normality to the collection of MRW.
- Increased operation efficiencies with fixed facilities (including the option of having an efficient location to conduct a collection service for CESQGs).

New Waste Streams

MRW collection programs are well established statewide. Although the 2005 annual reports did not identify any new waste types, “Other Dangerous Waste” has grown to the fourth largest waste type. This indicates a need to identify what wastes are not fitting into the established categories of the report. New waste types may be identified and incorporated into future annual reports.

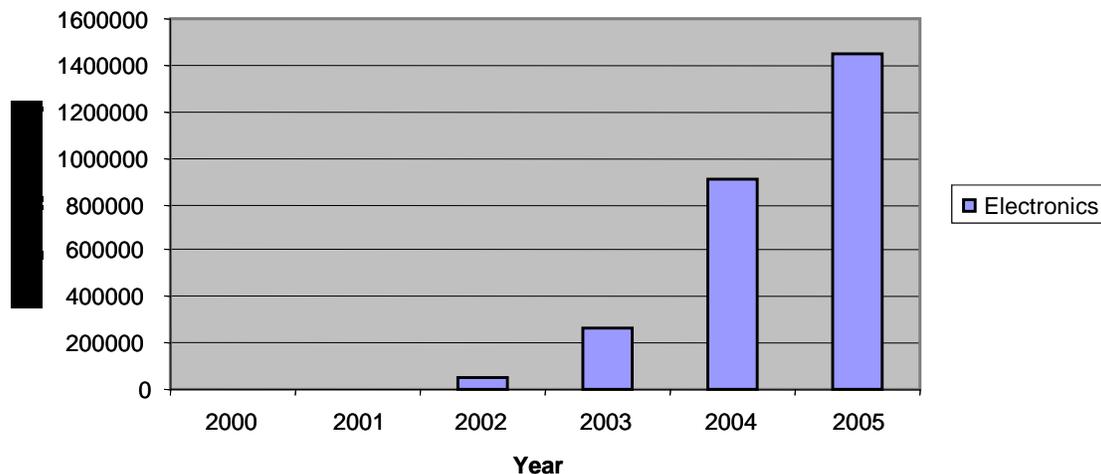
² This information was downloaded from Web site <http://ww.ofm.wa.gov/>

Used electronics continues to be an area of concern. Components in a number of electrical and electronic products contain one or more of the following substances: mercury, lead, cadmium, embedded batteries, and polychlorinated biphenyls (PCBs).

Improved technology leads to better electronic products. And as more people can afford to obtain these popular products, disposal of the leftovers as well as their components becomes a concern for Ecology and local solid waste managers. For example, in the European Union an estimated four percent of their municipal solid waste stream is electronics, other electrical devices, and appliances as of 1999.

Ecology began collecting data on this waste stream in 2001, and in one year (2002 vs. 2003) it more than doubled. In 2004 it has more than tripled over 2003 totals. 2005 saw a 59 percent increase over 2004 collections (see figure 6.6). As in 2004, the 2005 report shows a significant shift of electronic and CRT collection; more comes from households versus businesses, as reported in 2003. We expect this waste stream to increase as the public becomes more aware of this waste type. Also, the recently passed electronics recycling bill should ease the burden of this high volume/high cost waste for local governments once it is up and operating by January of 2009. (See *Chapter I Issues Facing Solid Waste* for more details about the electronics recycling bill.)

Figure 6.6
Electronics Collection Trends
(HHW, CESQG and Collection Events)



Annual Reporting

Ecology requires local programs to submit MRW report forms annually. For the past few years, Ecology has requested annual reports be submitted by March for the previous calendar year collections. The information received from local programs through the MRW annual reports provides Ecology with data on MRW infrastructure, collection trends, costs, and waste types received at collection events and fixed facilities. Ecology translates this data into the information contained in this chapter and designs it to be specifically useful to those who operate or work MRW programs within Washington State.